

*How do place-based
leaders use strategies to
effect change?*

*A case study of the net zero
challenge in UK Core Cities*

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SUMMARY

Places across the world are grappling with the challenge of significantly reducing their carbon emissions in attempts to be net zero. This research considers how place-based leaders' effect transformational change, and is one of the first, globally, to consider the application of place-based leadership in net zero city environments. Specifically, it considers how such leaders use the development of place-based strategies as well as place-based governance arrangements to achieve sustainable outcomes. This study addresses three specific research questions which consider, in turn, the aspects of people, place, and power in relation to the applicability of the literature available on place-based leadership. Since, in any study on place-based leadership, it is crucial to understand its relationships with governance, economic, and geographical structures, this work uses a case study of UK Core cities. The eleven UK core cities span four nations and thus incorporate different governance arrangements. Since 2019 and the declaration of climate emergencies, professional and managerial staff in all save one of the cities examined have prepared extensive documentation on their planned approaches to achieving net zero. A detailed examination of this published data forms the core evidence base for this thesis; exploring in depth the context in which the city actors are operating, and regarding what they plan to do and with whom. The results suggest that place-based leadership is a valid and insightful framing for the actions undertaken by the lead actors in the place-based organisations investigated i.e., it is a valid lens through which to examine net zero strategies and climate change governance. The research raises some profound questions around the pertinent boundaries of scale of place for effective action, and whether the application of place-based leadership at a national scale is under theorised. The practical manifestation of this for net zero city practitioners is an imperative to work with all levels of scale and power when developing effective strategies.

KEY WORDS

PLACE, LEADERSHIP, PLACE-BASED LEADERSHIP, PLACE-BASED POLICY, GOVERNANCE, POWER, STRATEGY, TRANSFORMATIONAL CHANGE, CLIMATE CHANGE, CLIMATE GOVERNANCE, CITIES, NET ZERO, URBAN SUSTAINABILITY

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Dedication and acknowledgements

I have always been fascinated by how places are made and how they work, and initially investigated the same through a natural science lens. Subsequently, my curiosity has very much been focused upon human geography and increasingly within the fields of management/organisational studies. I am interested in the function of evidence-based strategies in creating sustainable places; and how agency fits into this. From experience working on strategy development in Bristol between 2013 and 2016 I became fascinated by the make-up of stakeholder groups and the disconnect between business and the third sector. 'Who should be in the room?' became a rallying cry for personal investigation into the leadership of our places. The current climate change emergency and moves towards net zero have provided renewed impetus to this interest.

This work is dedicated to my children – who continue to inspire me with their own studying, and to friends who have always encouraged me to keep questioning. My thanks are also due to also the academics and professional services staff at Cardiff University who inspired me during my employment there, and to my colleagues at Arup, Mott MacDonald, as well as the RTPI and other professional organisations which have tolerated my enthusiastic obsession. Most of all this thesis is a testament to those place-based leaders I have witnessed in my career who have inspired me.

In completing this work, I would like to thank my two fantastic supervisors: Professor Gillian Bristow and Dr Brian Webb for their guidance, motivation, and enthusiasm. Their insightful discussions have been central in shaping this thesis. I would also like to thank my reviewer, Professor Gary Bridge, for his thorough questioning and academic rigour.

1. INTRODUCTION

“In any study on place-based leadership, it is crucial to understand its relationship with governance, economic and geographical structures”. (Sotarauta and Beer, 2021, p4)

“Place-based leadership is conditioned not only by the circumstances of each locality but also by the issue under focus [...] This may comprise a productive line of enquiry for further research” (Beer et al., 2019, pp179-180)

1.1 Why place-based approaches, leadership and policies and the role of strategies?

Place-based approaches are becoming more salient in a range of policy areas as the need to address the unique specificities and challenges facing places assumes greater significance e.g., in regional and local development policy (in the UK as 'levelling-up'); in innovation policy (Strength in Places fund¹), and now in net zero. But this begs several questions, notably around the leadership required to effect change: -

“We indeed need to know more about how, for the development of cities and regions, strategic decisions are reached; how visions guiding shared activity emerge or are constructed as well as communicated; how place-specific networks and ways of organising are constructed, organised and directed” (Sotarauta and Beer, 2021, p4).

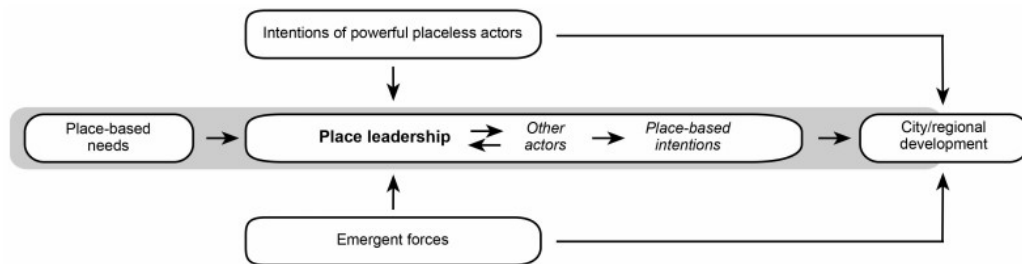
Place-based leadership has emerged as a promising concept to restore both agency and territory to these discussions, but it remains under-theorized in key areas (Benneworth, Pinheiro, and Karslen, 2017). With typical narratives of heroic leaders and elite coalitions 'dynamizing' organizations and regions, place-based leadership theory tends to overlook how other individuals construct networks to strengthening regional innovation systems (*Ibid.*) and similar place-based transformational outcomes.

Place-based leadership is leadership in which the focus is on the leadership process rather than on leaders; where it is enacted and experienced in diverse ways at the local scale; and one where the importance of collaboration, power sharing and trust are important in the formation of horizontally based leadership coalitions (Beer and Clower, 2014). Professional staff can serve as important catalysts for change at a community level (*Ibid.*). On the one hand, place-based leadership operates in between the intentions of placeless actors and unpredictable economic-social-political forces, whilst on the other it operates amidst a variety of place-based needs and intentions. Each of these sources of pressure is

¹<http://www.discover.ukri.org/strength-in-places-fund/> Accessed April 2022

not one-dimensional but notoriously multi-dimensional and complex (Sotarauta and Beer, 2021), see Figure 1.1.

Figure 1.1 The position of place-based leadership in between place-based needs, intentions of placeless actors and emergent forces



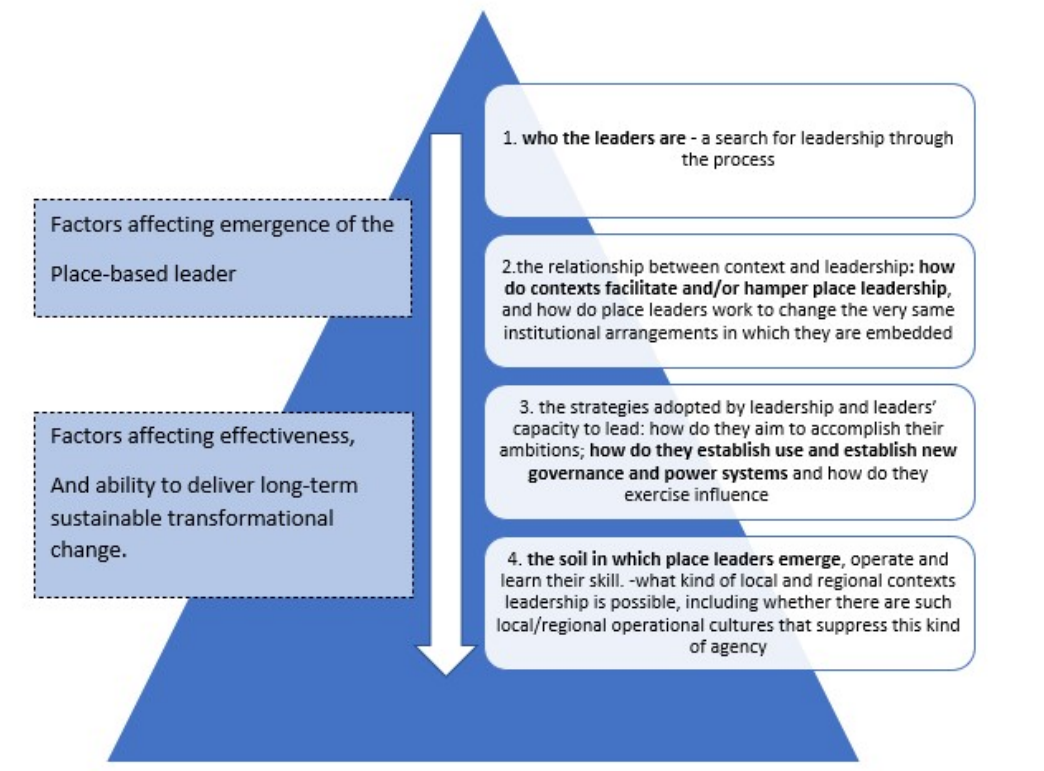
Source: Sotarauta and Beer, (2021, p4).

Place-based leadership sits within the context of a wider theme of place-based approaches, such as place-based policies. These are: -

“...one part of a suite of measures intended to address an issue of concern for governments. They aim to improve the human condition, raising the well-being of individuals and communities at risk...and are not restricted to questions of the economy and economic performance – place-based policies can be found in many policy domains.” (Beer et al, 2020, p36).

The results of research on place-based leadership have been published in a continuous stream (Sotarauta and Beer, 2021). Key questions in a study of city and regional leadership form three broad areas (*ibid.*); as illustrated in Figure 1.2.

Figure 1.2 Summary of key outstanding research questions in relation to place-based leadership



Source: Adapted from Sotarauta and Beer, (2021, pp10-11).

The first set of questions which emerge from the summary of existent research focuses on the question of who the leaders are (Sotarauta and Beer, 2021, p11). To answer this question, a methodology is needed that enables a search for leadership through the process rather than the pre-selection of leaders according to their formal positions. The second set of questions focuses on the relationships that exist between context and leadership: how do contexts facilitate and/or hamper place-based leadership, and how do place leaders work to change the very same institutional arrangements in which they are embedded? The third set of questions revolve around the strategies adopted by leadership, and leaders' capacity to lead: how do they aim to accomplish their ambitions; from where do the ambitions emerge; how do they establish new governance and power systems; how do they deploy existing systems of power and governance as resources in their endeavours; what kinds of power do they have; and how do they exercise influence?

“Governance alludes to interactive decision-making processes by which public and private actors define and pursue shared goals to address collective problems within their structural contexts” (Holscher et al., 2019a, p793).

The fourth set of questions deals with the soil in which place leaders emerge, operate, and learn their skills. The authors argue more research is needed to establish in what kind of local and regional contexts leadership is possible, including whether there are local/regional operational cultures that suppress this kind of agency and make it impossible to surface.

This research thesis contributes to academic discourses associated with the third set of questions posed by Sotarauta and Beer (2021). Specifically, how do place-based leaders use strategies to effect change?

It has also been argued that understanding how place-based leadership is enacted in different places can elicit vital insights into the how and why some places are able to adapt strategically to ever-changing social, economic, and environmental circumstances while others fail to do so (Sotarauta, 2016). In addition, various scholars have effectively highlighted the importance of place-based leadership in real world situations as a means by which to improve socio-economic outcomes; particularly in policy fields which can be viewed as systems or subsystems of cities (Budd et al.,2017). To this end, this thesis specifically looks at multiple places and how they are tackling a real-world challenge.

The originality of this work lies both in using a combination of a significant number of case studies operating in a range of places with different governance arrangements, and in the choice of the theme of net zero as a place-based leadership challenge (see Section 1.3). Within the process of developing net zero strategies this thesis aids understanding of the key questions in our cities of *“Who influences whom, how, for what purpose and in what kind of context – and with what outcomes?”* (Sotarauta, Beer and Gibney, 2017, p191).

1.2 Research questions

Responding to the overall thesis title and the outcomes of the comprehensive literature review described in Chapter2, specific research questions were developed. These questions are focused around three themes; people, places, and powers (see Box 1.1).

Box 1.1. Research Questions developed for this thesis

How do place-based leaders use strategies to effect change?
1. PEOPLE -Who are the place-based leaders leading on strategy production, and what institution do they herald from? Can the characteristics of place-based leadership be discerned from the actions proposed as necessary by those enacting place-based strategies? What evidence is there that the leadership identified requires transformational change in the place? Is there recognition in strategies that internal institutional contexts (especially resources) affect individuals' capacity to contribute to place-based leadership processes?
2. PLACE -How relevant is a place-based policy approach to the thematic issue under consideration? What scale of place is appropriate?
3. POWERS- What evidence exists for new place-based partnerships and collaborative governance as a means of delivering whole system/transformational change?

Source: Author's own

Further justification of the research design and methodology, including the choice of the research theme, design, and methodology, is included in Chapter 3.

1.3 Why cities and net zero?

Whilst there are many variables which play through explanations of the economic, social, and ecological development of cities and regions, conceptually and empirically rigorous studies on leadership are still sparse, but much called for, as they would add complementary explanatory power (Sotarauta et al., 2017, p191). Despite this deficiency within the existing literature, there is a growing body of evidence that leadership as an institution of governance is central to urban and regional development (Sotarauta and Beer, 2017). This research considers leadership in the context of the development of cities; with the "city" as a network of actors and agents of change – and city government as the main actor (Lützkendorf and Balouktsi, 2019). The city government may well be the natural lead place-based institution, however "*...given the limited capacities of many city level governments, it seems likely that new approaches that rely less on traditional forms of government and more on new forms of governance driven not only by government but*

also by a wider range of public, private and civic actors, will be needed. (Millwall-Hopkins et al., 2017, p1476).

The recognition of cities as strategic arenas where urban governance and climate change governance become necessarily intertwined has triggered a flourishing body of research (Wolfram et al., 2019). That said, *“what is largely missing from the current scholarship is a sober assessment of the mundane aspects of climate change governance on the ground and a concern with what kind of cultural and socio-economic change is taking place, beyond comparative analyses of the effectiveness of climate policies.”* (Castan Broto and Westman, 2020, p1). Particularly in respect it would seem in the ‘engine room’ of political and social governance, with cities presumed to act for climate change. This thesis, with its empirical investigation of the on the ground implementation of place-based leadership and policy in net zero places, is a contribution to addressing this scholarship gap.

There has been an acceleration in climate policy debates, consciousness and since the release of the 2018 IPCC report (IPCC 2018). The year 2020 was seen as pivotal, identified as the latest year when carbon emissions must peak to keep the planet with no greater than 1.5°C of warming (IPCC 2018). The global climate policy community has been confronted with a powerful new narrative that has been put forth by an increasingly vocal and effective global climate emergency movement. The climate emergency is considered a ‘wicked problem’ because it contains many feedbacks which make it non-linear, and because the root causes of climate breakdown are deeply intertwined and span many disciplines (CAT, 2019). *“The rapid growth of urbanisation is accompanied by socio-economic and political wicked problems that traditional forms of public policy no longer seem to solve.... place-based leadership can contribute to responses to these wicked problems”* (Budd et al., 2017, p2). In theory, place-based leadership can contribute to responses to the climate emergency in our places. However, there is no formal published research that explicitly links “place-based leadership” to net zero carbon (hereafter referred to as ‘net zero’) place-based outcomes in cities. This is despite a recognition that *“with climate change advancing and the challenge of sustainable development mounting, there is an increasing need to enhance place-based leadership towards these ends”* (Sotarauta and Suvinen, 2019, p1749). To date, most research into place-based leadership and policy has been situated within the realm of regional economic development (see for example, Benneworth et al., 2017; and Sotarauta and Suvinen, 2019).

Cities have become recognised as increasingly important places in which to prepare for the profound impacts of climate change urban populations, and thus to mobilise their potential to contribute to global resilience and sustainability (Holscher et al., 2019a, p797). Indeed, cities and urban areas are increasingly recognized as strategic arenas for climate change action (Broto 2017). Climate emergencies also require specific governance arrangements, ranging from entirely new organisational structures to effective mechanisms for multi-agency cooperation (Rode, 2019). It is also acknowledged that there is enormous potential for effective climate change responses in and through cities, but that this requires a range of profound institutional, behavioural, technological, and physical changes (Wolfram, 2019). Such changes because of “urban carbon neutrality” (p174 Tozer and Klenk, 2019) are structuring shifts in policy and practice. Some city climate emergency declarations include new governance components. Climate discourses have shaped a diversity of new governance arrangements and are altering the way in which public authorities (across all levels), as well as businesses, civil society, the third sector, and academia engage in urban policymaking and implementation (Wolfram et al., 2019).

This thesis also adds to existing literature on climate change and net zero city strategies by specifically focusing on place-based leadership in the context of carbon emission mitigation (see Section 1.2). Whilst there is already a growing body of evidence that leadership as an institution of governance is central to urban and regional development (Sotarauta and Beer, 2017), there has been negligible research published that explicitly links “place-based leadership” to net zero place-based outcomes. This theme has very strong contemporary relevance, particularly within UK policies and strategies e.g., “*We [the UK Government] will also take a place-based approach to net zero, working with local government to ensure that all local areas have the capability and capacity for net zero delivery as we level up the country*” (UK Government, 2021, p29).

What is also considered largely missing from current scholarship is sober assessment of the mundane aspects of climate change governance on the ground, and a concern with what kind of cultural and socio-economic changes are taking place beyond comparative analyses of the effectiveness of climate policies (Castan Broto and Westman, 2020, p1). This thesis contributes to these respects with eleven comparative case studies.

Strategy and policy-oriented research (such as this) should help cities to understand their own remits and limitations as part of such accelerated actions. In addition, there have

been calls in the last 3 years for such research to continue breaking down disciplinary boundaries and establish currently underserved connection points between urban studies and science, engineering and sociology, political science and economics, public administration, and psychology (Rode, 2019). Equally important, future research on cities should continue to provide advice on how to report back to other tiers of government, particularly the national level, so as to ensure that required framework conditions are met (*Ibid.*).

1.4 Structure of Thesis

This thesis is structured as follows:

Chapter 1, the Introduction, has established the academic problem that benefits from a new research investigation, and the research questions addressed in this thesis. It also introduces the research.

Chapter 2 undertakes a review of literature. Using a comprehensive review of the available academic literature, it critically appraises what is known and relevant to the research problem. The existing knowledge base is presented, together with a summary of the main questions and gaps in existing understanding. The literature review addresses two broad thematic areas: place-based leadership, place-based policy and strategy, and then, to a lesser extent, climate change strategies and governance in cities. Existing research questions are synthesised to develop three main research questions which form the basis of this research.

Chapter 3 Research Design and Methodology. This justifies the approach taken to the research design for this study and outlines the methodology used to investigate the research questions. This includes a review of previous broadly analogous studies and the choice of case studies. Methods of data collection and analysis are also detailed.

The findings from the research are presented within Chapters Four, Five, and Six.

Chapter 4 covers the investigation of Place and Governance Context and the relationship to net zero. This chapter examines the contextual scales of place-based leadership and policies to UK cities at three levels: UK government, nationally amongst the devolved nations of the UK, and within cities. It does so in respect of the response to the climate emergency and moves towards a net zero city by 2030 (or date as applicable). Most emphasis is placed on the city level as it forms the basis for the more detailed case studies,

the data for which is presented in Chapters 5 and 6. The specific thematic definitions and research findings associated with net zero, the scope and nature carbon emissions, carbon emission target setting, strategy development, climate change governance, mitigation, and action plan development are also established in this chapter. Finally, it establishes the importance of the city authorities' level of influence and control for each emissions sector as a mechanism for making change happen.

Chapter 5 looks, via eleven case studies, specifically at the current situation of responding to the net zero challenge within the UK's Core cities. This includes the process and establishment of place-based strategies and new climate change governance arrangements for delivering net zero commitments. The data is multi-faceted, and the chapter draws upon a wide range of secondary data. The chapter describes the process of developing the evidence base for action in each city. Each city's response is described, and salient data noted, particularly about the process of strategy development by place-based leadership. The material presented includes the strategies' scope, and their stated objectives in terms of place-based action. Data is also presented on the place-based partnerships existing or under development to deliver transformational change within the individual cities.

This chapter is followed by **Chapter 6** Findings and Analysis. Chapter Six is structured around the three research questions and the data from the previous chapters. Using a 'theory-driven' approach, paragraphs, and sentences from the ten latest available UK Core City net zero strategies were extracted and this forms the basis of the core data available. Most of the data is presented as extracts embedded within an analytical narrative that illustrates arguments in relation to the research questions.

The final chapter, Chapter 7, starts with a summary of the core findings of the overall thesis, together with a summary of the detailed investigation and the outcomes to the research questions. The key contribution of this thesis to the academic discourse is highlighted. This is followed by a concluding summary from the case studies in respect of implications for policy and practice. The limitations of the research design and methodology are then considered alongside suggestions for further research.

2. LITERATURE REVIEW

2.1 Introduction

This chapter considers what available published research reveals about place-based leadership. It also covers the role of strategy and place-based policies and (since it relates to the thematic issue under consideration), the net zero challenge, and climate change governance in cities. As a qualification, societal responses to climate change in cities is a rapidly changing policy environment in which the implications of declarations of climate emergency are still emerging into practice, and thence into academic literature. This literature review was undertaken between Autumn 2018 and Winter 2020, with limited additional focused material being added in Spring 2021.

The broad search terms/key words and themes used are outlined in Box 2.1.

Box 2.1 Thematic basis for the literature review

place-based partnership city
leadership of place
place-based approaches
new leadership of place
place-based leadership and strategy
place-based leadership and strategy carbon neutral
place-based leadership and strategy carbon neutral city
net zero city strategy leadership
carbon neutral city strategy leadership
carbon neutral city strategy place-based leadership
carbon neutral city strategy place-leadership
distributed leadership place-based leadership
distributed leadership place-based leadership
distributed Leadership Net zero City
distributed Leadership Net zero City "place-based leadership"
place-based leadership" and power governance
place-based policy"
place-based leadership" and power governance carbon city
polycentric leadership climate carbon cities
place shaping leadership
place narrative
place-based leadership strategies plans
place-based leadership strategies, plans low carbon
climate emergency place-based leadership
climate emergency response
polycentric governance Climate Change
place-based leadership strategies
Net Zero Strategies place-based leadership (Generated no relevant
papers)
Urban governance and net zero
Urban governance and climate change
strategy and governance

Source: Author's own

This chapter is structured as follows. It begins by considering definitions of place. This sets the scene for an overview of literature on place-based leadership and what it suggests in respect of its characteristics, purpose, and instigators. Given the broad area of investigation, the literature review also considers how actors can deliver transformational change as a place-leader using tools such as strategies, place-based policies, and governance. It reviews the conceptual frameworks and models available

As the thematic area for consideration is climate change mitigation (a lot of specific net zero academic research papers have only emerged recently, post the Spring 2021 cut off for this research) the review then also sets out existent research findings on place-based policy and governance for climate change in cities.

The literature review concludes with a systematic capture of research gaps and questions raised by others active in the fields investigated. These are broadly grouped under the themes of people, place, and powers. From the clustering, research questions specific to this thesis are synthesised. The chapter ends with broad conclusions on what the literature review has revealed.

2.2 Defining place

Place-based narratives have helped to reaffirm that place matters, and that the development of place is historically contingent (Bentley et al., 2017), but what is place is more ambiguous. Places can be considered as nodes in networks, as points of intersection in which the global and the local are mutually constructed and seen in terms of connectivity (Horlings et al., 2018). This loose terminology dodges difficult questions about the significance of scale (Ayres, 2014).

Place mediates physical, social, and economic processes in a geographical context by involving a sense of belonging, a sense of presence, and of being in an environment. It is suggested by Collinge, Gibney and Mabey (2010) as cited by Sotarauta and Beer (2021, p8): -

“That the concept of place includes the following three dimensions:

- *location – the fixed geographical coordinates of a physical location*
- *locale – the material settings for social relations*
- *sense of place – the subjective emotional attachment people have to places they inhabit”.*

Place is multi-faceted and means different things depending on the issue at stake and the geographies at play. Perhaps for this reason *“the terms ‘region’, ‘city’, ‘local’ and ‘community’ are used interchangeably”* (Ayres, 2014, p21) within the literature on place-based leadership. The issue of the complexity of scale is compounded by the fact that these terms can be used to describe very different phenomena depending on context (Ayres,2014) i.e., ‘city-regions’ that cross political administrative boundaries can be different to ‘cities’.

A clear definition and system boundary setting of a city is essential for identifying the different sources of greenhouse gas emissions tied to it, but there is as yet no universally applicable definition of what constitutes a city (Lützkendorf and Balouktsi,2019). A city is a system of interdependent subsystems that can take on a variety of forms and functions. Depending on the research discipline (i.e., urbanism, geography, economics, sociology, etc.), a city can, amongst other concepts be seen as an administrative unit, an assemblage of buildings and infrastructures, a system with energy- and mass flows, a place to live and work, a place of history and cultural heritage, a value creating system, or as a network of actors (*ibid.*). All these definitions represent different perspectives about cities and exist equally side by side.

What is certain is that scale matters (Ayres, 2014, p22). Spatial terms, such as place and territoriality (Bentley et al.,2017) offer a theoretical lens through which to analyse the workings of governance and politics. This helps in the construction of *“a conceptual triad – leadership, systems of governance and central– local relations – with which to comprehend the scope for leadership of place-based development across sub-national territories under both centralist and localist systems of governance”* (Bentley et al., 2017, p196). A sentiment echoed by more recent authorship *“in any study on place-based leadership, it is crucial to understand its relationship with governance, economic and geographical structures”* (Sotarauta and Beer, 2021, p4). What the right geographic structures are is, however, not clear from the literature.

For example, Hambleton (2011, 2013, 2014, 2015a, 2015b, 2017, 2018, 2019) considers leadership at the medium-sized city scale (mostly recently in his case study of Bristol), as do Vallance et al., (2019, p2) who look at the place-based leadership process in Newcastle upon Tyne, one of the largest cities in a region. Other authors consider wider economic regions around cities (largest urban centres, regional cities, towns, and rural districts in Finland) or a whole state in Australia- South Australia including the state capital (Adelaide)

with a population of 1 million (Sotarauta and Beer, 2017). Place has also been considered as sub-national rural regions in varied institutional contexts in Europe e.g., the Westerkwartier area situated in the northwest of the Netherlands (Horlings et al., 2018). Within the UK, three pairs of case studies in heritage, economic development, and planning from Northern England (at a local authority level) have been considered a suitable scale of place for study (Bowden and Liddle, 2018). Most recently place-based leadership has been considered in eleven separate urban forms in five unitary governments and six federal regions of mostly urban form (Beer et al., 2019).

It is acknowledged in the discourse that research findings without better definitions of place have limited resonance with scholars looking for precision or practitioners seeking 'toolkits' (Ayres, 2014). Place-based leadership would appear to rely on defining leadership at the *local level* (Beer and Clower, 2014, p7) (authors' emphasis) as an important first step towards implementing good leadership practice within a community noting, as Ayres (2014) does, that the terms 'region', 'city', 'local' and 'community' are used interchangeably throughout one of the first main articles on place-based leadership, that of Beer and Clower (2014) (referenced as 2013 in Ayres 2014). It follows, that there are legitimate questions pertaining to the applicability of a concept or fledgling subdiscipline (place-based leadership) to an issue for which the response needs to be local, regional, national, and international (Ayres, 2014). However, nowhere as far as research undertaken for this thesis has revealed, does place-based appear synonymous with National.

There is the challenge of place-less power in modern society. Literature over the last few years considers "*the nature of the major struggle that is now taking place in different countries between place-less and place-based power*" (Hambleton 2017, p1). Place-less power has grown significantly in the last thirty years or so. Place-less power means "*the exercise of power by decision-makers who are unconcerned about the impact of their decisions on communities living in particular places*" (Hambleton, 2017, p2). What place means remains problematic i.e., the problematization of place remains a live issue for research and will no doubt continue to be debated.

Contemporary economic geography theory is moving towards addressing the role of human behaviour in determining urban and regional development outcomes including the type and nature of human agency within cities and regions (Huggins and Thompson, 2019). Furthermore, Huggins and Thompson (2019) argue that such agency is based on a

rationality that is spatially bounded, and intrinsically linked to the nature, source, and evolution of institutions and power. An interesting avenue for research in this field would be to identify key agents operating at different layers within a city or region, and to examine how and why they enact this agency and seek to shape and impact development outcomes (Huggins and Thompson 2019). To do this might suggest that place should be defined by the leadership and agency networks prevalent, and perhaps even by governance arrangements, rather than by defined boundaries.

2.3 Overview of Place-based leadership

Leadership is something that everyone can agree is important, but at the same time struggle to define or identify in a systematic way (Beer and Clower, 2014). At the heart of existing research is an extensive literature on general leadership as summarised by many recent textbooks (e.g., Northouse, 2013, 2018, 2021). Leadership is commonly thought of in terms of an individual as leader, but leadership has also been defined as a process whereby *“an individual influences a group of individuals to achieve a common goal”* (Northouse, 2013, cited in Bentley, 2017, p 197). Leadership can be emergent, where authority is assumed or afforded within a group to an individual or to a set of individuals (*Ibid.*). Leadership such as this, rather than being transactional, is transformational since *“leaders are charged with identifying the need for change, creating a vision to guide the change through inspiration, and executing the change in tandem with committed members of the group”* (Bentley et al., 2017, p197). Transformational leadership is closely linked to efforts to boost green development paths, as it is, by necessity, based on long-term partnerships that reach beyond individual objectives and aim to serve higher purposes (Sotarauta and Suvinen. 2019, p1751).

An extensive review of more general leadership literature (but with relevance to places) is presented in Beer and Clower (2014). Beyond general leadership studies, increasing attention has been paid within regional economic research over the past decade to questions of city and regional leadership and the part played by the deliberative actions of key individuals and institutions in shaping the future of places (Beer et al., 2019; updated and extensively summarised in Sotarauta and Beer, 2021).

Place-based leadership, unlike more conventional leadership approaches, is by nature collective, distributed, bottom up, facilitative, and emergent (Sotarauta, 2014). In fact: -

“Place-based leadership is defined as the mobilization and coordination of diverse groups of actors to achieve a collective effort aimed at enhancing the development of a specific place. Place-based leadership is a form of agency that

works across institutional, organizational, geographical and/or sectoral boundaries to boost local/regional development” (Sotarauta, 2019, p1).

The interplay between institutions and agency is one of the cornerstones in any study of place-based leadership (Sotarauta et al., 2020).

The contextual nature of place-based leadership has led increasingly to large scale international collaborative efforts to understand its nature (e.g., Sotarauta and Beer, 2017; and Beer et al., 2019). Future orientation, unpredictability, ambiguity, and uncertainty are defining features of place-based leadership; in part, to understand place-based leadership is to understand how actors cope with and direct open-ended, multi-actor, and potentially conflicted development processes (Sotarauta and Beer, 2021). There have been recent significant theoretical contributions (Sotarauta, Beer, and Gibney, 2017). It is argued *“place-based leadership is transformative rather than transactional ...and the product of collaboration rather than the efforts of an individual”* (Beer et al., 2017, p171-172). *“Place-based leadership is about the mobilisation of key resources, competencies and powers; we see mobilisation as one of the core concepts in place-based leadership (Sotarauta and Beer, 2021, p4).*

Place-based leadership is also fundamentally shaped by context (Gibney, 2014), and thus highly differentiated in its expression (Beer et al., 2019). Instead of being equated with the activities of local political or managerial leaders, place-based leadership is now seen as a product of *relationships* between a range of potential actors, including those from local or regional authorities, as well as varied public, private, community, voluntary or civic organizations (Vallance, Tewdwr-Jones, and Kempton, 2019). This contrasts with leadership associated with ‘great persons’—apparently charismatic individuals who are seen to be important lightning rods for bringing about change and positive development (Beer and Clower, 2014). Understanding leadership is more challenging when considering the leadership of places – such as cities, regions, or small rural communities – where the task of leadership appears to be much more complex than in hierarchical organizations such as a company, central government departments, or city administrations. There is a *“very explicit distinction between leadership in regions and cities and the leadership of these communities (Beer and Clower 2014, p5).*

The literature with respect to place-based leadership extends over the last decade (Beer et al., 2019; Beer and Sotarauta, 2017; Sotarauta, Beer, and Gibney, 2017; and publications by Sotarauta in 2016 and 2015). As a very active area of academic discourse this would seem to arise from a cluster of key papers in 2014 (Beer and Clower 2014),

(Ayers, 2014). The evolution of the concept and the current position is summarised in Sotarauta and Beer 2021. Its origins are earlier however, around the start of the last decade (e.g., Collinge, Gibney, and Mabey, 2010; Kroehn, Maude, and Beer, 2010) and several summaries of place-based leadership have been produced (e.g., Beer and Clower, 2014 – as critiqued by Sotarauta, 2014, and Ayres, 2014). Place-based leadership (a slight variant in terminology) has similar early UK origins (Hambleton, 2011; Goddard and Vallance, 2011; and (Gibney, Copeland, and Murie, 2009).

Largely in parallel, Hambleton (2009, 2011, 2015, 2017) directly considered the power of place and, more specifically, the emerging possibilities for progressive place-based leadership in geo-political settings. His think-pieces and research explore three related themes. That innovation in public service reform needs better leadership; that place-based (or civic) leadership is weak in the UK and that the UK needs to develop approaches to civic leadership that promote local innovation in dealing with societal problems; and that Universities can help develop local innovative capacity. This “New Civic Leadership” (Hambleton 2017) is increasingly seen as spurring new ways of cocreating public service futures (Hambleton, 2019). It is seen as progressive by seeking to bind together all those who care about cities in a much more effective collaborative effort. Hambleton (2009-2019) and Nicholds et al., (2017) established a concept of place-based leadership which is primarily focused on the role of local government, and the nature of leadership in local government in the UK. Nicholds et al., (2017) based upon reviews of the place-based leadership literature discussed above revealed “*five generic leitmotifs* [short recurring themes] *that were known to exist in knowledge-oriented place-based leadership endeavours*” (p253). These are captured in a conceptual framework prepared by Nicholds et al., (2017) which is discussed in the section which follows.

There are challenges around the concept of place-based leadership. It has remained an “*ideographic phenomenon*” (Beer et al., 2019, p172), with researchers producing a portfolio of in-depth case studies but unable to draw conclusions across wider spatial scales, economic structures, time periods, or systems of government (*Ibid.*). However, despite these conceptual difficulties, there is a strong consensus among researchers, think tanks, and policy advisers that place-based leadership is important (Beer and Clower, 2014).

Despite a call (Ayres, 2014) to develop a theory of place-based leadership appropriate to scale and type of place (e.g., devolved/decentralized, urban/rural, city mayor/council

leader) there appears to have been little further discussion of this specific issue in subsequent research. Place-based modes of working lack conceptual clarity and operational precision (Horlings et al., 2018). This is important, as linked to the previous section on the challenges of defining place, at what scale place-based leadership is considered to act remains barely contested. As noted, it would seem almost exclusively associated with the city, city region or region in the literature.

In terms of who are the place-based leaders, the existing literature suggests that place-based leadership is one role which can be undertaken by a range of actors in a place, with professional staff noted as serving as important catalysts for change at the community level (Beer and Clower, 2014). There is also an emerging corpus of work that examines the role of higher education institutions as place leaders (Benneworth, Pinheiro, and Karlsen, 2017). However, much of the literature focuses on the agency exercised by civic leaders (Hambleton 2015a, 2015b and 2019). The latest summary (Sotarauta and Beer, 2021) suggests five actor types which may potentially, independently, or in some combination make up the concept of place-based leadership. They are

- Managerial actors: public managers and leaders working in government organisations
- Political actors: local politicians and potentially also politicians from other governance levels
- Civic actors: actors from non-governmental and other civic organisations
- Academic actors: actors working in the higher-education sector
- Business actors: actors working for businesses of different size.

Typically, place-based leaders have both formal and informal/assigned authority (see Table 2.1) and can emerge from various locations within governance systems.

Table 2.1 Formal and informal assigned and non-assigned place-based leadership roles

	Assigned	Non-assigned
<i>Formal authority</i>	<ul style="list-style-type: none"> • Influential actors having a legitimised position in a public, corporate or some other governance system and an obligation to work for local and regional development • Most commonly, managerial and political actors such as mayors, chief executives in municipalities and directors of regional councils as well as chairpersons of local and regional councils 	<ul style="list-style-type: none"> • Influential actors having a legitimised position in a governance system but no obligation to work for a place and boost its development • For example, a vice-chancellor of a university or CEO of a Chamber of Commerce
<i>Informal authority</i>	<ul style="list-style-type: none"> • Champions of civic and voluntary organisations with proclaimed objectives to shape local/regional development 	<ul style="list-style-type: none"> • Actors without a legitimised position in a governance system and no obligation to work for a place and boost its development; for example: <ul style="list-style-type: none"> • individual entrepreneurs • individual professors • civic activists

Source: Table 1.1 p8 Sotarauta and Beer 2021.

In the “*first ever cross-national analysis of place-based leadership*” (Sotarauta and Beer, 2017, p211), the institutional origins of individuals who have served as place leaders in their regions were identified in both Australia and Finland. In both nations local business owners, the representatives of large multi-locational firms, local government staff, state government employees, industry groups and, to a limited degree, universities were important sources of local leaders (*Ibid.*).

If place-based leadership is a ‘good thing’, how do we ensure more of it? Beer and Clower (2014, p11) argue that “*good [Place] leadership depends on having sufficient uncommitted resources, and especially high-quality individuals ... to devote to questions of strategic significance*” i.e., a level of ‘mission overload’ precludes the time to commit to place-based leadership. This is evidence for the increased role of academics in cities in periods of austerity, when actively engaged universities can provide an auxiliary place-based leadership capability while other public sector organizations are hamstrung by a shortage of ‘slack’ resources to dedicate to this civic task (Vallance et al., 2019).

Some key characteristics of leadership upon which most researchers agree are summarised below grouped under the key aspects identified.

- Crosses institutional organisational, sectorial, professional and discipline boundaries (e.g., “*facilitating interdisciplinary development strategies and practices*”

across institutional boundaries” (Sotarauta and Beer, 2017, p212), “leadership is also relational in that it requires interaction across boundaries of various types” (Vallance, Tewdwr-Jones, and Kempton, 2019, p3)

- Involves multiple stakeholders from across the public, academic and private sectors to contribute to the development outcomes (e.g., *“ensuring the comprehensive engagement of various communities” (Sotarauta and Beer, 2017, p212), “reliant on the mobilization of multiple stakeholders from organizations” (Vallance et al., 2019, p3) or “interactive governance processes ... that bring together national, local and regional governments, firms, universities, research institutions, as well as public or semi-public development agencies” (Sotarauta and Beer, 2017, 213) and,*
- Shares power and influence, and involves enabling others, particularly across the actors and stakeholder within a place (e.g., *“relies upon, and aims to boost, consensus, trust and collaboration...or the capacity of individuals to direct others” (Sotarauta and Beer, 2017, 212). It also involves “a shift from exercise of formal authority within vertical administrative hierarchies to a set of more informal facilitation roles where a willingness to participate and share authority in horizontal inter-organizational coalitions” (Vallance, Tewdwr-Jones, and Kempton, 2019, pp3-4). The literature suggests also the “importance of collaboration, power sharing and trust in the formation of horizontally based leadership coalitions”(Beer and Clower, 2014, p18), “shared leadership where many different independent actors exercise mutual influence to agree and deliver collective goals”(Benneworth, Pinheiro, and Karlsen, 2017, p275); and “processes where not all leaders are formally recognized (and sometimes people with formal positions may exercise little or no leadership)”(Sotarauta and Beer, 2017, p213)*

Of these, the latter, the distributed nature of power, in a more horizontal matter, appears key. In principle the characteristics noted above suggest that if one was to observe place-based leadership in action, one would see individuals and networks of individuals, from different organisations, working together without necessarily formal authority, to achieve beneficial outcomes for that place. It is an additional ‘agential’ lens through which issues and relationships of structure and agency can be explored (Sotarauta et al., 2017).

Empirical research (Sotarauta and Suvinen, 2019) suggests that place-based leadership takes generative modes of action to produce indirectly transformational effects i.e., *generative leadership is concerned with processes of influencing and teaching other actors to understand why and how certain activities and goals need to be accomplished, to*

strengthen the transformational capacity of a place (Ibid, p1763). This is because, often, place-based leadership by just one or a few individuals is simply not powerful enough to produce transformational changes. What often appears as collective action is in practice a complex, constantly evolving process between a network and its members that place leaders' mould. Place-based leadership is thus future seeking, but not future defining (Sotarauta ,2016). This possibly suggests a less prescriptive, more flexible, and more devolved approach to strategies which reflect a more place-based leadership approach.

It has been acknowledged that there have been changes to the leadership of place-based partnerships (Bowden and Liddle, 2018). Some of these changes have been revolutionary (such as austerity cuts to public funding), whilst others have been evolutionary, such as the continuation of the localism trend of devolved power and decision-making (*Ibid.*). This evolving nature of leading place-based partnerships is suggested to have theoretical implications. Most current models of the leadership of place-based partnerships presume that public sector organizations hold significant power and authority. It is argued however a shift is occurring towards the private sector (Bowden and Liddle, 2018) with questions raised as to *"to what extent is this shift part of a wider trend, which will result in non-public sector individuals coming to dominate the roles of driver and navigator in the leadership of place?"* (Bowden and Liddle, 2018, p154).

Primarily, place-based leadership is seen as an economic development or diversification asset. Place-based knowledge leadership processes for more economically resilient regions have been identified (Sotarauta, Horlings, and Liddle cited in Sotarauta et al., 2012). It has been associated with the transition of cities and regions to compete in knowledge-based economies (Vallance, Tewdwr-Jones, and Kempton 2019, p4), with maximizing regions' prospects for development (Beer and Clower, 2014, p5), and/or developing a place-based entrepreneurship and innovation policy framework for regional industrial diversification (Grillitsch and Aheim,2018, p1640). It is also suggested that an imaginative approach to place-based leadership offers potential for improving local qualities of life and strengthening local democracy (Hambleton and Howard, 2013, p47), as well as creating public value (Ayres, 2018, p1). It is also argued that, through dispersed efforts and distributed leadership (in which much of the enabling work can be performed by agents without formal authority), state and non-state actors can work together to solve complex 'wicked issues'(*Ibid.*). The potential role of strategies and governance arrangements in aiding such distributed leadership is considered in the following section. Stakeholders (who are members of leadership structures) are drawn from agencies and

networks in a wide geographical area in a relatively unbounded territory to devise and implement strategies to achieve place-based development goals (Bentley et al., 2017).

2.4 The role of strategies, agency, and governance

As discussed in the introduction, this thesis is situated within the strategies adopted by leaders, i.e., how do they aim to accomplish their ambitions, and how do they establish new governance and power systems. Establishing what is meant by strategy in the context of this work and how the term has been considered by others is therefore pertinent. This section considers this and also the interaction between strategy, agency and governance (largely without reference to place- the latter follows subsequently). Most work on strategy is found in the context of management and organization studies (Asshe et al, 2020) rather than the geographic literature.

Although Sotarauta and Beer (2021, p11) refer to the *“the strategies adopted by leadership and leaders’ capacity to lead”* in their review of the published work, the use of the term strategy is possibly ambiguous in this context. It could be seen as both referring to the implied techniques used by said leaders, as well as any explicit strategies published to assist in their aims. The ambiguity noted is supported by the literature:

“... strategy has been defined and understood in many different ways.” (Van Asshe et al, 2020, p698), and

“...there is no agreed-upon definition of strategy that describes the field and limits its boundaries. Common contemporary definitions describe it as being about maintaining a balance between ends, ways, and means; about identifying objectives; and about the resources and methods available for meeting such objectives.” ... “strategy is a vision for a desirable longer-term future, coupled to an idea of how to get there.” (Van Asshe et al, 2020, p695).

The vision of a longer-term future as a key part of strategy has direct comparisons with concept of a common understanding of future possibilities, as advocated significant part of transformation place-based change: -

“The argument place-based change is made possible by how meaning is constructed resonates with the substantial body of work on transformational place leadership, and the role of place leaders in developing and communicating a common understanding of future possibilities. It is consistent with the priority afforded to regional plans or ‘visions’, where such future-focused statements constitute a form of discourse” (Beer et al, 2021, p4)

In terms of the purpose of strategies, they can be an important enabler in the conceptualisation of an alternative vision. The challenge forming the theme of this research, namely the transformation to Net Zero requires such visions of a different way

of life. Strategies can articulate the outcomes of specific transformational actions, such as: -

“Behavioural change [authors’ emphasis] can be an indirect, a second-order effect, and organizational or institutional change can be either a direct effect of strategy), or also a second-order effect, after ‘reality’ has been redefined by strategy” (Van Asshe et al, 2020, p700)

However, strategies are not perfect visions of the future, there are also limits to strategies: -

“Even under the best circumstances, the best crafted strategy cannot create a reality exactly as promised. Even if the resulting reality looks like the original intention, the assessment can differ because of intervening changes in governance and in the values and perspectives of the community at large” (Van Asshe et al, 2020, p702). Also:

“The strategy will always have to result from choices, just as no decision can be reduced to the information or arguments supporting it.” (Van Asshe et al, 2020, p701).

Shared strategic intentions are, in practice, also noted as combinations of the goals and visions of individual actors (Sotarauta ,2016); raising some doubts that strategy formulation is possibly responsive and of less use.

It is noted strategies should also not be viewed either as ever fixed: -

“...strategies as productive fictions that require constant adaptation. They never entirely work out as expected or hoped for, yet these productive fictions are necessary and effective parts of planning and steering efforts.” (Van Asshe et al, 2020, p695)

So, whilst the above establishes a conceptualisation of a strategy and what it is trying to achieve, what it represents more practically in the context of this geographic based research needs consideration. Strategy for example, can be seen *either a plan or policy itself or the approach or strategy afterwards, in the implementation process (Van Asshe et al, 2020)*. In either case the vision of the future state post transformation seems key. However, it is argued a vision in itself cannot be the final end point: there must be ‘on the ground’ actions to fulfil the vision’s ambitions (Dixon et al., 2018). This research investigation, as noted earlier in this chapter, is interested in interaction between the individual trying to deliver place-based change, and strategies. That is a consideration of the relationship between personal agency and strategy production and outcomes i.e., how strategies themselves can potentially aid the establishment of place-based leadership. In the place-based leadership literature, *“key individuals [are noted as] able to direct others to a particular course of strategy [author’s emphasis], as a vision for a*

desirable future, coupled to an idea of how to get there. This is one of the crucial ways actors attempt to make action, [including] ... *direct strategy formation*". (Sotarauta and Beer, 2017, p217).

What it is the strategy is trying to achieve, and what it seeks to establish and put in place to aid the mobilisation of others requires examination, particularly in the field of sustainability. Strategy has been considered as *"productive fiction, in other words, as always-impossible yet entirely necessary, enabling governance to look forwards..."* (Van Asshe et al, 2020, p696). So, strategy is linked to governance. Specifically, it is suggested that through environmental governance, the concept [of strategy] is articulated so that people try to understand and attempt to organize their environment (Van Asshe et al, 2022 p1). In this context: -

"Strategy formation in governance thus includes dealing with multiple actors, with non-strategic interpretations, and with already articulated strategies of others." (Van Asshe et al, 2020, p699)

So, the link is established that strategy and the actions of multiple actors are connected via the governance a strategy can put in place. Also, that the views of those actors and their knowledge and positionality can affect the way governance is viewed and formed: -

"How something is conceptualized within governance and the position that perspective takes in governance, shapes and at the same time is shaped by traditions of organizing, rooted in the presence of particular actors, institutions and forms of knowledge" (Van Asshe et al, 2022, p1

An example of the sort of strategy pertinent to this thesis is the strategic spatial plan, which might easily contain data on moves towards sustainable place outcomes. Implementing strategic spatial plans is a complex task. The process involves: -

"...strategy formation, institutional capacity building, funding mechanism establishment and governance arrangements, which take shape within complex power configurations. (Oliveira and Hersperger, 2018, p623).

2.5 Place-based approaches and policy

From a place-based leadership perspective, the many regional development plans and/or strategies produced (at least for economic development) are not designed to guide different actors directly (Sotarauta, 2016). The publishing of the documents is not sufficient -it needs people to make things happen and the strategies need to anticipate or even facilitate that agency. That is *"the development of place is not the rolling-out of logical (technical) plans from the centre but the consequence of local agents (leaders)*

shaping the decisions and interpretations of what is, and is not, possible” Sotarauta and Suvinen, 2019, p1750).

Despite the two selective quotations in the previous paragraph from the more recent work of Sotarauta, there remain few references to strategy or strategic plans in place-based leadership literature (e.g., there are none in Beer et al., (2019), and no mention of strategy/strategic plans at all in Sotarauta (2014)). Also only most recently are local leadership and strategies connected in respect of economic rather than environmental policy issues: -

“The conditions that allow place-based industrial strategies to be successful are not fully understood. Questions remain about... the quality of local governance, the intrinsic resources of the region including human capital, and the capacities of local leadership” (Beer et al, 2021, p1)

This thesis aims to contribute to this identified knowledge gap and these issues raised are reflected in the research questions developed at the end of this chapter.

How to define a collective action and a common view of the future such as considered above in the section on strategy is partly a function of place-based policy, which this section considers. Place-based policy is broadly synonymous with place-based strategy, with the additional element of the creation of the vision is largely led by the public sector and in particular city, regional or national governments. It is noted: -

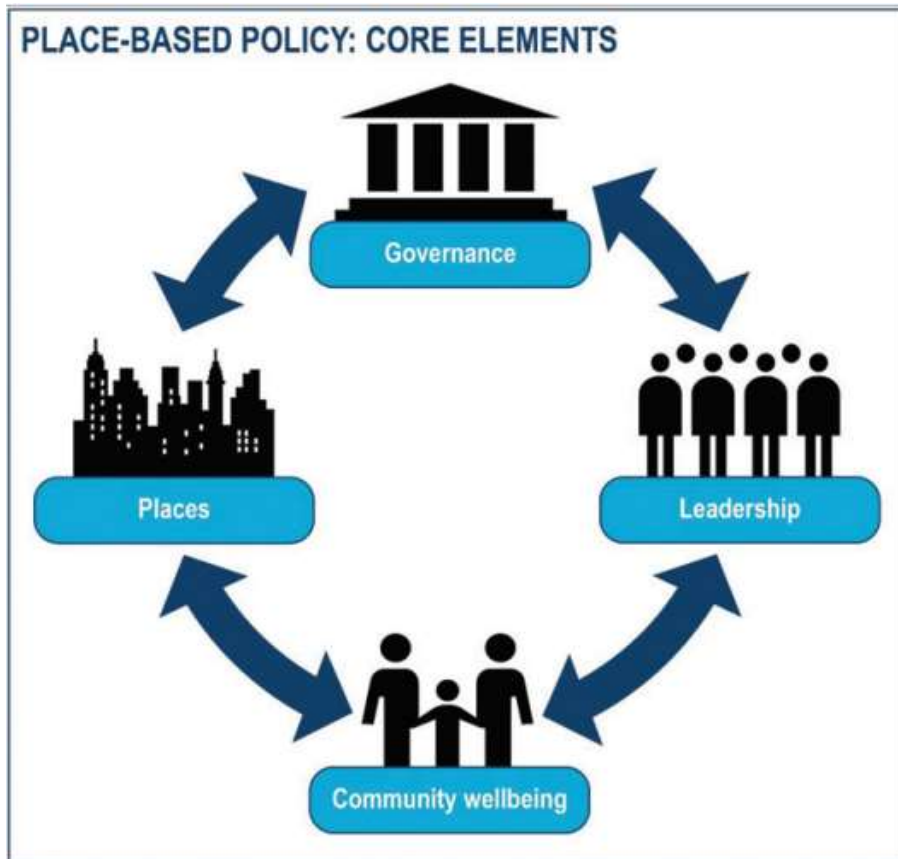
“Place-based policies are one way that governments and institutions look to respond to economic and social challenges, bringing together a package of measures that seek to meet regional needs in their totality. As the term implies, place-based policies have a focus on specific cities, localities or regions, but they represent far more than just a label for already established programmes of government activity, or the concentration of public sector resources in specific locations” (Beer et al., 2020, p12).

It is worth noting the implied exclusion of place-based policies as a focus at a national level. This is a question in respect of the definition of place already raised in this thesis and is an issue addressed in this research (see later in this chapter).

Place-based approaches and policies embody an ethos about, and an approach to, the development of economies and societies that acknowledges that the context of each city, region, and rural district offers opportunities for advancing well-being. The core elements of place-based policy are noted in Figure 2.1. This graphic indicates places, leadership, and governance which are themes explored in this literature review. In addition, it shows the

fourth element as ‘community wellbeing’ but in the context of this thesis the issue/place-based outcome to which the other three elements relate could easily be net zero.

Figure 2.1 Core elements of place-based policy



Source: Figure 1.1 p13 Chapter 1 reproduced from Beer et al 2020

In terms of what is place-based policy, in terms of its elements and characteristics, these are generally broad as Box 2.2 indicates.

Box 2.2 What is place-based policy?

WHAT IS PLACE-BASED POLICY?

The project team was able to seek views of colleagues at the 2019 Regional Studies Association Annual Conference workshop in Santiago de Compostela. An opening question to the focus group discussion was “What do you think of when we say ‘place-based policy’?” The responses to this question gives a sense of the broad and varied elements which may be included in the concept:

- Coordination of challenges
- Multiple levels of governance
- Collective public good
- Complex policy
- Smart specialisation
- Place leadership
- Shared leadership
- Consensus
- Cross-boundary
- Shared goal
- Community aims
- Co-design
- Social networks
- Social capital
- Links between actors
- Individual agency
- Local institutions

Source: Box 1.1, p13 Chapter 1 reproduced from Beer et al 2020

As expected, given the relatively small academic community involved in this area of research, there are similar themes between place-based policies and the 'characteristics' pertaining to place-based leadership as outlined in the previous sections of this chapter. Most notably the similar themes are 'shared-leadership', 'cross-boundary', 'links between actors', 'shared goal', 'individual agency' and 'multiple levels of governance'. Researchers and policymakers alike need to know more about the roles of governance, and innovation in governance, as pathways to the successful implementation of place-based policies (Beer et al., 2020, p15) (see section on governance above in this chapter). They also need to know how to both understand and bring into positive effect the capacities of communities and community leaders (*Ibid.*).

Published literature and discussions with policymakers and researchers has highlighted two critical preconditions for success in place-based policy (Beer et al., 2020, p52), namely: -

“Good governance arrangements are essential if place-based policies and programmes are to achieve their goals. This means that the arrangements that provide an oversight of such initiatives must include an appropriate mix of stakeholders, including those representative of disadvantaged groups as well as those with the power to bring about change through the organisations they lead or work within, and the resources they contribute to this shared objective”

“Local leaders need to be an integral component of all place-based policy designs and implementation. Their active involvement is essential in order to achieve the mobilisation of community resources, a long-term perspective and the patience to work towards goals in the distant future, and community acknowledgement of the value of such policies”

From the above it can be concluded that governance is therefore noted as being a factor as equally important as local leadership. It follows therefore that any consideration of the role of place-based leadership when delivering transformational change needs to consider its relationship with both strategy and governance (the latter covered further below)

2.6 Place-based leadership and the relationship to governance and power

In any study of place-based leadership, it is crucial to understand its relationship with governance, economic, and geographical structures (Sotarauta and Beer, 2021). Oliveira and Hersperger (2018, p624) make broadly the same point in a different literature stream and note that: -

“...what is lacking in the current literature is empirical evidence demonstrating the extent to which governance arrangements, unfolding within the context of power configurations, influence the way strategic spatial plans are implemented at the ground level”.

Governance, understood as collective decision-making for societal problem-solving involves, by necessity, diverse actors in the public, private, civil society and third sectors (Wolfram et al.,2019) and as mentioned in the introduction: -

“Governance alludes to interactive decision-making processes by which public and private actors define and pursue shared goals to address collective problems within their structural contexts” (Holscher et al., 2019a, p793).

As well as a process of collective or interactive decision making it can also refer in a more relational way to processes of control or influence: -

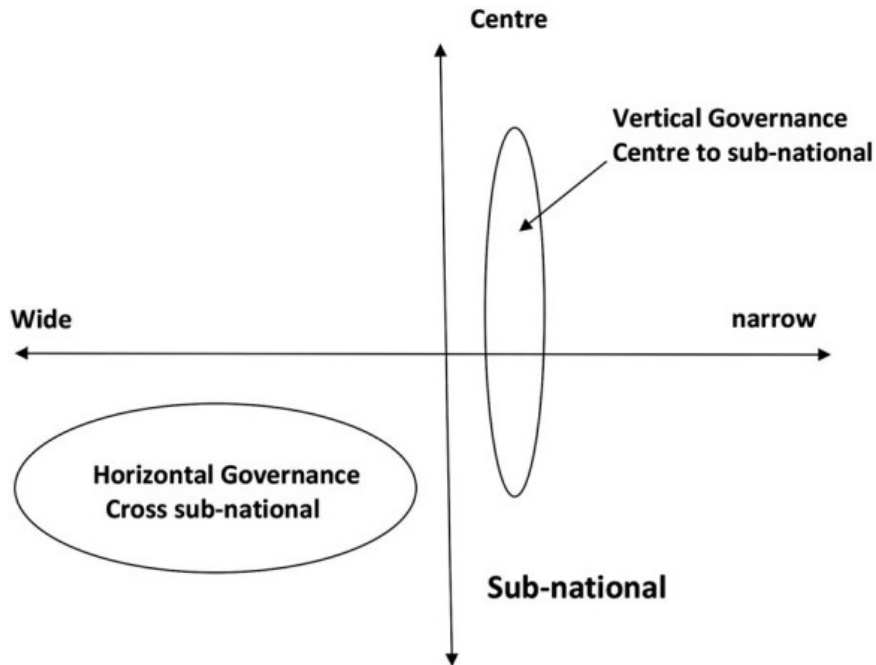
“Governance in this case, refers to a pattern of ‘horizontal’ governance; that is, it refers to a constellation of sub-national actors. Conversely, national–local intergovernmental relations can be referred to as ‘vertical’ governance” (Bentley et al, 2017, p197)

What is postulated is a relationship between the governance context and the place-leadership response, as if one influences the other: -

“Thus, what might be characterized as the system of governance – on a continuum from centralism to localism – is a determining factor of the scope for place-based leadership of sub-national bodies” (Bentley et al, 2017 pp198-199)

That is how government is arranged, and how power is distributed have significant impacts on how an environment is created in which leadership either thrives or is limited (Beer and Clower, 2014). The concepts of horizontal and vertical governance are shown in Figure 2.2.

Figure 2.2 Spheres of Horizontal and Vertical Governance



Source: Figure 1, p217, Bentley et al., 2017

Not all agree, the *“relationship between formal government and place-based leadership is complex”*, (Sotarauta and Beer, 2017, p211) and it is still unclear how this mode of collective leadership can be reproduced in widely varying institutional systems across different territories (Vallance et al.,2019, p1). Some systems of government, as well as national and regional cultures, economic structures, and patterns of urban settlement are more likely to result in robust place-based leadership when compared to others. The limited volume of work (which compares locations or even nations) lends support to this hypothesis (Beer et al., 2019).

In summary therefore governance appears to represent a continuum between the landing of strategy with groups of actors (and their ability to act) and the decisions they need to make, and the control actions and institutions can also exert over actors. Power is involved as a means of describing the degree to which governance can distribute the ability of actors to act.

As well as the formal institutions of government, place-based leadership can involve the deployment of different forms of power which may be derived from: official positions;

control over funds or other rewards; the ability to articulate visions for change shared by others; or personal social capital (Vallance et al., 2019). Vallance, Tewdwr-Jones, and Kempton (2019, p1723) show how “*actors can mobilize interpretive and network forms of power outside formal governance structures to encourage long-term thinking and broker innovative cross-organizational projects*”. The network forms of power mobilised by place-based actors/leaders forms the basis of this thesis.

2.7 Place-based leadership conceptual frameworks

This section summaries how those working in the place-based leadership have conceptualised in frameworks the way place-based leadership operates within the place-based system, bringing together the aspects of individual agency, strategy and governance presented to date within this literature review previously.

As a recap, place-based leadership is seen as more than just the presence of individual leaders, such as mayors, who possess exceptional personal traits or competencies (Vallance et al., 2019). ‘*It is a **distributed form** (authors’ emphasis) of leadership achieved through conjoint rather than individual agency*’ (Ibid., p2). As noted, this leadership cannot be explained by traditional leadership models derived from management and business literature (Horlings and Padt, 2013). Management and business literature relates to describing the actions of the individual, and the networks and system in which the individual operates.

The conceptual framework for place-based leadership by Nicholds et al., (2017, p253) suggests five themes for the actions of a place-leader as an agent: “*collaborative atmosphere*”, “*promoting blending learning*”, “*allowing space for complex problem-solving*”, “*distributed leadership*” and “*power-sharing*”. Though this is not an exclusive list it does touch on the main elements. Similarly, Vallance et al., (2019, pp2-4) describe a “*conceptual framework*” which is less a framework and more an extensive literature review which “*discusses new conceptions of PBL (place-based leadership) and their relationship to structural changes in local economies and governance systems*”. Conceptual models of the interactions between place-based leadership and other actors in a more place-based setting also exist. Broadhurst et al., (2020, p3) present a conceptual model; (reproduced in Figure 2.3). This links issues pertinent to this thesis (and themes covered in this literature review), namely “*leadership*”, to “*vision-and-strategy*”, and “*partnership-engagement*” to “*structure-and-governance*” (Broadhurst et al.,2020, p3).

No specific direction of travel (i.e., a relationship to place-based transformation) between these aspects is implied.

Figure 2.3 Conceptual model of place-based partnership working



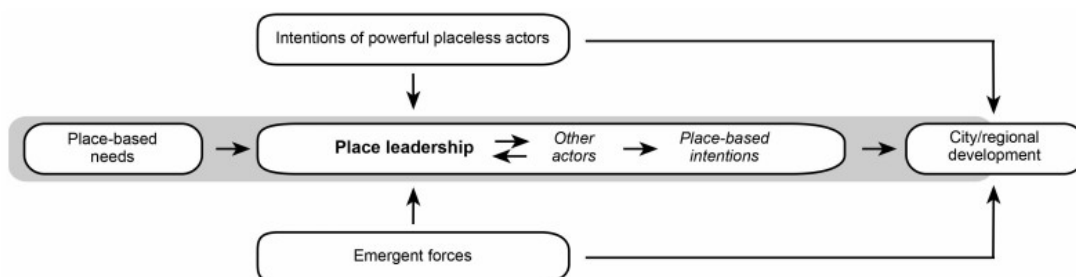
Source : Figure 1 Broadhurst et al 2020, p3

The direction of travel of place-based leadership and its influence on city and regional development, as well as those factors operating on are addressed in a further graphical framework by Sotarauta and Beer (2021, p4). Touched on in the introduction to this thesis, it is reproduced in Figure 2.4. It is used to illustrate that: -

“Place-based leadership operates on the one hand in between the intentions of placeless actors and unpredictable economic-social-political forces, and on the other hand, amidst a variety of place-based needs and intentions” (Sotarauta and Beer, 2021, p4).

The framework (Figure 2.4) shows the place-based leader interacting with other actors to deliver the place-based intentions but significant to this thesis, does not refer to the role of the “*vision and strategy*” included by Broadhurst et al 2020, p3.

Figure 2.4 The position of place-based leadership in between place-based needs, intentions of placeless actors and emergent forces



Source: From Fig1.1 p4 Sotarauta and Beer 2021

Figure 2.4 indicates the key role of other actors in creating and owning the place-based intentions, i.e., *“being a place leader is not a position, but a role assumed or provided by others. Place leaders are those who work for a place in a collective space and/or work to create that space”* (Sotarauta and Beer, 2021, p8).

2.8 Transformational governance for climate change

There is no specific empirical research or evidence base with regards to the use of place-based leadership as explicitly defined as a tool to address climate change and/or net zero outcomes. It is however argued that: -

“...revealing how place-based leadership is enacted in different places and times would allow us to flesh out novel aspects about the eternal questions of how and why some places are able to adapt strategically to ever-changing social, economic and environmental circumstances while others fail to do so” (Sotarauta, 2016, p35).

The potential for place-based leadership to address “environmental circumstances” was acknowledged in 2016 by one of the key proponents of the ‘theory’ though this theme has not been significantly explored in subsequent work. This section provides more context as to the largely parallel discourse explored in research on climate change policy and governance for climate change.

Within cities, arguably ways need to be found to transform barriers into enablers of action on climate change and sustainable urban development. Citizens, scientists, institutions,

policymaking, and multilevel governance structures along with good/honest politics are required for such immediate action and practice turnaround (Sotto et al.,2019). Recent studies have specifically considered the net zero challenge in places (albeit with no explicit reference to place-based leadership as touched on already). There is a developing parallel strand of investigation which examines the work of street-level bureaucrats – defined as civil servants who operate at the front line of the state, meet citizens and influence how they experience and receive state services (Holstead et al, 2021), individuals similar in some ways to place-based leaders. However, the investigation of such individuals operating in environmental governance is less developed e.g.: -

“While there is a well-established literature on street-level bureaucrats in diverse areas related to social policy including health care, security and education, the academic literature is more limited when it comes to their role within environmental governance.” (Holstead et al, 2021, p1)

There is no explicit reference to leadership at all in Holstead et al, 2021. However, what is perhaps revealing is that there is implied reference to some of the place-based leadership behaviours as evidenced below, such as boundary spanning, influencing other actors and working with governance configurations

...street-level bureaucrats are influential in public policy because of the strong degree of discretion and agency they have as enact and translate policies in everyday settings. Since then, other studies have expanded our understanding of street-level bureaucrats and their work, exploring their roles as ‘boundary spanners’, facilitators and intermediaries [author’s emphasis]. Holstead et al, 2021 p2

... street-level bureaucrats have a significant role in determining how environmental governance takes place [author’s emphasis]. *Charged with everyday implementation, they must negotiate the ... affiliations with other actors* [author’s emphasis], ... Holstead et al, 2021 p2

It is noted in addition that studies of street-level bureaucrats would benefit from being expanded and explored in-depth in a greater variety of settings and being systematically compared across different environmental governance context (Holstead et al, 2021), a similar call as noted for place-based leaders.

Once place-based leaders work with and develop place-based strategies and policies, there is a need to consider the climate change governance arrangements that these are situated within. The remainder of this section presents what recent research reveals in respect of urban climate change governance within and between places.

Interestingly, given its academic origin, place-based leadership is not a term explicitly used by the Place-based Action Network in its reporting (Howard et al.,2021), though there is one reference to leadership. This is in respect of actions local authorities are encouraged to take post declaration of a climate emergency: -

*“Guides ...provide a useful starting point to do so, with a focus on practical measures local authorities can do. They include topics such as raising funds, ... influencing others, and higher-level approaches such as **focusing on leadership, strategy, capacity, action plans**, [Author’s emphasis] targets, finance and risk, innovation, partners, and behaviour”* (Howard et al.,2021, p14).

However, there is reference to the need to involve multiple actors from different sector boundaries, in a place/at local level, as well as reference to resource challenges associated with doing so. Many of these echo the place-based leadership features highlighted in this chapter. It is noted: -

“Effective climate action depends not only on the role of government and the policies and plans it puts in place, but also on the energy and investment of non-state private and civic actors. This is especially the case at the local level, where local government capacities are limited and climate action therefore depends not only on national government support, but also on the active buy-in of people and communities, and businesses and economies. One of the most common limitations at the local level often relates to resource, including staff and funding, and while higher levels of government often influence this, it is also dictated by the priorities of local authorities themselves”. (Howard et al.,2020, p5).

These are all themes explored more fully in the analysis chapters.

The recent studies on place-based approaches to climate change mitigation include journal articles covering making California carbon neutral by 2050 (Wheeler, 2017), a carbon-neutral Copenhagen (Damsø et al., 2017), the low carbon transition of Akureyri, Iceland (Kristjansdottir and Busch, 2019), and transitioning Rotterdam and New York (Hölscher et al., 2019a, 2019b, 2019c). In some cases, the net zero challenge *“requires innovative ways to overcome the barriers to engaging people on climate change and air quality, to “bring them along” on the transformational journeys that are required”* (Prestwood et al., 2018, p502). In many contexts worldwide *“sustainability planners should consider action on both policy and social ecology levels to maximize chances of success”* (Wheeler, 2017, p5).

Whilst there is enormous potential for effective climate change responses in and through cities, this requires a range of profound institutional, behavioural, technological, and physical changes (Wolfram et al., 2019). Cities themselves are major players in global climate change governance with research such as that by Heikkinen et al., (2019) critically

examining the notion of cities as leaders in climate policy. Heikkinen et al., (2019) consider what kind of actions C40 member cities² proposed to address climate change, and how transformative those actions have been. That found, however, that neither the C40 network nor its members currently promote profound change overall (despite a recognition in other research – such Hölscher et al 2019a, 2019b, 2019c– that transformational change in cities is required). To deliver place-based change (and the place-based policies necessary) it is considered will require equally transformational governance involving actors, that is:-

“...capacities for transformative climate governance are manifest in both the collective abilities of actors to mobilise, create and change societal structures and conditions, such as institutional settings, beliefs and financial resources, and in the structural conditions that are created as a result of the activities of actors” (Hölscher et al 2019a, p793).

The rest of this section considers climate change governance more generally within the literature as part of the context into which this thesis on place-based leadership is to be situated. A recent systematic evaluation of over 300 academic publications in the field of climate change governance in urban areas (Castán Broto and Westman, 2020) argues that the current moment of research has been shaped by two recent waves of thought. The first, a wave of urban optimism, started in 2011 and peaked in 2013, and engaged with urban areas as alternative sites for governance in the face of the crumbling international climate regime. The second, a wave of urban pragmatism, which started in 2016 has sought to reimagine urban areas following the integration of the “sub-national” as a meaningful category in the international climate regime. Calls to understand the impacts of climate change policies have fostered research on climate change politics, issues of power and control, conflicts, and the inherently unjust nature of much climate policy. According to Castán Broto and Westman (2020, p1);-

“What is largely missing from the current scholarship is a sober assessment of the mundane aspects of climate change governance on the ground and a concern with what kind of cultural and socio-economic change is taking place, beyond comparative analyses of the effectiveness of climate policies”

This research aims to make a modest contribute to this gap in existent literature.

A framework is also available which provides an *“agency-oriented perspective to bridge how activities of actors create conditions for governing urban transformations”* (Holscher

²TheC40CitiesClimateLeadershipGroup is a global network of large cities committed to addressing climate change. It was established in London in 2005. See, for further, <https://www.c40.org/>

et al.,2019b, p187). The framework (Tables 1 and 2 Holscher et al., 2019a, p794) postulates that to deliver transformative climate governance capacity, four governance attributes are necessary. These are stewarding: anticipating and responding to disturbances, unlocking: recognising and dismantling unsustainable path dependencies, transformative: creating and embedding novelties and orchestrating: coordinating multi-actor processes. Of these, orchestrating capacity (which refers to the abilities to coordinate **multi-actor processes** [author's emphasis] and foster synergies and minimise trade-offs and conflicts **across scales, sectors,** [author's emphasis] and time), has most relevance to this thesis as it has characteristics of place-based leadership summarised in this literature review.

Regarding leadership and climate change governance, a review of seven papers covering examples of innovative and experimental urban climate governance across the globe by Wolfram et al., (2019, p9-10) suggests that:

- ***Institutional entrepreneurs** such as the Chief Resilience Officer, the head of **boundary-crossing** departments, or renowned academics can foster the reshaping of current interaction forms and rules, as well as organizational configurations. Furthermore, intermediary bodies such as local universities, NGOs or semi-public entities are critically important to translate knowledge, **facilitate dialogue**, negotiate interests and support reflexivity.*
- *There are also new demands regarding participation in climate governance based on alternative values. Such community activism thus fosters more **polycentric leadership** and diverse place-based experimentation, but in turn requires **empowerment** and inclusion.*

Implied references to place-based leadership characteristics from this parallel literature stream are emphasised in bold above.

Where governments invite other actors into the policymaking process at all stages and encourage autonomy in multiple sites of authority it is argued that there is more room for experimentation, economies of scale and, ultimately, the progression of an inclusive low-carbon transition (Gillard et al.,2017, p8). The inclusion of multiple actors is especially relevant for environmental policies where locally sensitive, or 'bottom-up', and 'polycentric' forms of governance are often claimed to be most effective (Ostrom, 2010).

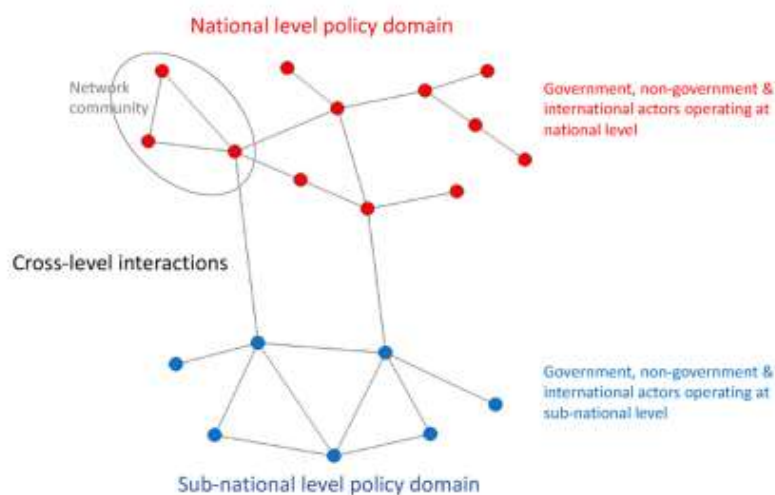
According to Gillard et al., (2017, p8), polycentric governance is consists of :-

“(1) Multiple centres of decision-making authority with overlapping jurisdictions (2) which interact through a process of mutual adjustment during which they frequently establish new formal collaborations or informal commitments, and (3) their interactions generate a regularized pattern of overarching social order which

captures efficiencies of scale at all levels of aggregation, including providing a secure foundation for democratic self-governance.”

The extent to which these structures, processes and outcomes are present vary from case to case. Places do not exist in isolation, however, and the governance context of the place-based climate change governance is also important. Although research on the multi-level governance of climate change has increased in recent years, the literature is focused on national-supranational relations, while national-subnational networking (which is more part of this thesis) remains less explored (Di Gregorio et al.,2019). Both national and sub-national climates and land use policy domains include government, non-government, and international actors that operate at the respective jurisdictional level (Di Gregorio et al.,2019); as illustrated in Figure 2.5.

Figure 2.5 Conceptual diagram of a multi-level governance network



Source: Di Gregorio et al., 2019, p2

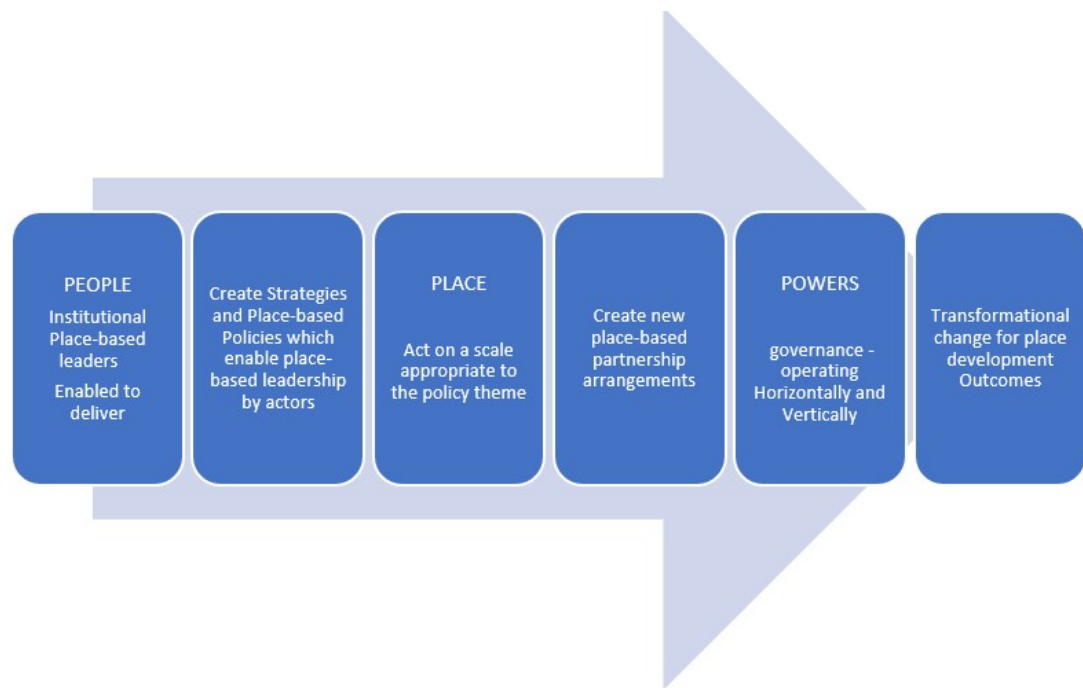
The above section of the literature review completes the coverage of key terms, concepts definitions and existing frameworks considered applicable to this research investigation. The final section in this chapter brings together these into an overall conceptual framework developed by the author, and associated research questions which arise from gaps in the understanding of how the framework might operate in practice.

2.9 Overall conceptual framework and research questions

Following the preceding literature review, the identified aspects of place-based leadership and how they relate to strategies, place-based policies, and place-based

governance to achieve change were synthesised into a conceptual framework. This is presented in Figure 2.6. The framework uses the three main headings of People (place-based leadership and institutional settings), Place (scale), and Powers (governance, place-based partnerships) as its structure.

Figure 2.6 Conceptual framework for how place-based leaders use strategies and governance to deliver change



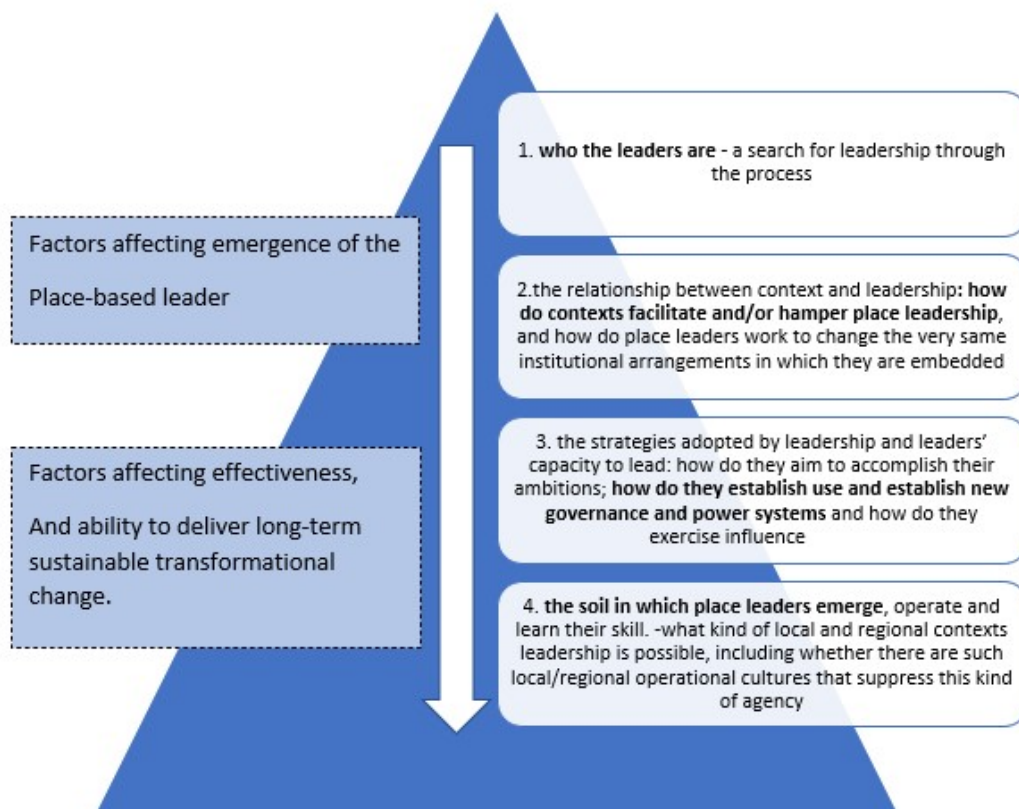
Source: Author's own

The framework is based around the authors concept of a linear process of delivering change in a place, whereby action leads to outcomes, hence the broad arrow. At its heart is the core idea of establishing place-based strategies and policies which act and enable new place-based governance arrangements. These in turn assist in creating the environment which can lead to change within the place-based system. It is based upon the linearity of Fig1.1, p4, Sotarauta and Beer 2021, which suggests a direction to the process of delivering city and regional development by actors achieving place-based intentions. It also however gives greater weight in the framework to the role of strategies, and place-based partnerships as suggested by Figure 1, p3, Broadhurst et al 2020, , and the challenges of working both horizontally and vertically as part of the governance context as indicated in Figure 1, p217, Bentley et al., 2017. The framework is shown for simplicity in a linear manner with a left to right direction towards delivering a more sustainable place. It is however likely in practice to contain feedback loops particularly in

the way that engagement and formal consultation on the strategies, action plans and the proposed or modified governance arrangements influences future revisions of any strategies. The experiences gained in trying to influence and deliver place-based change by the place-based leader would also generate learning which could be fed back into various stages of the framework as continuous improvement to the process of delivering sustainable places.

As noted in the Introduction to this thesis, key questions in city and regional leadership (place-based leadership) form three broad areas. These are illustrated in Figure 2.7 (A reproduction of Figure 1.2 for ease of reference).

Figure 2.7 Summary of key outstanding research questions in relation to place-based leadership



Source: author adapted from pp 10-11 Sotarauta and Beer 2021

Based on the conceptual model developed it is considered this thesis is situated within the third set of questions raised by Sotarauta and Beer 2021. These, as outlined in the introduction, revolve around the strategies adopted by leadership and leaders' capacity to lead; how do they aim to accomplish their ambitions, from where do the ambitions emerge, how do they establish new governance and power system, how do they deploy

existing systems of power and governance as resources in their endeavours, what kinds of power do they have, and how do they exercise influence.

To ensure that that the research that was undertaken adds to academic discourse the sources of material in the literature review were reviewed to specifically identify existing known gaps or research questions posed by others (specifically the questions noted by Sotarauta and Beer 2021 above). The material was focused on the author's conceptual framework in Figure 2.6 (p43), particularly the three key components of people, place and power and how these interact. Each grouping of the research questions from the literature relating to these parts of the conceptual framework is followed by the appropriate synthesised summary research question in the sections below.

2.9.1 People

There are questions around the nature of place-based leaders, who they are, and which institution they herald from: -

“However, further research will be required in coming years to test whether or not the dominance of non-public sector individuals in the leadership of place-based partnerships is restricted to a few isolated cases or if it is part of a wider and growing trend”. (Bowden and Liddle 2018, p154).

“An interesting avenue for research in this field would be to identify key agents operating at different layers within a city or region, and to examine how and why they enact this agency and seek to shape and impact upon development outcomes” (Huggins and Thompson, 2019, p141).

There are also more specific questions around how that place-based leadership is anticipated to act in conjunction with other collaborators and stakeholders, and how such place-based partnerships might work: -

“These very basic leadership questions will undoubtedly prompt a whole series of novel research questions in the next few years. Who influences whom, how, for what purpose and in what kind of context – and with what outcomes?” (Sotarauta et al.,2017 p191).

“This demands better understanding – theoretically and empirically – about how regional actors’ needs, perceptions and legitimacy fit together not only locally but also within regional actors’ wider stakeholder networks” (Benneworth et al.,2017, p.246).

“What are the implications for Place-based leadership, in terms of the nature of its collaborative practice and its effects on local development, of non-assigned actors such as universities, community groups or businesses assuming a more central role in its facilitation?” (Vallance et al.,2019, p9).

From the literature there is also a clear line of inquiry that is advocated around understanding the institutional and resource constraints that impact the way a place-based leader acts: -

“This brings us back to the key question on how to create an institutional setting which allows place-based leadership to flourish, acknowledging that the right mix of formal and informal institutions is needed, targeted to every specific place” (Horlings et al.,2018, p263).

“Moreover, we do not yet know well enough what kind of institutional arrangements push leadership to be more collective than individualistic, more sub-national than national, more networked than siloed”. (Sotarauta and Beer, 2021, p10)

The nature of the change proposed by place-based strategies is clearly also worthy of further investigation: -

“The cities are reacting to climate change by forming networks and drafting strategies, but few fundamental changes appear in the strategies. Transformational change may also be happening in an uncontrolled and unplanned manner that it is not visible in the city strategies. If that is the case, it is also probably not led by city officials. This remains to be analysed in future studies” (Heikkinen et al.,2019, p99).

From these quotations a series of research questions were developed around the first part of the conceptual framework for how place-based leaders might arise and develop strategies which enable place-based change. The questions relating to people are: -

- Who are the place-based leaders leading on strategy production, and what institution do they herald from?
- Can the characteristics of place-based leadership be discerned from the actions proposed as necessary by those enacting place-based strategies?
- What evidence is there that the leadership identified requires transformational change in the place?
- Is there a recognition in strategies that internal institutional contexts (especially resources) affect individuals' capacity to contribute to place-based leadership processes?

2.9.2 Place

As outlined in the literature review, place is recognised as a problematic concept and its scale is seen as worthy of further consideration: -

“Nonetheless, the importance of scale and the need for robust terminology is perhaps too readily overlooked. There is a need to develop a theory of place-based

leadership appropriate to scale (geography, population, GDP) and type (devolved/decentralized, urban/rural, city mayor, council leader). Without this, findings will have limited resonance with scholars looking for precision or practitioners seeking ‘toolkits’ (Ayres, 2014, p22).

“Perhaps we could ... (3) carry out both theoretical and empirical studies to find more specific definitions and insights that would fit both the differing scales and institutions of places”. (Sotarauta, 2014, p29).

“There is an unquestioned need within policy networks and the community at large for stronger insights into ‘what works’ and what does not, with respect to place-based policy”. (Beer et al.,2020, p15).

This is particularly true at scales below the national: -

“...there is a need to rethink the meanings, justifications and practices of place-based leadership for the development of a more critically reflexive, inclusive and distributed leadership at the sub-national scale” (Sotarauta and Beer, 2021, p17).

It is also acknowledged that there are legitimate gaps in knowledge with regard to how place might apply in the net zero and climate action policy environment: -

“...while there is some research on the delivery of policy in practice, there remains a gap in terms of having a consistent and comparative body of research that addresses the everyday realities of climate action” (Castan Broto and Westman 2020, p2).

“...there is a need for more detailed options appraisal at the city-scale if consumption-based emissions are to be significantly reduced. This could be facilitated if the many organisations that are developing frameworks to encourage cities and communities to adopt low-carbon plans extended the boundaries of their work to consider not only production but also consumption-based emissions” (Millward-Hopkins et al.,2017, p1476)

There is also a need to consider whether the place-based approach to net zero strategies will differ between places or be similar: -

“Targets and climate actions proposed in all the studied cities are similar, even though the cities are very different from each other. Our research design reveals this similarity but does not allow for drawing conclusions concerning its causes. Policy learning may be taking place between the cities, the network’s own agenda may be successfully diffusing around the globe, or all cities may be drawing on some common external source to develop their ideas” (Heikkinen et al.,2019, p99).

From these future research ideas and gaps raised by others a research question was developed around the central part of the conceptual framework for how place-based leaders might arise and develop strategies which enable place-based change. This is

- How relevant is a place-based policy approach to the thematic issue under consideration? What scale of place is appropriate?

2.9.3 Powers and place-based partnership and governance

The key elements of place-based leadership involve the distribution of leadership and power to place-based partnerships. As expected, there have been calls for further research specifically into the what works best in terms of effective place-based organisations: -

“Additional research in this area is encouraged to understand more fully why some partnerships are more successful at building multi-organizational collaborations than others”. (Broadhurst et al.,2020, p10).

There have also been questions specifically raised around the relationship between place-based leadership and both sub-national and national governance processes, as well as how governance works at the local level: -

“However, the tensions identified through this case study (Vallance et al.,2019) also raise a number of wider questions that can guide future research. First, are the more distributed and relational forms of Place-Based leadership (PBL) focused on in this paper present in other territorial contexts marked by constrained sub-national governance capabilities and what are the institutional or intermediary mechanisms through which they are enabled? ... Third, how can we better understand the coexistence and complex interplay of emergent forms of distributed PBL and more traditional local governance processes?” (Vallance et al.,2019, p9).

This is particularly in respect of how any governance may influence the effectiveness of place-based leadership and policy: -

“Thus, in the nexus of the triad of leadership, system of governance, and centre–local relations, a new set of research questions emerges to include the consideration of the role of each of the control mechanisms in determining the scope for the exercise of leadership under each governance system. Namely, what effect do the types of controls that a higher authority imposes on sub-national governance structures under different systems of governance have on the scope for leadership?” (Bentley et al.,2017, p206).

“Importantly, researchers and policymakers alike need to know more about the role of governance, and innovation in governance, as a pathway to the successful implementation of place-based policy. ... In short, there is a disconnect between academic writing in this field and the policy advice and prescriptions readily available to those charged with implementing development” (Beer et al.,2020 p15).

The climate change and climate governance literature also raise research gaps which have strong similarities to the place-based leadership and policy research environment. These are as noted below: -

“Finally, examinations of the articulation of planned governance into material reality will be an essential task as actors continue to struggle with efforts to transform the urban” (Tozer and Klenk, 2018, p180).

“The ongoing changes in climate governance open up multiple questions about actor roles, effective governance processes, legitimacy and how effective climate governance in the context of transformations can be supported”. p802 (Holscher 2019a)

Disconnect between the zealous narrative of urban opportunities and how these are harnessed in practice demands closer attention to what types of conditions facilitate urban transformation governance and how they are developed, and by whom, vis-à-vis existing urban governance regimes” (Holscher, 2019c, p916).

“What is largely missing from the current scholarship is a sober assessment of the mundane aspects of climate change governance on the ground and a concern with what kind of cultural and socio-economic change is taking place, beyond comparative analyses of the effectiveness of climate policies” (Castan Broto, and Westman, 2020, p1).

Whilst a wide-ranging set of research challenges posed by others from the literature, these were synthesised into a single research question relating to power and governance for the purposes of this thesis, namely: -

- What evidence exists for new place-based partnerships and collaborative governance as a means of delivering whole system/transformational change?

2.10 Summary

Using a comprehensive review of available academic literature, this chapter has considered what is known and relevant to the research problem and critically reviewed existent material. The existing academic knowledge base on place-based leadership, strategy, place-based policy, and climate change governance has been presented. As noted, it is a relatively narrow field of academic discourse, with perhaps half a dozen or so principal authors. The literature that has been produced nevertheless possesses a longevity as key papers stem from the early 2000s onwards (such as Hambleton (2011), and Beer and Clower, (2004)). From the comprehensive review of literature, a conceptual framework of how place-based leaders might use strategies to effect change was developed. This aided the situating of a series of research gaps within the process of place-based leadership that drives place-based transformational change. Existing research questions were synthesised together to develop three main research questions which form the basis of this research investigation. These are predominantly related to challenges posed by the literature summary presented in Sotarauta and Beer (2021) and can, therefore, claim contemporary relevance. The following chapter, Chapter 3,

addresses the approach taken to developing a research design and methodology to provide data to answer the questions developed in this review.

3 RESEARCH DESIGN

3.1 Introduction

“The challenges include ensuring that the ontology, the research design, the time period, the spatial scale, the research instruments, the data collection and the analysis is right”. (Sotarauta and Beer, 2021, p16).

Research design is concerned with turning research questions into projects (Robson and McCartan, 2016). This chapter outlines the research philosophy of this thesis, and then the design options that were considered for addressing the research’s purpose. Finally, it describes the specific methodology/sampling procedures adopted for this study. In so doing, it broadly covers the framework for research design proposed by Robson and McCartan (2016) namely, to consider the components of purpose, the conceptual framework, the research questions, and methods and sampling procedures – while noting that there is some directionality about the whole process. Initially, there is a brief consideration of the research philosophy and the epistemological position of the researcher. This is notwithstanding that real-world research tends to use a pragmatic approach and research grounded in realism (Robson and McCartan, 2016, p30) tends to give less weight to these issues.

This chapter is structured as follows:

- Reflection on research perspective taken
- Review of previous approaches
- Research design
- Methodology Design
- Data Collection (a) City Vignettes and Cross case study comparison- wider governance and strategy
- Data Collection (b) Identification and context review of strategy document
- Data Analysis
- Ethical review

The introduction to this thesis established the context for a specific investigation – summarised in the overall title ‘How do place-based leaders use strategies to effect change? ‘More specifically, this is research into the strategies adopted by leadership and leaders’ capacity to lead: how do they aim to accomplish their ambitions; how do they establish and use and establish new governance and power systems and how do they exercise influence (after Sotarauta and Beer,2021, pp10-11). The synthesis and

conceptual framework presented in the literature review highlighted several theoretical gaps in understanding and presented these in terms of a series of research questions. These are reproduced in Box 3.1.

Box 3.1 Reiteration of Research Questions

How do place-based leaders use strategies to effect change?
1. PEOPLE -Who are the place-based leaders leading on strategy production and what institution do they herald from? Can the characteristics of place-based leadership be discerned from the actions proposed as necessary by those enacting place-based strategies? What evidence is there that the leadership identified requires transformational change in the place? Is there recognition in strategies that internal institutional contexts (especially resources) affect individuals' capacity to contribute to place-based leadership processes?
2. PLACE -How relevant is a place-based policy approach to the thematic issue under consideration? What scale of place is appropriate?
3. POWERS- What evidence exists for new place-based partnerships and collaborative governance as a means of delivering whole system/transformational change?

Source: Author's own

To provide answers to the research questions it was necessary to develop an appropriate research design and as part of that, a methodology to gather suitable data from which to draw conclusions.

3.2 Reflection on research perspective taken

Research design is about making choices about what will be observed and how (Easterby-Smith et al.,2015, p68). Research design is also, therefore, concerned with turning research questions into projects (Robson and McCartan, 2016, p71), whilst research designs vary according to underlying philosophical positions.

Leadership, enabling factors, city systems, governance, and the process of introducing and implementing strategies are topics in which, unlike aspects of the physical sciences, there are many "truths" which predominantly depend on the viewpoint of the observer. The author acknowledges that in the process of undertaking this research he formed a view of the strategy implementation processes used by place-based leaders; from this, he

concluded that the study would be undertaken using a pragmatic approach. That is, with a view to providing explanations (Robson and McCartan, 2016). This also suggests the adoption of a relativist ontology i.e., that reality is a finite subjective experience (Easterby-Smith et al.,2015)

Epistemology is the study of the nature of knowledge and ways of enquiring into physical and social worlds. Based on the following factors (Easterby-Smith et al.,2015, p51) it is considered that this study adopted broadly a constructionist epistemology, in which meaning is created through an interaction of the interpreter and the interpreted, i.e.,

- The author is part of what is being observed (in some ways as a practitioner at least)
- Human interests are the main drivers of the science (since it is proposed to investigate leadership and political and other enablers, though some of the data and policies are more factual)
- The research explanations aim to increase a general understanding of the situation (leadership for successful net zero planning)
- the research progresses partly through hypothesis and deductions but mostly by gathering data from which ideas are produced
- the concepts to be developed include stakeholder perspectives (in so far as the strategy documents act as a statement of intent and reflect the aspirations of the place-based stakeholders)
- the unit of analysis (despite best efforts to reduce to the simplest terms) does include the complexity of the systems around strategy production (cities, central and local government, actors in the city)

However, it is also acknowledged that there is a latent objectivism or essentialism in the project as through the research there was a degree of detachment. Given this, the assumed research paradigm was one of semi-detached social constructionism (Easterby-Smith et al.,2015). i.e., whilst it is understood and assumed that knowledge is constructed through interactions with others in social situations the author sought to distance himself from those processes. From a positionality perspective, the author as a researcher presents challenges. He has, throughout his 30-year career, always been interested in sustainability, its application in urban situations, and the role that strategy and stakeholders can play in delivering sustainable places. Following an MSc in Strategy, Change and Leadership between 2016 and 2018 he has become specifically interested in

the role that agency and leadership play in space. However, given his professional standing in this field it was considered a risk that his approach could be challenging as to not to be seen to lead (or be perceived as leading), or acting as a consultant, within interviews. This specific point is discussed further later and in the ethics section and limitations at the end of the thesis.

3.3 Review of previous approaches to research design in similar topics

To aid the consideration of research design and methodology adopted for this study a review of comparable work by others was undertaken. A selection of the most recent and relevant published research in as similar an area as possible to this thesis is presented in

Table 3.1

Table 3.1 – Review of research design and methodologies utilised by others

Researcher	Specific Research focus	Research design and geographic area	Methodology	Data Analysis	Commentary re: research problem and design
Bentley et al., (2017)	The leadership and systems of governance: the constraints on the scope for leadership of place-based development in sub-national territories	An investigation of the case of the English Local Enterprise Partnerships (LEPs), to discern the control/enabling mechanisms that might be utilized by a central government.	A case study approach involving deductive and inductive methods is deployed. This uses a grounded theory (GT) approach in which hypotheses for testing and to generate ideas, concepts, and categories,	A policy narrative of the LEPs in England as localist vehicles	This study looks more at the macro enablers to development of place-based policies, rather than how the place-based leader enacts change in the places concerned
Broadhurst et al., (2020)	The guidance available to local place-based leaders that limits their ability to develop transformational strategies.	All English Local Enterprise Partnerships (LEPs)	A soft systems methodology was used to review the extant literature and develop a draft conceptual model to investigate place-based partnerships.	A multiple-stage qualitative methodology. This included the analysis of the 38 LEP strategic economic plans (SEPs), 34 semi-structured interviews, eight LEP board observations	Very similar approach to that proposed for this study, that is development of a conceptual model, and an assessment of that model within the context of what place-based

					partnerships do to deliver change.
Damso et al., (2017)	Improve understanding of local climate action plans and their implementation and evaluation	Case Study and document analysis Copenhagen	Document analysis, utilizing both quantitative and qualitative content analysis techniques interviews were subsequently conducted with key actors	Content analysis techniques	Very similar in approach to that proposed for this study, albeit this thesis has specific emphasis on place leaders
Affolderbach (2017)	Implementation of greenest city action plan (GCAP) to evaluate the role of green leadership	Case Study of the GCAP drawing on primary and secondary sources Vancouver	The research design consisted of a three-pronged approach involving document analysis, World Cafe inspired focus groups and personal interviews	Not explicitly given	Strong similarities to that proposed for this study but a more longitudinal study of single plan and its effectiveness
Hölscher et al., (2019a,b and c)	Transformative climate governance capacities	Case Study application of a specific conceptual framework New York City, and Rotterdam,	Desk top research of documents between 2007-2017 and between 28-38 structured interviews in each respective city	The collected data was analysed in reference to the conceptual capacities' framework. a stepwise analytical coding process	Whilst the problem is similar; more effort expended on evaluating framework effectiveness. Also, the transformational process rather than the strategy and consequences considered
Heikkinen, et al., (2019)	The kind of change the C40 network promotes to address climate change	Adaptation and mitigation strategies of 12 selected cities from C40 Cities	Adaptation and mitigation strategies of the selected cities, and documents produced by the network itself,	Coded climate actions using the Atlas programme; approximately half of the documents.	Similar aim to understand how city strategies enable change and what sort of changes are proposed in those strategies
Chapman et al.,2017	mitigation policies for transportation emissions, and examines the gap between	Case Studies Wellington and Auckland	To examine the commitment of Wellington and Auckland to mitigation, the councils'	Authors did not code the documents, but analysed references to climate	Useful example of city strategy implementation and of data analysis

	aspirations and outcomes		planning and policy documents dating from 2010 to the end of 2015 were assessed.	change, mitigation, and emissions reduction using qualitative interpretative document analysis	of the documents rather than interviews with agents of change.
Sotto et al., (2019)	Climate emergency in Local Planning Practice	Five Case study cities	Literature review and applied qualitative analysis to scrutinize how climate issues and actions are factored in urban planning regulations	Compiled documents were processed with NVivo	Subtly different question but part of looking at the response to climate change. Does not consider leadership <i>per se</i> .
Budd et al., (2017)	Differences and similarities of city leadership patterns across five European cities, using sport as the example	A comparative case study approach across five European cities (Yin, 1994)	Data and information were drawn from primary and secondary sources, underpinned by interviews with key stakeholders	In order to construct a comparative analysis a common framework was used	

Source: Author's own

In general, the examples in Table 3.1 are not empirical research investigations into place-based leadership *per se* i.e., for which the primary unit of analysis is the place leader and his/her personal agency. The latter is covered extensively by Beer et al., (2019) (vignettes of leaders in different countries); Nicholds et al., (2017) (who examine actors within place-based contexts such as smart cities); Sotarauta and Beer (2017) (targeted acknowledged leaders in regional development); and Sotarauta and Suvinen (2019) (for whom the unit of analysis is regional development officers). Much of the agency-focused research is, in terms of outcomes, also covered in Chapter 2 of this thesis.

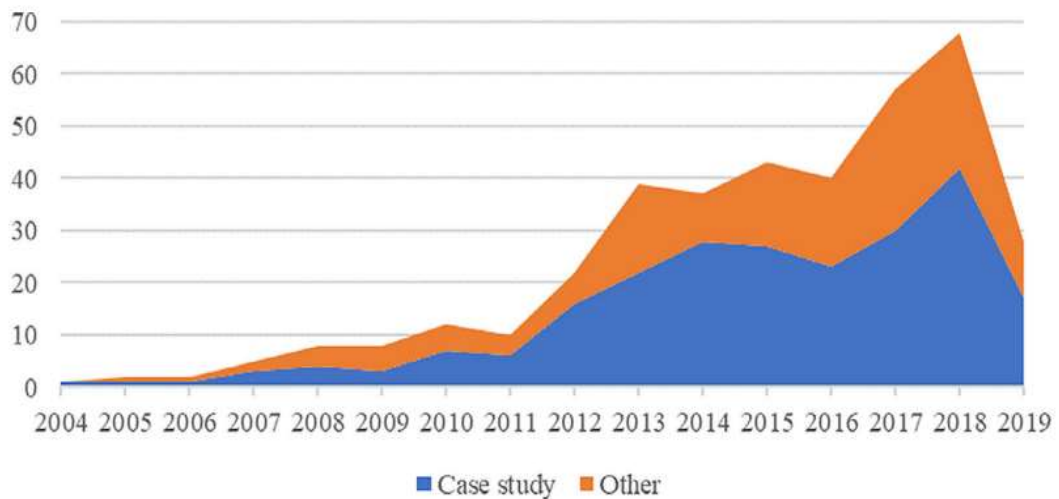
Table 3.1 instead contains some of the most applicable research to this thesis. The research examples reviewed are those which contain empirical data gathered generally in respect of developing place-based strategies for transformational change, whether economic, sport, or low carbon (e.g., Damsø et al., (2017), Affolderbach (2017), Hölscher et al., (2019a,b,c), Heikkinen et al., (2019), Budd et al.,(2017), and Sotto et al., (2019)). The research undertaken with several Local Enterprise Partnerships (LEPs) in England in respect to the best means by which to empower local leaders to navigate the complexity

of governance arrangements by Broadhurst et al., (2020) is highly relevant, albeit a subtly different research design was used (a conceptual model rather than research questions).

From the data presented in Table 3.1 it can be summarised that all previous research undertook some form of place-based case studies as their main research design. The number of places varied, but most of the works restricted their studies to between one and five places.

Figure 3.1, from a recent systematic review of climate change governance in urban areas (383 papers reviewed from 76 different journals) (Castán Broto and Westman 2020), indicates case study remains the single most dominant methodology employed, though this alone does not necessarily justify its use in this thesis.

Figure 3.1 Dominant methods in the study of cities and climate change



Source: Castán Broto and Westman 2020, Figure 2, p5

As far as could be ascertained from the published research some of the authors developed a conceptual model and research questions (e.g., Broadhurst et al., (2020)) but most developed more from the data itself (e.g., Bentley et al., (2017)). However, it is acknowledged that papers tend to be more about the outcomes of the research process rather than the research design in detail and that, accordingly, the latter may not always be noted. In terms of the data gathered, post the literature review, all the studies followed some form of document analysis. Acknowledging this does not, however, automatically render this approach applicable in this case. Differences arose in the methods of reviewing the documents, with some of the published work more explicitly explaining qualitative methodologies employed. Within the examples examined it is acknowledged that about

half of the works also relied on gathering data via interviews and/or similar face to face techniques. Regardless, the approach to data collection in this thesis has been focused on the research questions and the data needed to respond effectively to them, which has taken the methodology towards document analysis as the primary approach (see below).

3.4 Research Design

In terms of overall research design and methodology, several principles have been established by previous researchers (Beer et al., 2019, pp172-180). One of the key principles is that methodological innovation in the analysis of the leadership of places calls for

- the exploration of new techniques with the potential to produce robust, reproducible, and generalizable outcomes
- scholarship that must advance beyond a collection of one off and single-case studies towards replicable comparative research and a reliable cumulative body of knowledge about place-based leadership in different contexts
- the need to continue to build transferable insights and seek ways to link with broader debates in regional research.

These three points were specifically considered by the author in developing the research design for this thesis as outlined in the sections which follow.

Easterby-Smith et al., (2015) identify five areas that require decisions when formulating research designs, irrespective of the ontology or epistemology that informs the study. They are *“identifying the unit of analysis, universal theory or local knowledge, theory or data first, cross-sectional or longitudinal and verification or falsification”*. Each of these were reviewed in respect of the proposed research design and are discussed as follows:

- Unit of analysis. The unit of analysis is the entity that forms the basis of any sample (Easterby-Smith et al.,2015). In this research, the unit of analysis is the documents which establish and articulate the strategy which creates an enabling environment for the delivery of place-based sustainable outcomes. The justification for this, linked to the conceptual framework, is discussed later in this chapter. Individual leaders/actors are considered only in so far as they are involved in document development and production and in respect of the role of agency in the subsequent action plans and governance arrangements. The documents or strategies are used to consider the potential enabling environment

planned. However, it is recognised that there are key intra-organisational factors that must also be in place, such as the availability of sufficient resources and an entrepreneurial environment (see the literature review, Chapter 2); these are noted where appropriate.

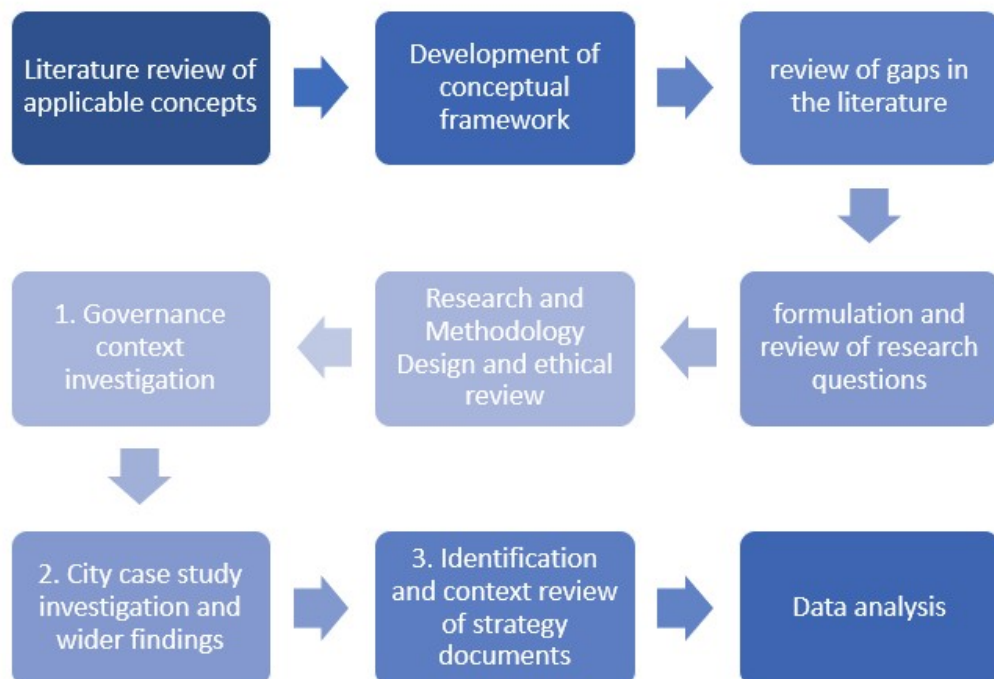
- Universal theory or local knowledge. One of the key principles of scientific methods is that theories and observations made in one context should be applicable to other defined contexts. This raises important questions around what an appropriate context is to a study of the relationship between cities and the issues of governance/place-based leadership. Place-based leadership is fundamentally shaped by context (Gibney, 2014), and thus highly differentiated in its expression (Nicholds et al., 2017). However, the basics behind its operation and anticipated outcomes should be transferrable. It follows, that by taking a broad approach to the examination of context and using multiple case studies (see below) the trends discernible should be more reliable and as being reflective of universal theory.
- Theory or data first. With regards to debates on theory or data first; this study includes a comprehensive review of previous work conducted in this general field of research (see Chapter 2). An interest in existing studies, conceptual frameworks, and theory was first. From a synthesis of the literature review a clear understanding was developed as to how, if present, place-based leadership manifests itself in place-based policies and strategies. An approach based upon a literature developed conceptual framework model was adopted for this research; reflected in the development of a set of research questions from the outset.
- Cross sectional or longitudinal. Cross-sectional research designs, particularly those which involve questionnaires and survey techniques can effectively describe features of large numbers, or people, or organisations. The main gap in the literature chosen for examination, namely, strategies adopted by leadership and leaders' capacity to lead, lends itself to a cross-sectional approach. Taking a view of how multiple actors and institutions approach the same issue in different places can generate the insights required. However, a major limitation of cross-sectional research designs is that the approach finds it hard both to describe processes over time and to explain why the observed patterns are there (Easterby-Smith 2015). To understand processes of change over time it is generally necessary to adopt longitudinal research designs. The issue under examination is a specific event, the declaration of climate emergency, and the

response by certain organisations over time. Examination of the issue therefore requires elements of cross-sectional and, to a lesser degree, a longitudinal research design.

- Verification or falsification. Verification or falsification involves looking for evidence that might confirm or contradict what one currently believes to be true (Easterby-Smith et al.,2015, p101). In this case, the author considers place-based leadership concepts to be applicable to net zero, and that a different or wider view of place and powers is needed to increase and enable the distributed leadership necessary for transformational change. The author undertook to search for evidence that refutes these assertions as part of the research design.

The remaining part of this chapter outlines the research design and methodology used in this investigation. It does so by following the broad stages set out in Figure 3.2.

Figure 3.2 Research Design and Methodology



Source: Author's own

Figure 3.2 indicates that there were three main parts to the research undertaken to answer the research questions. First, an investigation into the concepts and enabling governance to net zero in so far as it affects the case studies was undertaken. This was then followed by research on the specific process and progress of place-based strategy

and governance formulation in the case studies. Finally, the material present within the strategy documents was analysed with respect to the conceptual framework of place-based leadership and transformational governance arrangements developed for this thesis, using the research questions.

Each of these stages is discussed in turn within this chapter, research design and then more specifically the methodology and data analysis. Ethical approval was sought in respect of the proposed methodology and in advance of data gathering in the order shown. The ethical considerations are described at the end of this chapter to aid readability of the methodology.

The literature was considered over a time-bound period (2018-Spring 2021) in respect of what it says about current knowledge, and what questions and gaps in understanding remain. Interest gravitated towards place-based leadership and how it might be of use in tackling contemporary challenges. Specifically, as touched on in the introduction to this chapter, the specific questions surrounding the strategies adopted by place-based leadership and leaders' capacity to lead (after Sotarauta and Beer, 2021 pp10-11) were used as the basis for the development of the overall thesis title. So, the unit of analysis for specific consideration was the nature of strategies established by place leaders with the intent of these enabling transformational change in a place.

Areas of uncertainty/topics for further research which were synthesised directly from the literature review. Several clusters of identified research gaps were formed around an initial set of themes (Chapter 2). These were rationalised into three principal questions focused on uncertainties in relation to place-based leadership activities to deliver change. The groupings were in respect of People, Place and Powers. The nature and wording of the questions were further reviewed, and by virtue of them commencing 'how', they were generally considered to be evaluative questions.

3.5 Methodology Design -Overview and justification

Constructionist research designs (as used for this study) start from the assumptions that verifiable observations are potentially subject to quite different interpretations, and that there are a wide range of a methodologies which fit within the constructionist paradigm (Easterby-Smith et al., 2015). There are concerns, however, with regards to how to assure and demonstrate the quality of constructionist designs, i.e., how to ensure that the results are believable, and reached through methods that are transparent (*Ibid*). This process can be aided by convincing the reader that the researcher has a deep

understanding of what was taking place in the system. A constructionist viewpoint of the concepts of validity, reliability, and generalisability (Easterby-Smith et al.,2015) suggests considering whether enough perspectives have been included, whether similar observations will be reached by others, and whether the sample is sufficiently diverse to allow inferences to other contexts. Given the position of the author, the high level of assumed knowledge and the consequential risk of bias, having an approach which is reliable and capable of reproduction by others to achieve the same results was key.

In choosing the research design strategy reference was made to the purpose of the research and the research questions. 'What' questions and 'How' questions often indicate or lend themselves to some form of flexible (i.e., non-experimental) design (Robson and McCartan, 2016, p7). As questions, they are less concerned with measuring the effects of manipulating one variable on another; there is no attempt to change the situation or circumstances of any participants.

Three widely used flexible design research strategies include case studies, ethnographic studies, and grounded theory studies (Robson and McCartan, 2016). Given the purpose of the research (and the research questions), it was considered by the author that the latter two strategies were not appropriate for the following reasons. An ethnographic study considers how a group, organization or community lives, experiences, and makes sense of their world. This study is not interested *per se* in the reasons, motivations, and challenges of the place-based leader in the net zero environment. Rather, it is interested in how they use tools to enable and create the environment for change to occur in a place. With grounded theory, the central aim is to generate new theory from data collected during the study. This study starts with a clear academic discourse/theory available (place-based leadership and policy), and a broad conceptual framework developed from it; this, therefore, provides less of an argument for using grounded theory. This leaves case studies i.e., the development of detailed, intensive knowledge about a single 'case' or small number of related 'cases', as the research methodology that was adopted.

Yin (2013) suggests that all case studies should have clear designs produced before any data is collected, and that these designs should cover the main questions or propositions, the unit of analysis, the links between data and propositions, and the procedures for interpreting the data. Case studies are rich, empirical descriptions of instances of a phenomenon that are typically based on a variety of data sources (Eisenhardt and Graebner, 2007). A "*frequent challenge to theory building from cases concerns case*

selection...the faulty assumption that the cases should be representative of some populations, as are data in large-scale hypothesis testing research” (Eisenhardt and Graebner, 2007, p27). They can legitimately be chosen because they are unusually revelatory, extreme exemplars, or opportunities for unusual research. However,

“...multiple cases enable comparisons that clarify whether an emergent finding is simply idiosyncratic to a single case or consistently replicated by several cases ...multiple cases also create more robust theory because the propositions are more deeply grounded in varied empirical evidence” (Eisenhardt and Graebner, 2007, p27).

This research uses a multiple case study approach for this reason.

There are variations in case study design and the applications of case studies are complex and sometimes blend into each other and fit along the epistemological continuum (Easterby-Smith et al.,2015). Eisenhardt and Graebner (2007) developed a flexible approach with case study design that can respond to research, has a sample size of 4-10, considers analysis both within the case studies and across cases, and can lead to theory generation. The multiple-case study design is also noted by Schmitt and Van Well, (2016, p63) as being able to facilitate exploration of the differences and similarities in territorial governance processes within and between cases. For this research, therefore, a multiple case study approach was justified on this basis.

Rigorous case studies need to give attention to matters of design, data collection, analysis, and reporting (Robson and McCartan, 2016). Case studies can be done on a group, on an institution, on a neighbourhood, an innovation, a decision, on a service, on a programme and on many other things (*Ibid.*) Yin (2012) indicates an obvious trade-off between looseness and selectivity in case study design. With multiple cases, cases are selected where either the theory would suggest that the same result will be obtained or predictably different results. In this case, multiple cases are proposed on the basis that it was anticipated that the same distributed place-based leadership was likely to be necessary in each place– and that similar processes would be encountered.

3.6 Place-based case study justification and choice of practical problem to research

Robson and McCartan (2016, p155) suggest that an explicit plan should be prepared and agreed for any case study. It should incorporate an overview, procedures, questions, and reporting. Considering both the review undertaken earlier in this chapter into similar studies and the questions framed from the literature, it was decided to follow the approach to the use of case studies as follows.

Bentley et al., (2017) focus attention on the role of governance systems at the national scale and how they influence the scope for leadership of development sub-nationally and, particularly, in centralized nations, such as the UK. It is noted that leadership at the regional or local scale is a more challenging proposition in highly centralized systems of government, thereby reinforcing the need to consider the important context. Similarly, the circumstances affecting a region, city, town, or small rural community determine the capacity for leadership to emerge and shape the ways in which it is expressed (Beer et al.,2019). Whilst researchers have been noted as producing a portfolio of in-depth case studies, they have been unable to draw conclusions across wider spatial scales, economic structures, time periods or systems of government (*Ibid.*). It followed, given this, that some form of investigation of contextual governance was necessary in this research.

As this work has questions around the appropriate scale of place (the “problematization of place”) it first examines within a country, the UK, the different levels of leadership and governance. This was to also respond to one of the key challenges laid down for scholars, that is “*In any study on place-based leadership, it is crucial to understand its relationship with governance, economic and geographical structures*”. (Sotarauta and Beer, 2021, p4).

This work studies the strategies produced by place-based leaders in an eleven-city case study, that of the UK Core Cities³. This is because the UK Core Cities have all, both collectively and individually, declared climate emergencies. It is also however because the cities are situated across four nations (England, Wales, Scotland and Northern Ireland as part of the UK). The UK core cities are representative of small to medium sized cities globally (typically <1m population) but exclude the capital cities of London and Edinburgh. The Core cities have different characteristics including operating within different systems of governance. They also include different models of city leadership (for instance, directly elected Mayors versus conventional political councils), and potentially different (proposed) approaches to enabling and delivering strategies and transformational governance. This is an approach that accords with an identified gap in knowledge, that is:

-

“...it is a matter for further conceptual and empirical enquiry to investigate the intricate and multidimensional effects of the specific control mechanisms [For place-based leadership] in isolation or as part of a more pervasive control mechanism apparatus. This research agenda would also involve the actually [sic] existing experience of the scope for leadership at sub-national scale in different

³<https://www.corecities.com/citiesimate> Accessed Jan 2022

jurisdictional contexts, including federal and non-federal systems” (Bentley et al.,2017, p207).

The approach undertaken (as detailed in subsequent sections) was to implement the detailed methodology and data collection in each of the eleven cities in a similar manner regardless of their wider governance contexts. From this, it was hoped that it would be possible to determine the degree to which these factors influenced the data encountered in the individual cities. The use of a multiple city case study approach was considered robust and appropriate for investigating place-based leadership as had been used previously (see example in Figure 3.3 (from Beer et al.,2019)). More explanation as to the current governance context with the UK of the eleven UK core cities is provided in Chapter 4.

Figure 3.3 use of multiple city types to investigate place-based leadership

Structure of government	Urban form	Distinctive regional identities	Presence of institutions conducive to place leadership	Recent experience of economic restructuring
UNITARY				
Bristol	Urban	✓	✓	✓
Bergamo	Urban	✓	✓	✓
Rieti	Urban	✓	✓	✓
Tampere - city	Metropolitan centre	✓	✓	✓
Tampere - region	Metropolitan region	✓	✓	✓
FEDERAL				
Northern Adelaide	Urban	✓	✓	✓
Barossa Valley	Peri-urban	✓	✓	✓
Kiel	Urban	✓	✓	✓
Lübeck	Urban	✓	✓	✓
Northern Virginia	Urban	✓	✓	✓
Northern Maryland	Urban	✓	✓	✓

Source: Figure 2 p176 from Beer et al.,2019

Considering the practicalities and resources associated with a doctoral thesis, an approximately 18-month period of data collection was utilised for all stages of the case study investigation. This ran from January 2020 until June 2021, with selected national policy updates included up to December 2021. The latter related to publications and outputs produced within the first two years following the formal declaration of a climate

emergency by the appropriate lead city/city region governance organisations, starting in January 2019. This gave a small but manageable longitudinal component to the research design.

As established in Chapter 1, given that future research in this field needs to continue to build transferable insights and seek ways to link with broader debates [beyond economic regeneration] (Beer et al.,2019), this thesis investigates place-based leadership and policy in respect of the net zero policy challenge. The climate emergency is considered a wicked problem as it contains many feedbacks which make it non-linear and the root causes of climate breakdown are deeply intertwined, span many disciplines (CAT, 2019), and “*place-based leadership can contribute to responses to these wicked problems*” (Budd et al.,2017, p2). This research brings these two aspects together and considers climate emergency and place-based leadership.

The thesis considers the case studies of the UK Core Cities in respect of their attempts to move towards net zero in response to their climate energy declarations and their moves towards becoming net zero cities by 2030 (or other date as applicable). There is however a challenge: -

“Despite the existence of some definitions in literature, “net zero emission” or “neutrality” concepts still remain vague, with unclear system boundaries, as well as calculation and assessment rules; Variations in ways of thinking about these concepts can influence urban development. In this regard, operationalization is required, if they are to be adopted as a goal for the future development of cities” (Lützkendorf and Balouktsi,2019, p4).

Given this challenge, this study has worked with the definitions proposed by the eleven UK Core Cities themselves.

The first stage of the case study approach (Chapter 4) examines the governance context of the case study cities. It then considers the different scales of place-based leadership and policy, nationally (including in devolved nations and regions), and at the city level. To limit this investigation to a practical and thus achievable scope, place-based leadership, and policy at a scale more local than ‘the city’ is not considered. Similarly, the international dimension is not explicitly examined.

Figure 3.4 Stages in the case study research methodology



Source: Author's own

The first and second stages of the research took a qualitative overview based on the multitude of available grey and secondary data, whilst more detailed analysis techniques were utilised in the third stage (as detailed later in this chapter). Secondary textual data are written sources of information produced for a purpose other than research but with some relevance to a given research project (Easterby-Smith et al., 2015). These were used to understand governance arrangements and planned policies and strategies.

Having decided on a focus for the research along with the research questions and the overall research design/strategy, thought was given to the specific methods of data collection. The selection of method or methods is based upon what kind of information is sought, from whom, and under what circumstances (Robson and McCartan, 2016). Potential methods available include direct observation, and interviews or questionnaires to find out what research subjects think, feel and/or believe. These are obtrusive to varying degrees and run the risk of altering whatever is observed. An alternative, the content analysis of documents, is an unobtrusive measure because the document (being analysed) is not produced for the purposes of research. Such documents are typically text-based and can be analysed using both qualitative and quantitative methods.

Both noted approaches for data collection were considered for use in this thesis. The pros and cons of breadth versus depth came into play. The key was to take a wide sample and look for generalisable outcomes in the place-leadership field of research. To this end, multiple cities across the UK were investigated. Practicality suggested working with the data produced and published by the cities. The overriding research interests of this thesis

are, as outlined in Chapters 1 and 2, the explicit place-based strategies and governance arrangements employed by place-based leaders to deliver transformational change via new governance arrangements. The author argues these are capable of being ascertained by examination remotely, especially given wealth of published data available (Chapters 5 and 6 refer). The research focused far less on the specific face to face methods, techniques, intentions, barriers, and other motivations of place-based leaders. As Chapter Two illustrates, this has previously been more extensively researched by others.

A final and important factor in the choice of data collection was positionality of the researcher as touched on earlier in this chapter. In the research that the author undertook for an MSc directly before undertaking this PhD he used interviews as the primary data collection method. Critically reflecting upon this, and when undertaking the data analysis, it was apparent that it was challenging for the research interviewees to perceive the interviewer as 'just' a researcher. As an active participant and working for an industry 'expert consultant' in the general field of net zero it was felt there that would be a likelihood of potential bias in generation of source material for subsequent analysis. It was felt that municipal city place-based leaders might overstate progress and motivations or that interviews might become too conversational. This issue contributed to the consideration of a main data collection methodology around a document-based approach (discussed further in subsequent sections), fully acknowledging however such positionality issues of the researcher are still material to the decisions made around selective quotation extraction from published documents.

In addition, there were several 'grey literature' studies underway at broadly the same time. These crossed over thematically with this research and involved the key local authority place-leadership resources (see Table 3.2 below). Given this, and at the time (2019-2020) the UK Covid-19 lockdowns and time pressure on local authority officers), it was felt that it would be difficult to obtain meaningful officer contact time for interviews. This was a concern further heightened by this being a very topical thematic area of current interest in the UK. This proved to be the case even when the author sought validation of the data gathered from secondary sources (discussed later in this chapter).

Table 3.2 Example parallel similar grey literature research exercises involving officer resources

Study	Influence on place-leaders
City Investment Analysis Report (UK Climate Cities Investment Commission and Connected Places Catapult 2021)	Evidence presented in the report draws on several data sources including the net zero Plans of UK Core Cities, reviews of relevant literature and discussions with Local Authority representatives in financing and net zero delivery roles.
Local government and net zero in England (National Audit Office 2021)	interviewed a range of other organisations involved in, or with an interest in, local government and net zero. The organisations included: Association of Directors of Environment, Economy, Planning & Transport (ADEPT), ... the Local Government Association (LGA), Local Partnerships, London Councils and UK100.
Trends In local Climate Action in the UK A report by the place-based Climate action network (Howarth 2021)	Findings are based on conversations with local policy makers and practitioners, the review of relevant documents and the researcher's own impressions as practitioners and researchers in the field. The report is descriptive. It provides a snapshot of the state of play in place-based climate action at the end of 2020.
The Journey to net zero Towns & Cities Liminal (2020)	Through a collective intelligence activity undertaken across Exeter, Chippenham, London and Glasgow, along with research on other leading sustainable cities, this report provides a picture of the different types of routes, activities and solutions that will be needed to get urban areas to net zero
Climate Action Best Practices In UK Cities (1000 CITIES for Carbon Freedom Dec 2020)	The report summarises findings and recommendations from case studies of climate action in 12 leading UK local governments: Birmingham, Bristol, Cardiff, Glasgow, Hull, Leeds, Liverpool, London, Manchester, Newcastle, Oxford, and Somerset.
Core cities and the climate emergency: Learning from each other (climate emergency Manchester 2020)	report draws on publicly available information, crowd-sourced by local groups around the country. This report is a first pass at assessing the progress of seven of the UK's core cities

Source: Author's own

Case studies including the collection of information via documentary analysis, typically, though not necessarily exclusively, produce qualitative data (pieces of information gathered in a non-numeric form (Easterby-Smith et al.,2015)). Qualitative research is of a more explorative nature and involves more-open ended responses than quantitative research. Qualitative data forms the basis of the data for this thesis and was gathered for the city case studies in two phases, these were firstly the city vignettes and secondly the content of the city strategies.

3.7 Data Collection (a) City Vignettes

Noting *“a clear definition and system boundary setting of “city” is essential for identifying the different sources of greenhouse gas emissions tied to it [and that]...“It is important to select appropriate urban-specific system boundaries based on the specific targets and research questions”* (Lützkendorf and Balouktsi, 2019, p2.), this thesis considered the case study boundaries to be that of the lead municipal or city government in question for each of the UK Core Cities.

In cities, significant place-based leadership has been evidenced as arising from over 20 different institutional sources (Sotarauta and Beer, 2017, p215) so a full selection of place-based institutions (and thus leaders) was not considered practical. In this study, the primary or starting data document source was the lead local authority in the UK core city in question; particularly the climate change, sustainability, or resilience officer(s) responsible for developing the appropriate strategic strategies in respect of net zero. In several UK core cities academic staff (e.g., Place-based Climate Action Network)⁴ are also leading on strategy development and thus it was also important to include documents produced by selected other professional and technical officers.

Data collection was undertaken in the period from January 2020 until June 2021, with selected national policy updates in Dec 2021. This related to publications and outputs starting in January 2019. An internet search was undertaken for each UK Core City in turn. The searches focused on terms involving the ‘city or place name’, or ‘city region name’, ‘climate emergency’, ‘net zero’, ‘strategy’, ‘low carbon’, or ‘action plan’. Sequentially document production was tracked through the actions that the individual cities had taken since their declaration of a climate emergency. This tracking included who was leading strategy production, what documents had been produced (including when, and by

⁴<https://pcancities.org.uk/> Accessed Jan 2022

whom), which stakeholders were involved, and what organisations of stakeholders were in place or were planned to be put in place. Data included press releases, draft and emerging strategy documents, council committee minutes and terms of reference, and any minutes or documents produced by place-based climate governance bodies.

Specific emphasis was placed on the lead public facing net zero place-based strategy document produced for each city. The latest versions, as of Dec 2021, of the principal strategy document on net zero for each city were specifically identified for further document analysis (as discussed further in Sections 3.8 and 3.9). Only one city, Liverpool, did not produce a strategy document of any sort during the data collection period.

For each of the 11 cities all available data relating to place-based strategy development, governance body formation and leadership was summarised in a city 'vignette' (presented in Chapter 5). The city vignettes were kept as a purely factual record as far as possible of events, documents, and key dates. Once data for all cities had been collected, it was tabulated. This was to enable an understanding of the context to the place-based leadership and enabled the author *"to understand its relationship with governance, economic and geographical structures"* (Sotarauta and Beer, 2021, p4).

The tabulation captured key data regarding the following questions:

- What was the lead place-based institution for net zero in the city?
- Which organisation has produced the net zero strategy
- What was the key place-based strategy/policy document produced (and when)?
- Which individual was responsible (as far as could be ascertained) for the development and issue of the place-based strategy?
- What was the nature of the place-based governance arrangements established in the place related to net zero and the net zero transformation?
- What was the stakeholder membership and governance arrangements for the new place-based governance bodies?
- In what way were citizens involved from the place concerned in strategy development?

The justification for the data obtained is shown in Table 3.3.

Table 3.3 Data extracted and summarised from city vignette case studies

Data	Justification
Date of declaration of climate emergency	Indicator of start of development of net zero response – useful for longitudinal elements
Date proposed for net zero	Indicator of level of ambition
Place-based leadership body	Typically, the body formed to develop net zero strategy
Relationship to lead city authority	Whether the place-based leadership body is independent or not of the lead city authority.
Developer/Owner of net zero Strategy	Key organisation -and degree of independence from local authority
Name of net zero strategy	Key document for subsequent analysis
Date of net zero strategy	Indicative of rate of progress and contributes to longitudinal aspect
Consideration of consumption and/or out of city emissions	Important in respect of identifying the full potential scale of actors needed and for understanding issues of place and scale
Place-based leader for net zero	As far as possible, identification of the lead individual in the place concerned for net zero and net zero strategy
Place-based climate change governance body	The governance body put in place to aid with delivering the net zero strategy (often the same as the developing organisation but not exclusively)
Nature of the Membership of the Place-based climate change governance body	Typical information on the nature of the organisations brought into the climate change governance body, relevant in respect of need for boundary spanning leadership
Governance Transparency of the Place-based climate change governance body	An indicator of the openness and accessibility of the arrangements in place
Nature of any wider citizen involvement	Another indicator of the city and city leadership's recognition of the need to get the public as well as stakeholders 'in the room'.

Source: Author's own

An example of the completed data gathered for a city vignette is shown in Table 3.4.

Table 3.4 Example (using Belfast) of the data organisation for the city vignettes

UK Core City	climate emergency ⁵ Net zero by ⁶	Place-based leadership Institution and owner of net zero Strategy studied/published Strategy Produced (and date) Place-based Leader	Place-based Climate Change Governance to aid delivery Membership inclusivity Transparency of governance
1 Belfast	02/10/2019 ⁷ Not specified	The Belfast Climate Commission was established in January 2020 A Net-Net zero Roadmap For Belfast (Dec 2020) BCC co-chaired by Prof John Barry of Queen's University Belfast and PCAN, and Belfast's Commissioner for Resilience, Grainia Long , who is also the lead author of the Belfast Resilience Strategy.	Belfast City Council and Queen's University Belfast 10 January 2020 launched the 'Belfast Climate Commission' , to drive action on the climate crisis. Members of the Commission are drawn from key organisations and groups across the city from the public, private and civic sectors. Terms of Reference and members available

Source: Author's own

Further cross city analysis could have been undertaken within this thesis especially in respect of the nature of the evidence base for science-based targets adopted by the respective cities, the methods used and whether carbon budgets or absolute targets for carbon where set. As noted: -

"Although first definitions of "net zero emission" concepts on an urban scale can be found in literature, their precise meaning and applicability still remain vague, with unclear system boundaries, calculation and assessment rules. "(Lützkendorf and Balouktsi, 2019, p1).

i.e., this is a fertile area for research, but one that is less directly relevant to the research questions posed by this thesis.

The city vignettes were validated via the process outlined below. In this it was initially assumed (in part from the authors professional experience) that the lead officer for

⁵<https://www.egi.co.uk/news/how-are-uk-cities-faring-in-the-race-to-be-the-countrys-most-sustainable/> Accessed Jan 2022

⁶<https://www.egi.co.uk/news/how-are-uk-cities-faring-in-the-race-to-be-the-countrys-most-sustainable/> Accessed Jan 2022

⁷<https://www.bbc.co.uk/news/uk-northern-ireland-49907596> Accessed Jan 2022

Climate Change, Sustainable Cities or similar for each of the UK Core Cities was likely to be the predominant place-based leader for Net Zero in each of the respect cities. This was tested via the data collection process.

Bristol City Council currently convenes the UK Core Cities, the Low Carbon, Energy and Resilience hub working group. This is led by Alex Minshull - Sustainable City and Climate Change Manager. This meets monthly (Alex Ivory Bristol City Council *Pers. Comm.*) and all cities regularly attend, apart from Cardiff. Belfast has only joined regularly from 2020. The Greater Manchester Combined Authority is also represented (by Mark Atherton, who adds significant knowledge and experience). Minutes are taken but not shared publicly. There is collective learning and sharing at and between meetings by correspondence (Alex Ivory Bristol City Council *pers. comm*). On 18th October 2020 Alex Minshull kindly emailed all members of the UK Core Cities Low Carbon, Energy and Resilience hub working group and introduced this research project and the author using an introductory email prepared by the author. The latter asked if the UK Core City place-based leaders for net zero strategies would be willing to co-operate with this research. To aid with confidentiality, the author was only blind copied into this email. Positive responses were only received from approximately half of the UK Core Cities (it should be noted that this period coincided with the first wave of the global pandemic). Using these and other internet sources, contact was attempted with all eleven city leads. The detail of this process is set out in Table 3.5 below. Ultimately there was sufficient information in respect of the identity of the most likely place-based leader for ten of the core cities (excluding Liverpool) to make multiple attempts at contact and, in around two thirds of cases, an exchange of correspondence developed. The 'city vignettes' were issued to the strategy development lead for net zero in the cities, and views sought as to their authenticity, in terms of the process of strategy development described and the documents and governance highlighted. Approximately one third of the identified city leads confirmed that the case study summaries were a fair reflection of the history and current state of the art on net zero strategy development in their cities. As a sample this was judged sufficient to give confidence in the overall approach taken for the remaining cities.

Table 3.5 Summary of City ‘vignette’ attempted ‘validation’

Lead body or Council	Contact Names Local authority name =BOLD	Contacted 18/08/20 via Alex M City Case Study Sent 15/11/20	Validated
Belfast City	<p>Clare McKeown, Sustainable Development Manager at Belfast City Council</p> <p>Belfast Commissioner for Resilience and Co-chair of the Belfast Climate Commission, Grainia Long –</p> <p>Richard McLernon (Resilience Project Coordinator) Resilience Unit</p>	<p>Chased Clare 25/11/20</p> <p>25/11/20 – Clare responded re: the Place-based Climate Network group being established</p>	No
Birmingham City	<p>Emily Prestwood, Energy Development Manager for the Birmingham Energy Institute at University of Birmingham (was at UWE)</p> <p>Eleanor Crook (BCC), (attended workshop) (Senior Planning Officer)</p> <p>Ian Macleod (BCC),</p> <p>Maria Dunn (BCC) seems to be leading and giving updates (Head of Development Policy at Birmingham City Council).</p>	<p>13/09/20 Yes</p> <p>15/11/20</p> <p>Ian passed to Maria and Maria offers willingness to contribute further</p> <p>Responded 21/11/20</p>	Yes
Bristol City	<p>Alex Minshull Sustainable City and Climate Change Manager</p> <p>Alex Ivory – Climate Manager at Bristol City Council</p>	<p>18/08/20 via Alex M</p> <p>15/11/20, 21/11/20</p> <p>Alex Ivory responds, correct data but not willing to contribute further.</p> <p>4/12/20</p> <p>Alex responded supporting my summary.</p>	Yes
Cardiff City	<p>Gareth Harcombe – Energy and Sustainability Manager</p>	<p>15/11/20</p> <p>No response received</p>	No
Glasgow City	<p>Councillor Anna Richardson (City Convener for Sustainability and Carbon Reduction)</p> <p>Dr Duncan Booker, COP26 Stakeholder Manager, Glasgow City Council, Sustainable Glasgow Manager and Chief Resilience Officer</p> <p>Mandy MacDonald, Head of Infrastructure Planning, Neighbourhoods and Sustainability Glasgow City Council</p>	<p>Duncan 19/08/20, 15/11/20</p> <p>Duncan responded 21/11/20 and mentioned Julie Robertson and Sonia Milne in the Sustainable Glasgow team.</p> <p>21/11/20 thanked and asked for contacts</p> <p>23/11/20 Duncan provided contacts for Julie and Sonia</p>	Yes

Leeds City	<p>Tom Knowland Head of Sustainable Energy & Climate Change</p> <p>George Munson, Senior Project Manager, Sustainable Energy and Air Quality, Resources and Housing, Leeds City Council Also Sandy Rutherford Programme Manager</p> <p>Professor Gouldson, who is Chair of Leeds Climate Commission</p>	<p>15/11/20</p> <p>25.11.20 Chased Tom via a new email to Andy Gouldson</p>	Yes
Liverpool	<p>Councillor Laura Robertson-Collins is Liverpool's new cabinet member for climate change</p> <p>Christine Darbyshire Principal Policy Officer</p>	<p>Also tried neighbouring City of Manchester</p> <p>23/11/20 Emailed Christine No response</p>	No
Manchester City	<p>Jonny Sadler Programme Director Manchester Climate Change Agency</p> <p>Mark Atherton, Director of Environment, Greater Manchester Environment Team</p> <p>David Houlston. Position: Strategic Lead, Policy and Strategy. Manchester City Council Email:</p> <p>Carly McLachlan, Director of Tyndall Manchester Deputy Director- Centre for Climate Change and Social Transformations (CAST)</p>	<p>15/11/20</p> <p>22/11/20 Tried Mark A and Carly McLachlan</p> <p>Mark A confirmed I had the correct contacts</p> <p>Spring 2020 Jonny Sadler now left MCCA</p>	No
Newcastle Council	<p>Matt Wilton – Head of Policy</p> <p>Tim Rippon Policy Team (Climate Change) at Newcastle City Council</p> <p>Tom Warburton Director of City Futures at Newcastle City Council</p> <p>Also tried Prof Hayley Fowler as Co-Chair of the Newcastle net zero Action Task force</p>	<p>15/11/20, 22/11/20 Tried Tom, cc'ing in Tim</p> <p>Tom replied 22/11/20</p> <p>22/11/20</p> <p>Tim replied re CDP 24/11/20</p>	Yes
Nottingham City	<p>Jonathan Ward Carbon and Energy policy lead at Nottingham City Council United Kingdom</p> <p>Michael Suddens</p>	<p>18/08/20 Response ,15/11/20</p> <p>Jonathan responded 21/11/20 adding in Michael Suddens</p> <p>Responded 21/11/20 4/12/20 Jonathan leaving the council; now just Michael</p>	Yes
Sheffield City	<p>Mark Whitworth Sustainability and Climate Change Service Manager Sheffield City Council</p> <p>Edward Highfield Director City Growth</p> <p>Steve Simmons</p>	<p>15/11/20</p> <p>22/11/20 – Also tried Steve Simmons</p>	No

	Environmental Strategy Development Manager at Sheffield City Council		
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Source: Author's own

3.8 Data Collection (b) identification and context review of strategy documents

“As a research method, document analysis “is particularly applicable to qualitative case studies i.e., intensive studies producing rich descriptions of a single phenomenon, event, organisation, or programme” (Bowen, 2009, p29). Documents can provide data on the context to studying agency; though it is acknowledged that as touched on in Chapter 2, the relationship between strategy and agency is a complex one.

In terms of specific method, document analysis involves skimming (superficial examination), reading (thorough examination), and interpretation. Interpretation can include thematic analysis (a form of pattern recognition within the data), with emerging themes becoming the categories for analysis (Bowen, 2009). Content and thematic analysis are iterative. In the latter the reviewer takes a closer look at the selected data and performs coding and category construction, based on the data's characteristics, to uncover themes pertinent to a phenomenon (*Ibid.*).

It is fully acknowledged however that documents arise out of a social context and are not without their inherent interpretation of facts and data. There is also the challenge that documents, especially when using those only in the public domain, risk being an incomplete collection of those available. This thesis acknowledges this and thus Table 3.6 presents the appraisal matrix that was used to assess the contextual environment surrounding each of the key place-based net zero strategies produced by the UK Core Cities (developed from Bowen, (2009), and Robson and McCartan (2016)). The purpose of the matrix was to provide some structure to the review of the appropriateness and risk of partiality involved in the documents' production.

Table 3.6 -Document Analysis appraisal checklist

Context	Determine the relevance of documents to the research problem and purpose.
	Whether the content of the documents fits the conceptual framework of the study.
	Determine the authenticity, credibility, accuracy, and representativeness of the selected documents.
	Document choice be assessed for completeness, in the sense of being comprehensive or selective
Content	Whether the documents are even(balanced) or uneven (containing detail on some aspects of the subject and little or nothing on other aspects).
	Original purpose of the document—the reason it was produced—and the target audience.
	Author -written because of first-hand experience or from secondary sources

Source: Author’s own but based on Bowen (2009).

An example of the application of the matrix to the research is shown in Table 3.7. The overall review and discussion on the documents used is presented in Chapter 6.

Table 3.7 Example of the application of the document analysis appraisal checklist

Document	Context	Content
1.A Net-Net zero Roadmap For Belfast (Dec 2020)	Produced by academic-led coalition, based on same model as Leeds, Edinburgh. Preface by Climate Commission Chairs High credibility but not significantly linked to the City Authority. City Wide in scope No significant engagement in its production Glossy for public consumption	Heavy on Targets, Carbon budgets, but only scope 1 and 2 Lacks Action Plan and thus clear ownership of next steps.

Source: Author’s own

In summary, all ten of the UK Core City net zero strategies which were available (detailed in Chapter 5) were deemed relevant to this thesis. While most fitted the conceptual framework of the study, there is a lack of consideration of agency (i.e., the role of the place-based leader). The documents were all publicly accessible documents (Sheffield’s was, in this regard, an exception as it was only available on a consultant’s website) and appeared credible by virtue of their public creation by city authorities and, in many cases, the existence of public endorsement by an officer or lead local politician at the front of the documents. Further outcomes from this stage are presented in Chapter 6.

3.9 Data Analysis

3.9.1 Content review -manually coding strategies

The starting point for the data analysis was the conceptual framework and the research questions. The focus of the research questions suggested working with sources of written material and their nature gave rise to a more qualitative stance when it came to analysing the data.

There are several different approaches to qualitative analysis (Robson and McCartan, 2016). Three general approaches to qualitative analysis are: quasi-statistical approaches, a thematic coding approach, and a grounded theory approach. In the latter, thematic codes arise from interaction with the data. Based upon the evaluative questions, the relatively structured nature of the data, and the critical analysis of theory available it was anticipated that this approach would have been unsuitable for this research.

This thesis uses a Thematic Coding Approach (Robson and McCartan, 2016, p461). This follows the following stages:

- Parts of the data are coded (i.e., identified as representing something of potential interest)
- Codes of the same label are grouped together as a theme
- The themes occurring in the data have been determined by reference to the research questions, previous research, and the conceptual framework, rather than determining the themes inductively from the data
- The themes then serve as the basis for further data analysis and interpretation, and for making comparisons between different aspects of the data

Whilst the phases are presented sequentially, there was much movement between the phases.

Keywords were developed for each research question that reflected the primary issue, action, or terminology that would be expected if the phenomenon under examination was found in the relevant document section using the 'theory-driven' approach. These are shown in Table 3.8.

Table 3.8 Data Coding by key words linked to the research questions

Link to question 1,2,3	Coding (re: Research Questions)
	Action Verbs (by lead organisation), Anticipated outcomes, acknowledgement of multiple organisations
1,3	Transformational Change, system change
1,3	Empower, Facilitate,
1	Agency, Leadership, role, Champion
1,3	Action
1,3	Enable, co-ordinate, mobilisation
1	Distribute
1	Influence, Influencing Behaviour,
1	Catalyse, Catalyst
1,3	Collaboration, collaborative, build relationships,
1,3	Networks
1	Multi-sectorial, stakeholder
	Capacity issues
1	Resources, staff resource
1	Additional capacity
	Spatial or locational terms, extended emission scope
2	City, City Boundaries, boundaries
2	Place-based, place-based approaches
2	Scope 3 emissions, broader emissions
2	Consumption emissions
2	City-wide, across the city, City-wide Actions
2	City level targets
	Organisational structures – Horizontal, evidence of change and power distribution to groups of organisations
3	New..., establish, reshape governance systems
3	Council role, policy levers
3	Devolved, distribute powers,
3	Collaboration
3	Whole system change, transformative action
3	promote stakeholder engagement
3	Buy-in, build buy-in, Action plans, a sense of common ownership
3	Partnership, Partners, building partnerships, partnership-based, key partners
3	Whole city Approach, everyone,
3	Organisations, stakeholders
	Organisational structures – vertical, actions
3	Connect with decision makers, organisations with influence, Lobbying,
3	Work with National, national government, Action for government
3	Support from Government,
3	Enablers, devolve powers, additional powers, new powers, and/or funding, legislative changes
3	International bodies

Source: Author's own

Paragraphs and sentences from the ten latest available UK Core City net zero strategies were then extracted via manual 'cut and paste' from downloaded PDFs into a separate

word document. This formed the basis of the core data available. The volume of written material available at the document analysis stage was modest, and the analysis necessary was relatively descriptive and exploratory. This suggested that there was less of a need for the use of word or phrase frequencies and interrelationships as key methods i.e., there was not a need for a quasi-statistical approach.

3.9.2 Thematic grouping of data against research questions

Via an iterative process, the key paragraphs extracted from the strategies were grouped under the three research questions. It was not a mutually exclusive process and some paragraphs and information inevitably contained information pertinent to multiple questions. In addition, it was also the case that within the data available there was complementary data from the ten strategies. In some cases, this reflected broadly the same issue. Some strategies were also quite repetitive internally, and there were multiple paragraphs available which contained broadly the same data/language as that within other documents. For this reason, a further manual selection was made of the more specific sentences (and parts of sentences) which best presented data which was specifically related to the research questions. These were then allocated to a question. It is recognised that this process risked introducing an element of researcher bias in terms of data selection and selective quotation (see also below on data quality and limitations). This was reduced in so far as was possible by re-reading the context around the quotations and looking for any absence of material to extract, i.e., where a strategy did not contain material evidencing place-based leadership.

3.9.3 Data Analysis and Reporting

The thematic groupings under the research questions (and groupings within) are a tool within the analysis but not the analysis itself (Robson and McCartan, 2016). The authors noted a range of tactics for 'generating meaning' including noting patterns and trends, making contrasts and comparisons, counting, and identifying variables (*Ibid.*). Displaying the data in the form of tables provides a simple and useful approach. This approach is used in Chapter 5. Most of the data, however, is presented as extracts embedded within an analytical narrative that illustrates the arguments pertaining to the research questions. A precedent for the use of tabulated data for the analysis of multiple case studies within place-based leadership is included in Figure 3.5

Figure 3.5 An analysis of place-based leadership roles in case studies

Leadership roles (driving metaphor)	Heritage		Economic development	
	Case 1: New Labour	Case 2: Coalition	Case 3: New Labour	Case 4: Coalition
	Keys to the Past/Past Perfect	Flodden 1513 Ecomuseum	Regional development agencies	Local enterprise partnerships
Driver	Senior officers, Durham and Northumberland county councils (DCC and NCC)	Community (local landowner)	Appointed by central government (usually a business person)	Appointed locally (a strong suggestion that this ought to be a business person)
Navigator	County archaeologists, DCC and NCC	Contract staff	Business led, public sector supported	Business led, public sector supported
Cash holder	Heritage Lottery Fund (HLF); New Opportunities Fund	HLF plus small contributions from local businesses and contributions from local authorities	Central government	Small amounts of central government seed corn funds aimed at leveraging coordinated local private investment
Debit card holder	DCC and NCC	Third sector (heritage trust and local community development trust)	Regional development agencies (RDAs)	Local authorities
Mechanic	County archaeologists, DCC and NCC; surveyors, English Heritage; archivist, Berwick Record Office	Public and third sector (local authorities, heritage trust, and local community development trust)	RDA and local authority staff	Local authorities
Backseat activities	Mainly public sector; dominated, with minor input from community volunteers	Flodden-related heritage site managers, community groups, tourism businesses	Mainly private and public sector; some third-sector involvement	Mainly private and public sector; some third-sector involvement

Source: Extract of Table 2 p152 Bowden and Liddle 2018

3.9.4 Quality review of data analysis

As far as possible, the data was gathered in a representative manner. The selection of data from ten case study cities aided both comparison and correlation of data between sources. There was a risk, however, of the author (especially given his extensive practitioner experience in the field) displaying bias in his selection of quotations. To mitigate against this, the author looked for negative evidence and considered rival explanations. Examples included: -

- The concept of place-based leadership is not in fact applicable to the net zero challenge
- Do the strategies really contain that much data info about the agency and role of the individual place-based leader?
- If the Core Cities Network is strong and significantly communicating, how distinctive are the case studies – are they all sharing the same model due to knowledge sharing and learning?

- Strategies may be not representative of what is going on, intended possibly as promotional pieces?

There were several potential limitations to the research design and to the methodology; these are discussed fully in Chapter 7, Section 7.5. Specifically, and regarding data collection, this research was undertaken in parallel with the 2020-2021 global pandemic. During its initial periods, many local authority officers were initially subject to the challenges of transitioning to home working, and then most were involved in some way with the economics response to COVID-19 (including green recovery strategy preparation) – and particularly the economic effects of the lockdowns associated with the first and second waves. The officers were also often engaged in research led by others detailed in Table 3.2 above (p.62). Fortunately, the methodological approach adopted, working with the rich variety of published material at all levels of governance in the UK, proved remarkably resilient to the COVID-19 pandemic.

3.10 Ethical review

The research involved extensive multi-stage use of published material. Limited contact with place-based leaders was undertaken, as justified by the selected unit of analysis. The primary or starting source was the lead local authority in the UK core city in question; particularly the climate change, sustainability, or resilience officer(s) responsible for developing the appropriate strategic spatial responses. In several cities significant place-based leadership was evidenced as arising from over 20 different sources (Table 1, Sotaurata and Beer, 2017, p216) so a wider selection of contacts (e.g., academic) was necessary. In several UK core cities academic initiatives (e.g., the Place-based Climate Action Network) necessitated communication with academic staff.

Ethical approval was sought in January 2020 from the Ethics Committee at the School of Geography and Planning at Cardiff University, and on 4 February 2020 approval was gained. The only general ethical issue noted on the application for ethics approval was how potentially non-anonymous and/or personalised data would be initially gathered, in terms of any email responses. These were only obtained after formal introduction and with consent from experienced professional city place leaders and/or senior local government, academic, or civil service individuals.

The author is a part-time PhD student. He is currently employed as a director in a large 16,000 staff interdisciplinary planning and engineering consultancy (which does undertake advisory commissions in the net zero cities space for local authorities and

infrastructure operators). Over the duration of this research/PhD, there may well have been contractual links between one of the UK Core Cities and the researcher's employer in some respect. The potential for conflict of interest was avoided as follows. In approaching any organisation or individual for data, the researcher's academic credentials at Cardiff University were stated in the usual way for a full-time PhD student or member of staff as well as the professional interests of the researcher. The organisation or place leader concerned was offered the opportunity to decline to contribute. This was if in any way they felt providing data to the researcher gave his organisation either commercially sensitive data or data. The author does not directly undertake development of Net zero strategies, these are undertaken by a different consultancy team which is not located in his base office.

3.11 Summary

This chapter has outlined the approach to research design and methodology undertaken for this thesis. It is an approach that relies on a conceptual framework developed from the literature and, from this, a series of research questions. More specifically, the research design is based upon a series of multiple case studies. Each is a UK Core City. The UK context to the cities is examined and then the research design considers eleven city case studies.

The methodological approach using published material rather than interviews has been justified; in the approach taken the data collection involved the systematic gathering of secondary source context and governance information and noting the processes and stages towards the establishment of place-based strategies and new climate governance arrangements. From this initial investigation was possible to identify the key place-based strategies of each city. These were then subjected collectively to a rigorous document analysis to produce data which was thematically grouped and analysed in respect of the research questions posed. The limitations and ethical issues associated with the research design and methodology have also been noted.

The next chapter presents the results of the first stage of the application of the above research design and methodology. It examines the three main scales of place-based leadership and policy: Internationally, Nationally and the City. It uses the UK as the example.

4 INVESTIGATIONS OF PLACE AND GOVERNANCE CONTEXT AND RELATIONSHIP TO NET ZERO

4.1 Introduction

As was noted in Chapter 2, Sotarauta and Beer (2021, p.4) observe that, “*in any study on place leadership, it is crucial to understand its relationship with governance, economic and geographical structures*”. For this reason, this chapter sets out the first stage of the case study approach, i.e., the contextual scales of place-based leadership and policy for net zero to UK cities at three levels: the UK level, nationally amongst the Devolved Nations of the UK, and within the UK Core Cities.

The context is the tension between the city and the nation as articulated below: -

“City governments have shown particular leadership: nearly 10,000 cities and local governments worldwide have committed to set emission reduction targets and prepare strategic plans to deliver on them. However, even the largest and most empowered city governments can deliver only a fraction of their mitigation potential unilaterally. National governments have unique and crucial roles to play in nurturing zero-carbon, climate-resilient cities. Many national and state [and regional] policies are explicitly urban-focused, such as the design of spatial planning guidelines and the drawing of municipal boundaries. Many more, though not urban-specific, hugely influence the performance of cities, such as national energy, tax and transport policies” (Coalition for Urban Transitions, 2019, p11)

Worldwide, national and state governments have primary authority over 35% of urban climate change mitigation potential (excluding the decarbonisation of electricity) (Coalition for Urban Transitions, 2019). Local governments have primary authority or influence over 28%, including: compact urban forms, travel demand management, and waste disposal (*Ibid.*). This leaves 37% of the identified mitigation potential dependent on collaborative climate action between national, regional, and local governments. Aspects include, building codes, decentralised renewables, and mass transit infrastructure (*Ibid.*). This chapter therefore explores the governance, economic, and geographic tension that exists between the national, regional⁸ and city level authorities (within the UK), in respect of the net zero challenge.

As noted in Chapter 2, most, if not all, of the research into place-based leadership and policy to date has been situated within the realm of regional economic development not the net zero carbon agenda. As such, this chapter provides key contextual information on the specific thematic issues associated with net zero, carbon emission scope and nature,

⁸Regional is used in the remainder of this thesis as reflects the UK and Northern European emphasis to the literature and the location of the case studies.

carbon emission target setting, strategy development, and mitigation or action plan development. It establishes that the level of influence and control that the city governance body has in each emissions sector and field needs to be considered as a necessary ingredient for making change happen (Lützkendorf and Balouktsi, 2019).

This chapter is structured as follows. First, it describes the National Place-based policy, governance, and leadership for net zero context. This is followed by the Devolved Nation/Regional Place-based equivalent. At the city scale, the analysis is presented in three sections: an overview of the understanding of the role cities play in mitigating the effects of climate change and progressing the net zero carbon agenda; a consideration, in turn, of typical city climate powers and governance; the role of wider governance and institutions in the city system. Initially, however, this chapter presents two pieces of context for readers unfamiliar with carbon emissions and net zero target setting.

4.1.1 Introduction to net zero, greenhouse gas emissions, 1.5°C and targets

Generally, net zero means that the total sum of carbon emissions is balanced by the same level of carbon removal. It follows, that future carbon emissions that are unavoidable need to be offset by extracting the equal amount of carbon from the atmosphere (UKFIRES, 2019). Carbon neutral sounds like a term that represents significant transition, but *“as the new field of urban carbon neutral governance emerges, however, the term can act as a black box concealing within it contestations in meaning and power”* (Tozer and Klenk, 2018, p179). Whilst not explored further within this thesis, this is a hint to suggest that the transformational change proposed to achieve net zero in our cities is interpreted differently by different groups. It is not for this research to consider whether net zero represents a just transition or not, only to acknowledge that resources need to be mobilised to achieve this change.

For citizens, businesses, and society to thrive, aggressive strategies are needed to significantly mitigate greenhouse gas emissions, while towns, cities, and regions need to prepare for the impacts of a changing climate (C40, 2019). *“The year 2020 is seen as pivotal, identified as the latest year when carbon emissions must peak to keep the planet below 1.5°C of warming”* (Rode, 2019, p2). In October 2018 the Intergovernmental Panel on Climate Change (IPCC) released the Special Report on Global Warming of 1.5°C (SR1.5) (IPCC, 2018) and an associated summary report for policy makers. Limiting warming to below 1.5°C imposes difficult challenges for current and future generations; *“according to*

the SR1.5 report if net zero is achieved by 2048 there is only a fifty percent chance that warming will stay below 1.5°C” (C40, 2019 p4).

Typically, greenhouse gas emissions can be brought close to net zero using proven technologies and practices. It is argued that it is not possible to wait for breakthrough technologies to deliver net zero emissions by 2050 (UKFIRES, 2019). Instead, society must plan to respond to climate change using today’s technologies alongside incremental changes. It is further believed that this approach will reveal many opportunities for growth, but it is also recognised that this will require public discussion about future lifestyles (*ibid.*). Making progress on climate change requires the three key groups of players - government, businesses, and individuals –to work together, rather than waiting for the other two to act first. After the failed Copenhagen summit of 2009, the centre of gravity in global climate governance shifted away from the UN and it now lies in voluntary transnational experiments led by market and subnational actors and civil society (Stevenson, 2020). Such experiments involve sharing information, tools for disclosing and monitoring emissions, offsetting, municipal-based targets, and subnational emissions trading (*ibid.*). There are the multiple benefits – known as ‘co-benefits’ – to acting on climate change that are not always adequately considered or valued in policy and decision-making processes. These include improvements in public health, reduced NHS costs, greater energy security, growth in the low-carbon jobs market, and a reduction in poverty and inequality (Jennings et al.,2019).

4.1.2 Setting UK Climate Targets and the need for societal change

The Climate Change Committee (CCC) is an independent statutory body that was established under the Climate Change Act 2008. Its purpose is to advise the UK and devolved governments on emissions targets, and to report to Parliament both on progress made in reducing greenhouse gas emissions, and preparing for, and adapting to, the impacts of climate change⁹. The combination of the framework provided by the UK’s Climate Change Act, the independent Climate Change Committee, long-term emissions goals, interim targets carbon budgets (see later), and the government’s responsibility of meeting these carbon budgets together form the “*the governance system that has served the UK well since 2008 and this Sixth Carbon Budget is its most complete expression*” (CCC, 2020a, p6).

⁹<https://www.theccc.org.uk/> Accessed Jan 2022

The UK Climate Change Committee's recommendations for the UK's Sixth Carbon Budget published in Dec 2020 (CCC, 2020a) will run from 2033 to 2037. Based on exploring the actions required in each area and every year to reduce UK emissions to net zero by 2050 the Climate Change Committee have developed scenarios. The 'Balanced Pathway' scenario (CCC, 2020a) is used as the basis for its recommended Sixth Carbon Budget. The Balanced Pathway makes moderate assumptions on behavioural changes and innovations and takes actions in the coming decade to develop multiple options for later roll-out. It also identifies the need for a programme of cross-economy policies to drive the transition to net zero. This includes public engagement, technology support, international action and driving a just transition (CCC, 2020a). The recent Climate Assembly (Climate Assembly UK 2020) - which saw a representative sample of the UK's population deliberate over how to achieve net zero - noted the importance of involving people in decision making, not just persuading them to change, as part of a national conversation on the options available for achieving net zero and how these options should be pursued. The Climate Change Committee consider (CCC, 2020a) that it will not be possible to get close to meeting a net zero target without engaging with people or by pursuing an approach that focuses only on supply-side changes. The implications for this for people and place are profound. The shift to the use of low carbon technologies or fuels has in part happened outside urban places (e.g., decarbonisation of the grid). The remaining part, which arguably relies on people who live in specific mostly urban places to act and alter the way they live their lives, less so.

Britain, it is argued, can achieve net zero emissions without relying on the promises of future technology by making changes to the UK's buildings, transport systems, land use and behaviour, and by investing in a variety of renewable energy technologies (CAT 2019). Whether such scenarios are the only way by which net zero can be achieved, or whether a resort to future technology is needed is an ongoing debate that is beyond the scope of this thesis. The key message is that there is no single technology, policy, or action that can prevent the negative impacts of climate change. It will require many people, from all walks of life, working together to bring about the change needed.

4.2 National (UK) Place-based policy, governance, and leadership for net zero

In general, there is a strong understanding in existing discourse that 'bold national leadership' is needed to deliver emission reductions and provide an enabling environment for local action; for example, the importance of establishing enabling national policy

frameworks (Coalition for Urban Transitions, 2019). While some see regional and city level government as being most capable of taking advantage of the co-benefits of climate action in the short-term (Jennings et al.,2019), there are potential changes at the national level that could facilitate action in the medium-term. This section considers the national leadership context of the United Kingdom. The UK's place-based policy and guidance in respect of net zero is dynamic and was especially so in the run up to the COP26summit¹⁰ held in November 2021 in Glasgow. This thesis, therefore, presents a snapshot of the policy position up to December 2021.

Climate Assembly UK (the 2020 citizens' assembly on climate change) considered that it was imperative that there is strong and clear leadership from government i.e., leadership to forge a cross-party consensus that allows for certainty, long-term planning, and a phased transition (Climate Assembly UK 2020). Six priorities for national action identified (summarised from Coalition for Urban Transitions, 2019, p20) were:

- “1. *Develop an overarching strategy to deliver shared prosperity while reaching net zero emissions – and place cities at its heart.*
2. *Align national policies behind compact, connected, clean cities.*
3. *Fund and finance sustainable urban infrastructure.*
4. *Coordinate and support local climate action in cities.*
5. *Build a multilateral system that fosters inclusive, zero-carbon cities.*
6. *Proactively plan for a just urban transition “.*

These have broadly been picked up by the UK Government in its response (as further explored below). Recommendations for Government to enable local authorities to effectively deliver climate action (CCC, 2020b) include developing clear policy, including guidance on the role of local authorities in delivering net zero, and empowering local authorities with appropriate levels of funding and support.

The UK was the first major global economy to embrace a legal obligation to achieve net zero carbon emissions by 2050 (HM Government, 2020). It will (at the time of writing in 2022) establish a net zero Task Force to take forward this national priority, and through the 2021 COP26 Summit, the UK Government urged countries and companies around the world to join it in delivering net zero globally. It first published a *Ten Point Plan for a Green Industrial Revolution* (HM Government,2020) then, in late October 2021, the UK Government published its net zero strategy entitled, *Net Zero Strategy: Build Back*

¹⁰<https://ukcop26.org/> Accessed Jan 2022

Greener (UK Government, 2021). In the forward the UK Prime Minister (p8) states “we will unleash the unique creative power of capitalism to drive the innovation that will bring down the costs of going green, so we make net zero a net win for people, for industry, for the UK and for the planet”. The document sets out clear policies and proposals for keeping the UK on track for its coming carbon budgets and sets out the UK Government vision for a decarbonised economy in 2050. The UK Secretary of State for Business, Energy & Industrial Strategy indicates in his forward (p11)

“But we cannot tackle climate change alone. We will take a coordinated approach, working across local and national government, the Devolved Administrations, and with businesses and civil society organisations. And we will make it easier and fairer for individuals, businesses and households to decarbonise, so that our whole society can work together to reduce emissions. This strategy demonstrates how the UK is leading by example, with a clear plan for the future”.

The overarching place vision for the UK is established by this document.

Of relevance to this thesis is the following extract from the executive summary section on supporting the transition with cross-cutting action:

***“We will also take a place-based approach to net zero, working with local government** [authors emphasis] to ensure that all local areas have the capability and capacity for net zero delivery as we level up the country. And Government is leading the way – embedding climate into our policy and spending decisions, increasing the transparency of our progress on climate goals, and providing funding to drive ambitious emissions reductions in schools and hospitals” (UK Government, 2021, p29).*

The explicit reference to a place-based approach (and use of the specific terminology) is one of the first by the UK Government in the net zero thematic area. The previous section from the executive summary is briefly expanded upon in the main document in the Chapter on Local Climate Action (author’s emphasis in bold):

***“Taking a place-based approach to net zero is also vital to ensuring that the opportunities from in the transition support the government’s levelling up agenda. ... The combination of devolved, local, and regional authorities’ legal powers, assets, access to targeted funding, local knowledge, and relationships with stakeholders enables them to drive local progress towards net zero. Not only does local government drive action directly, but it also plays a key role in communicating with, and inspiring action by, local businesses, communities, and civil society. Of all UK emissions, 82% are within the scope of influence of local authorities”** (UK Government, 2021, 261).*

The place-based approach described by the UK Government (as noted above) is explicitly articulated as relating closely to the boundaries and responsibilities of the UK’s devolved nations. The statistic included in this paragraph, 82% of all UK emissions being with the

scope of influence of local authorities, is not explicitly sourced or explained further and is slightly at odds with data gathered by this study (as noted later within this chapter). The debate around what scale and level of governance is best able to act on carbon emissions appears an unsettled one. To summarise, the UK Government may pose that a significant majority of emissions are under the influence of local authorities, but the latter argue that they have neither the powers nor the funding to make any influence effective (see Section 4.5).

The UK Government also identifies the important role of place-based leaders, described as ‘local leaders’:

“Local leaders are well placed to engage with all parts of their communities and to understand local policy, political, social, and economic nuances relevant to climate action. The government currently works with the Core Cities Group, for instance, which undertakes a range of activities to promote climate change adaptation, raise awareness and foster leadership in cities. Local government decides how best to serve communities and is best placed to integrate activity on the ground so that action on climate change also delivers wider benefits” (UK Government, 2021, p261).

There is also explicit reference above to the UK Core Cities Group as playing a key role in climate change adaptation, in raising awareness of the net zero challenge, and in fostering leadership for relevant action in cities. With the UK Core Cities group having been chosen as the case study for this research, it makes this example apposite. There is also use of the term ‘foster leadership’, which is an interesting choice of terminology with clear echo to the term generative leadership. This is used by Sotarauta and Suvinen (2019; p17) to describe *“processes of influencing and teaching other actors to understand why and how certain activities and goals need to be accomplished, and thus to strengthen the transformational capacity of a place”*.

4.3 Devolved Nation/Regional Place-based policy, governance, and leadership for net zero

This section gives an outline of recent relevant net zero policy and strategy development by the UK Devolved Nations of Scotland, Wales, and Northern Ireland. England is broadly synonymous with the UK for the current purposes of policy preparation as it sits under UK Government jurisdiction. This section also highlights the net zero strategy and policy development by some of the key English city regions in which the UK Core Cities are located. This section does not seek to present a definite guide; it is to illustrate that research shows that scale of place for leadership and action on net zero is complex and,

at best, unclear. Each layer of UK governance has felt the need to respond to the climate emergency independently with place-based actions and intentions. In some cases, as per the UK Government, this is recognising the contextual role in establishing or enabling place-based climate action locally.

4.3.1 Scotland

In terms of action in Scotland, the Scottish Government published an update to Scotland's 2018-2032 Climate Change Plan in December 2020 (Scottish Government, 2020) which sets out the Scottish Government's pathway to its “new and ambitious targets” set by the Climate Change Act 2019. This refers in the executive summary to:

*“...delivering a **place-based approach** [bold is in source document] to our green recovery working closely with those communities and organisations that need change, are undergoing change or affected by change. Our ongoing planning system reforms will aim to reduce process and procedures so that planning can focus more on places and people and evolving concepts such as 20-minute neighbourhoods will prioritise quality of life and health as well as our net zero ambitions”.*(Scottish Government, 2020, p8).

This articulates a sense of ‘place’ as broadly synonymous with ‘local’, a conception which is also affirmed in the same paragraph referencing local travel times and neighbourhoods, and later in the document: -

“Ensuring that we harness a place-based approach, taking actions at a local level to ensure that the benefits are spread widely”. (Scottish Government, 2020, p42).

So, whilst place is defined as where ‘where people, location and resources combine to create a sense of identity and purpose’, the scale at which this is envisaged to be legitimate narrative is not clear. Whilst there are 13 references to ‘place-based approach’ there are only two to ‘Local Government’, however this is the context of partnership working:

“3.6.52 We have reaffirmed our commitment to make use of Regional Land Use Partnerships from 2021. We continue to develop our approach to Partnerships which enable national and local government, landowners, stakeholders, and local communities to work together to meet regional priorities, whilst also supporting our national endeavour to end Scotland’s contribution to climate change from land use”. (Scottish Government, 2020, p179).

There are, however, 13 references to the role of cities including two references to the Scottish Cities Alliance¹¹ (which includes Glasgow - the case study city for this research) as a mechanism for encouraging learning in climate change governance:

¹¹<https://scottishcities.org.uk/> Accessed Jan 2022

“Work has been commissioned to develop this tool [City of Edinburgh Carbon Scenario Tool] further for all Scottish Cities as part of the Scottish Cities Alliance”. (Scottish Government, 2020, p56).

“Work with the Scottish Cities’ Alliance and the seven cities on the opportunities to accelerate activity on heat and energy efficiency” (Scottish Government Dec 2020 p220)

There is also one reference to engaging with countries and cities around the world to share good practice (Scottish Government, 2020, p133).

4.3.2 Wales

In Wales, October 2021 saw the launch of Welsh Government’s net zero Wales Plan, a five-year plan of action that shapes the next stage of the country’s pathway to net zero by 2050 (Welsh Government, 2021). The plan responds to the latest advice from the Climate Change Committee, the UK’s independent adviser on tackling climate change, and sets out a credible, affordable path for Wales to achieve net zero greenhouse gas emissions by 2050. It also focuses on creating a greener, stronger, fairer Wales. The plan (net zero Wales Carbon Budget 2 (2021-25)) sets out 123 policies and proposals, alongside commitments and action from every corner of Wales. It includes only *limited reference to local delivery*:

*“Future Wales was published in February 2021. It **provides a place-based approach for the future** (author’s emphasis) development of Wales with a 20-year time horizon. It sets a clear planning policy context for decarbonisation by both preventing and mitigating carbon emissions”. (Welsh Government, 2021, p27).*

*“Encompassing 22 local authorities and 730 community and town councils, local government is uniquely placed to both lead by example and also increase public awareness of the scale and pace of change needed to meet the ambitious target of becoming net zero by 2030. Over half of local authorities in Wales have declared a climate emergency and all have active decarbonisation plans in place – publicly recognising the need for local and national action to achieve the public sector ambition. Many have also committed to be net zero organisations by 2030. **Local authorities are responsible for 2-5% of local emissions but potentially influence around a third of an area’s emissions through place shaping and leadership**”. (Author’s emphasis)(Welsh Government, 2021, p202)*

The source of the 2-5% of local emissions statistic (CCC, 2020a) is directly at odds with the 2021 UK Gov net zero Strategy with its statistic *“Of all UK emissions, 82% are within the scope of influence of local authorities”*. (UK Government, 2021, p261).

4.3.3 Northern Ireland

In Northern Ireland, the situation as of Spring 2022 is behind that of the other devolved nations. It has no published overall net zero Strategy. In 2020 the Northern Ireland

Assembly published a Discussion Document on a Northern Ireland Climate Change Bill (DAERA, 2021). DAERA developed two options on how Northern Ireland could tackle climate change. The options are for a Local climate change law which would either include targets for achieving net zero within Northern Ireland by 2050, or targets for Northern Ireland to contribute fairly to UK net zero by 2050. The consultation ended in February 2021. However Northern Ireland is ending 2021 with two bills in a race on the path to becoming law¹². Each has different targets, with Climate Change Bill No. 1 (a private member's bill) proposing to reach net zero by 2045., whereas Climate Bill No2 (brought by the Agriculture and Environment Minister Edwin Poots), sets a target of an 82% reduction in emissions by 2050.

In 2021, the NI Government did, however, publish a net zero Energy Strategy (Northern Ireland Executive 2021). This does contain one suggestion that for energy at least, a place-based approach should relate to the whole province:

“We will focus on the aspects of Northern Ireland that are unique - Place - and that can contribute to this Strategy, including greater use of publicly-owned assets and building on our renewable electricity integration success, our rural agricultural base and our modern gas network”. (Northern Ireland Executive, 2021, p32)

4.3.2 England

In England, there is a confusing picture of devolution underway for both cities and city regions with, in some cases, directly elected mayors at one or more of these levels. A summary is included in Table 4.1.

Table 4.1 Regional Governance Arrangements for the UK Core Cities as of January 2022

UK Core City	Directly Elected city Mayor (Y/N)	Regional Body	Regional Body with directly elected Metro Mayor (Y/N) See
1 Belfast		N (but Northern Ireland Executive)	
2 Birmingham		West Midlands Combined Authority (Y)	West Midlands
3 Bristol	Y	West of England Combined Authority (Y)	West of England
4 Cardiff		N (but Welsh Government)	
5 Glasgow		N (but Scottish Government)	
6 Leeds		West Yorkshire Combined Authority (N)	West Yorkshire (as of 2021)

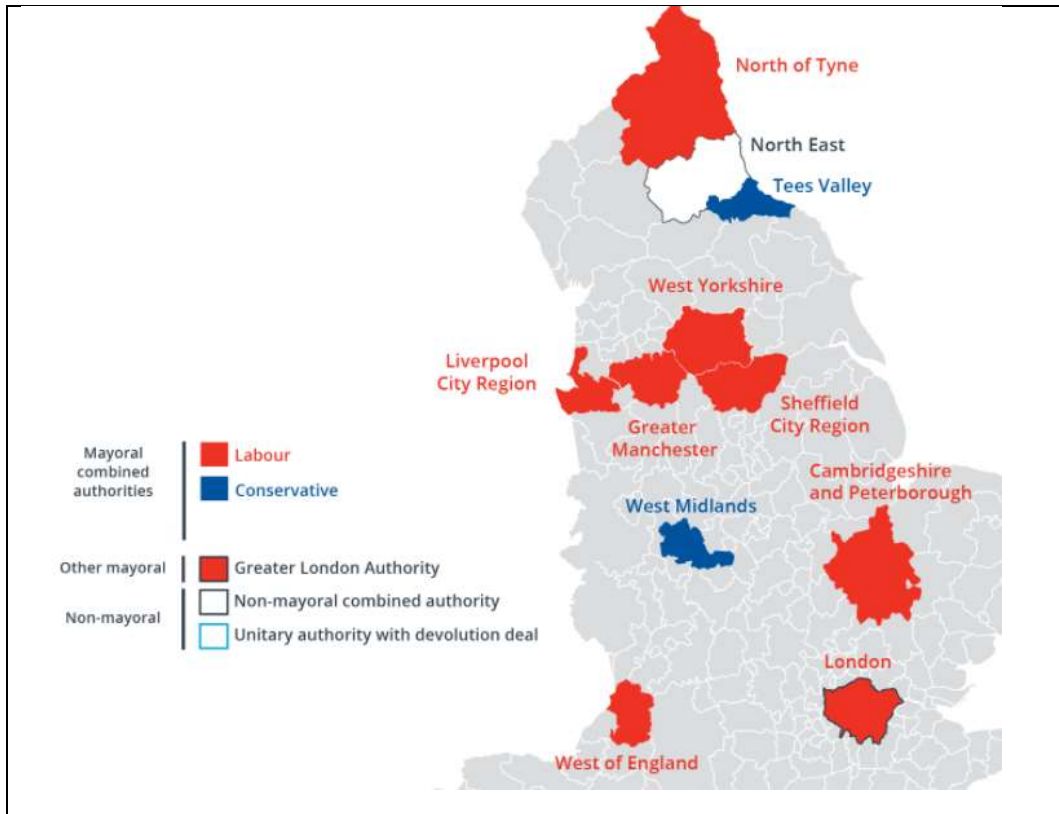
¹²<https://www.bbc.co.uk/news/uk-northern-ireland-59742532> Accessed Jan 2022

UK Core City	Directly Elected city Mayor (Y/N)	Regional Body	Regional Body with directly elected Metro Mayor (Y/N) See
7 Liverpool		Liverpool City Region Combined Authority (Y)	Liverpool City Region
8 Manchester		Greater Manchester Combined Authority (Y)	Greater Manchester
9 Newcastle		N	
10 Nottingham		N	
11 Sheffield		Sheffield City Region Combined Authority (Y)	Sheffield City Region

Source: Author's own

From the list in Table 4.1, six of the eleven UK Core Cities, namely Birmingham, Bristol, Leeds, Liverpool, Manchester, and Sheffield, have an additional regional governance layer. Figure 4.1 illustrates the Metro Mayor/Mayoral Combined Regions¹³.

Figure 4.1 Metro Mayor Combined Authority Regions in England April 2022



Source: source Institute for Government¹⁴

¹³The figure also illustrates the political makeup of the authorities between the Labour and Conservative parties but this is largely extraneous information in respect of this thesis.

¹⁴<https://www.instituteforgovernment.org.uk/explainers/metro-mayors> - Accessed Jan 2022

A summary of the place-based policies and strategies for net zero underway at the regional metro mayor/combined authority level as of January 2022 follows.

Birmingham -West Midlands City Region. In January 2020 the West Midlands Combined Authority (WMCA) launched a discussion document in relation to their target of net zero greenhouse gas emissions by 2041. The comprehensive report (WMCA 2020 #WM2041) details 74 measures aimed at increasing the rate of greenhouse gas reduction each year from 3.8% to 13% to achieve the target. It notes the complex layers of place-based leadership, and recognises the role of local authorities/places within the region as well as that of UK Government:

“WMCA is not leading everything: this is an attempt to outline what is required, at what level, and by when. It is an exercise in trying to lay out a collective challenge for the people and places of this region. The Mayoral WMCA is answerable to local people and the local authorities that comprise it, and a great deal of the sub-national legwork will be led by neighbourhoods, towns, and cities. Central Government also has an important part to play whether it is in regulation, devolving its power, or investing money. As such, this plan will try to identify what is necessary and ‘who leads’” (WMCA, 2020, p5).

Bristol -West of England Combined Authority. In July 2021 an action plan that the West of England Combined Authority (WECA) had spent two years working on since declaring a climate emergency in July 2019 was *“being ripped up and will be rewritten by September¹⁵ [2021]”* (still not published Jan 2022).

Leeds -West Yorkshire Combined Authority (WYCA). The policies and strategies the WYCA has in place that will play a leading role in tackling the climate emergency are a Green and Blue Infrastructure Strategy, a West Yorkshire Low Emission Strategy 2016-21, and a Leeds City Region Energy Strategy and Delivery Plan¹⁶. There is not yet a specific net zero strategy. The Leeds City Region Energy Strategy and Delivery Plan 2018 is being revised and will become a West Yorkshire Tackling the Climate Emergency Strategy and Delivery Plan¹⁷.

Liverpool – Liverpool City Region. The Liverpool City Region Combined Authority (LCRCA) and the Climate Partnership have committed to taking a strategic leadership role. It *“will convene, co-ordinate and support actions being taken by all our partners and citizens,*

¹⁵<https://www.bristol247.com/news-and-features/news/1back-to-drawing-board-for-wecas-climate-emergency-plan/> Accessed 290122

¹⁶<https://www.westyorks-ca.gov.uk/growing-the-economy/strategic-economic-framework/tackling-the-climate-emergency/> Accessed 290122

¹⁷<https://www.westyorks-ca.gov.uk/growing-the-economy/strategic-economic-framework/policies-and-strategies/green-and-blue-infrastructure/> Accessed 290122

across all 6 Local Authority areas that make up our City Region” (Liverpool City Region, 2021). It has created, as a clear framework, a ‘Year One Climate Action Plan’ that sets the foundation for actions to achieve the City Region’s climate and sustainability goals. This has been supported by a more recent LCRC Carbon Emissions Report which is an essential part of the wider range of strategic and policy tools needed to enable the Combined Authority, as an organisation, to deliver on the wider Liverpool City Region targets.

Manchester -Greater Manchester Combined Authority. Greater Manchester is set to become the first city region in the UK to adopt an accelerated plan for carbon reduction over the next five years. This is seen, by experts, to be critical to achieving long-term net zero goals¹⁸. Net zero is seen as a key part of the city-region’s Levelling Up Deal, submitted to the Government. The low Carbon package, as part of the Levelling Up, specifically references *“Place-based Systemic decarbonisation”*¹⁹ but this is not expanded upon further.

Sheffield - Sheffield City Region (now South Yorkshire Combined Authority – The Mayoral Combined Authority (MCR) has produced a net zero emergency response summary framework document which indicates:

“If we are to achieve our 2040 SCR:NZ objective, then everyone has to play their part. Leadership should be provided by civil leaders from across the City Region, but real change can only happen if all of our communities are empowered to do their bit”.(Sheffield City Region MCA, 2020).

This states that achieving these needs will require concerted and joined-up efforts by the MCA and the South Yorkshire net zero Partnership. The net zero Partnership, South Yorkshire businesses, and third sector organisations have all been engaged to create a work programme (Urban Foresight, 2020).

However, and as noted in the Introduction to this thesis, despite all action noted thus far in this chapter in respect of UK, national and regional action, cities have become central arenas in which many societal and environmental challenges are played out. Climate change is an issue that cities need to address, as they are major contributors to it, but also due to the impacts that cities will experience. A wave of urban pragmatism, which started in 2016, sought to reimagine urban areas following the integration of the ‘sub-national’

¹⁸<https://www.greatermanchester-ca.gov.uk/news/greater-manchester-set-to-ratify-plan-to-remove-one-million-tonnes-of-carbon-and-accelerate-climate-crisis-response/>Accessed 290122

¹⁹<https://www.greatermanchester-ca.gov.uk/media/5086/gm-low-carbon-sr-package.pdf>
Accessed 290122

as a meaningful category in the international climate regime after the 2015 Paris Agreement for Climate Action (Castan Broto and Westman, 2020). Given this, the rest of this chapter considers the city as a unit for action in much more detail.

4.4 Cities' policy, governance, and leadership for net zero

Considering the relatively modest achievements of international climate change governance (especially until 2021 in the USA), it has long been recognised that hopes have been placed on global city networks as an essential solution to problems in climate change adaptation and mitigation (Heikkinen et al., 2019). The following paragraphs give more information on the plethora of global narratives around cities and their role and importance in climate action and net zero.

Home to 55% of the global population (Science-based targets network, 2020), and with an *“estimated 70 percent of the world’s energy-related greenhouse gas emissions come from cities, a number that is likely to continue to increase as two thirds of all people are expected to live in urban areas by mid-century”* (WRI Green House Gas Protocol, 2014, p9), cities are on the frontline of climate change and have a vital role to play in meeting global targets (Science-based targets network, 2020). Cities account over 80 per cent of global GDP (Green Alliance, 2018), and three quarters of carbon emissions from final energy use (Coalition for Urban Transitions, 2019). The production and consumption that happens in cities requires large amounts of resources; accounting for over 60 per cent of global energy use, 70 per cent of waste, and 70 per cent of greenhouse gas emissions (Green Alliance, 2018). If GHG emissions associated with products consumed by urban residents are included, this share is even larger (as explored further below). If accounting is based on where emissions are caused, the respective proportions are about 30% lower (Balouktsi, 2020). While much contestation remains about the exact emission shares attributed to them, it is widely acknowledged that in the absence of action, cities' contributions to climate change will be further raised because of the projected rise of the global urban population by 2.5 billion by 2050 (*Ibid.*)

Regulators and researchers have widely recognized the necessity to put cities, as an important object of assessment, and city authorities, as an important actor group, at the core of climate mitigation efforts (Lützkendorf and Balouktsi, 2019). Cities are also, ultimately, the places that make policy a reality as they are responsible for implementing over 70 per cent of climate change mitigation and 90 per cent of adaptation measures (Green Alliance, 2018).

Cities have an important role in the global movement to achieve the ambitions outlined in the Paris Agreement (C40, 2020b). The Special Report on Global Warming of 1.5°C (SR1.5) identifies that cities have a duty to act quickly, collectively, and concertedly to avoid the worst of the predicted outcomes of climate change. This includes urban expansion being a catalyst for adopting new technologies, buildings, and infrastructure with low or near zero emissions. Science tells us that to keep global temperatures from rising by more than 1.5°C, cities must achieve net zero emissions by mid-century (Coalition for Urban Transitions, 2019).

From an urban perspective, it is important to recognise the degree to which cities and local governments have become leaders in climate emergency declarations (Rode, 2019). Within just a few months, more than 500 local governments declared emergencies (as noted by Rode (2019)). By early 2020, two-thirds of UK local authorities had declared a climate change emergency, with declarations also being made by organisations ranging from the UK Parliament to town and parish councils (Regen SW,2020). While the conventional networks of city climate action, the C40 Cities Climate Leadership Group, the ICLEI Local Governments for Sustainability, the Coalition for Urban Transitions, and the Global Covenant of Mayors for Climate & Energy were initially not driving these declaration efforts, they have been instrumental in an urban translation of the urgency of climate action (Rode, 2019). There has been a groundswell of local-level climate action in recent decades. There are multiple benefits, known as ‘co-benefits’, to taking action on climate change that are not always adequately considered or valued in the policy and decision-making process, such as *“improvements in public health, reduced NHS costs, greater energy security, growth in the low-carbon jobs market and a reduction in poverty and inequality”* (Jennings et al.,2019 p1) It is suggested that it is at regional and city levels that the co-benefits of climate action can be best incorporated into the decision-making process in the short-term (Jennings et al., 2019). It is at these scales that co-benefits are most evident and where interventions can have the most immediate impact (*Ibid.*).

There are many empirical studies of cities and their strategies and responses in respect of climate change, both adaptation and mitigation e.g., Vancouver Greenest City 2020 action plan (Affolderbach and Schulz,(2017) and Holden and Larsen (2015); Putrajaya Low-carbon City Initiatives (implemented at a city level) (Mohamed et al., (2016); the case of two New Zealand cities (Chapman et al.,2017); and in the UK, Bristol - dialogues on a carbon neutral city (Prestwood, et al.,2018)). There are also studies in respect of the early influence that cities have had on the international climate agenda and on each other

(including Fuhr(2018), Affolderbach and Schulz (2017), and others). These earlier studies tend to be of cities starting on their carbon and climate change journeys, and often the action plans or measures consider the formation of early stakeholder partnerships or more modest carbon reductions; often relating to the decarbonation of infrastructure. For example, research has been undertaken involving an extensive review of the carbon dioxide mitigation strategies of 124 European cities under the Covenant of Mayors (Crociet al.,2017). Buildings and Transport stood out as the sectors in which cities intend to deliver the largest emission reductions. Furthermore, the analysis (*ibid.*) showed that cities' administrations attribute higher potential to actions in subsectors under their direct control (municipal buildings, public transport, municipal fleet and public lighting) compared to actions in subsectors managed by private actors (households and firms). Whilst this might be expected, these are the 'easy wins'; it suggests a need to reach out across institutional boundaries and work with other sectors and actors.

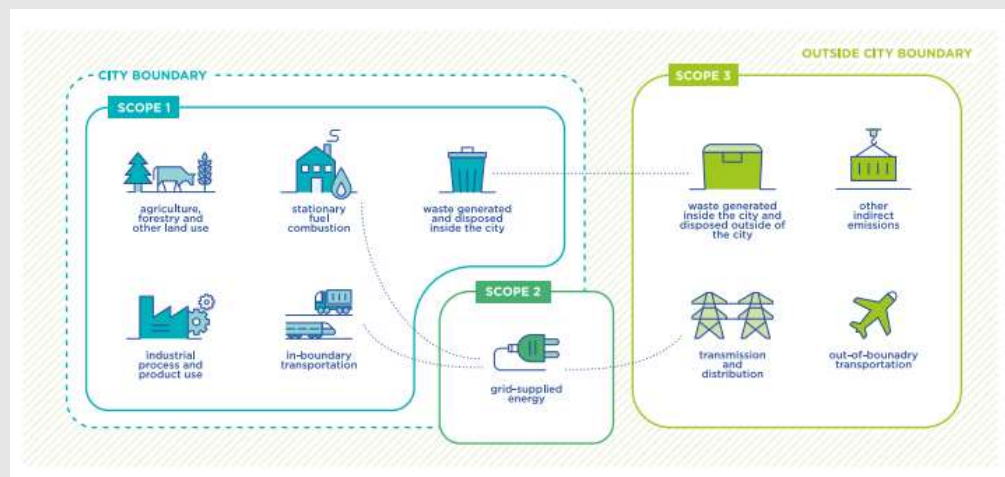
The frequent references to net zero in urban areas require further clarification, particularly when applying them to city targets (Rode, 2019). Further consideration of net zero city terminology is included in **Box 4.1**

Box 4.1 Carbon neutral cities definitions and emission scope definitions

An 'emissions neutral' city means (2018 C40): net zero Green House Gas (GHG) emissions from fuel use in buildings, transport and industry (scope 1); net zero GHG emissions from use of grid-supplied energy (scope 2); net zero GHG emissions from the treatment of waste generated within the city boundary (scopes 1 and 3); and whenever possible, minimised GHG emissions related to emissions occurring outside the city boundary as a result of goods and services consumed by city residents, businesses and government (scope 3).

These are illustrated below on Box Figure 4.1.1.

Box Figure 4.1.1 Sources and boundaries of city GHG emissions (C40 2018)

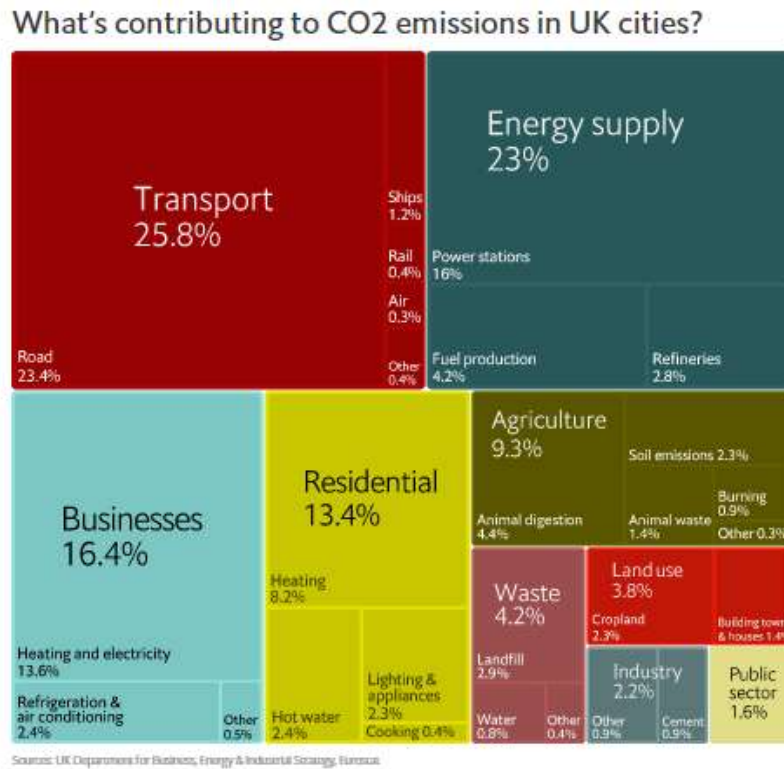


Existing greenhouse gas (GHG) accounting and target-setting protocols for places refer to terms such as “carbon neutrality” and “net zero”, but to date they do not clearly and consistently define these terms. Nor do they provide the detailed guidance that cities need to develop citywide carbon neutrality implementation strategies (C40, 2019, p5). An analysis of actual ‘net zero emission’ concepts used by eight cities reveals that their precise meaning and applicability remain ambiguous (Balouktsi 2020). No matter how intensive cities’ reduction efforts are, some GHG emissions are unavoidable, in city-level ‘net zero’ targets, however, a sort of ‘financial’ balancing often also applies through the purchase of offset credits, in addition to physical balancing. The application of this concept to cities has, therefore, more flexible boundaries (*Ibid.*)

Source: Author, adapted from C40 2018

As an indication of what is contributing to CO2 emissions, Figure 4.2 shows very broadly the percentage contribution for a typical UK city.

Figure 4.2 Infographic of contributing sectors to UK City emissions



Source: Economist Accessed 2020²⁰

As an example, to give context, Leeds City Council partnered with the World Wide Fund for Nature (WWF) to better understand the average carbon footprint of residents (Leeds City Council, 2020). Based on data from over 2,100+ residents, it was estimated that the median carbon footprint of Leeds residents is approximately 10.1 tonnes of carbon dioxide equivalent (CO₂e) every year whilst the mean is 11.38 tonnes. Both figures are significantly lower than the WWF's estimated 13.56 tonnes CO₂e average for the UK. Notably, one twentieth of Leeds's residents have a median annual carbon footprint double that of the average Leeds resident, with more than 80% of that difference being related to emissions from travel (a scope 3 emission).

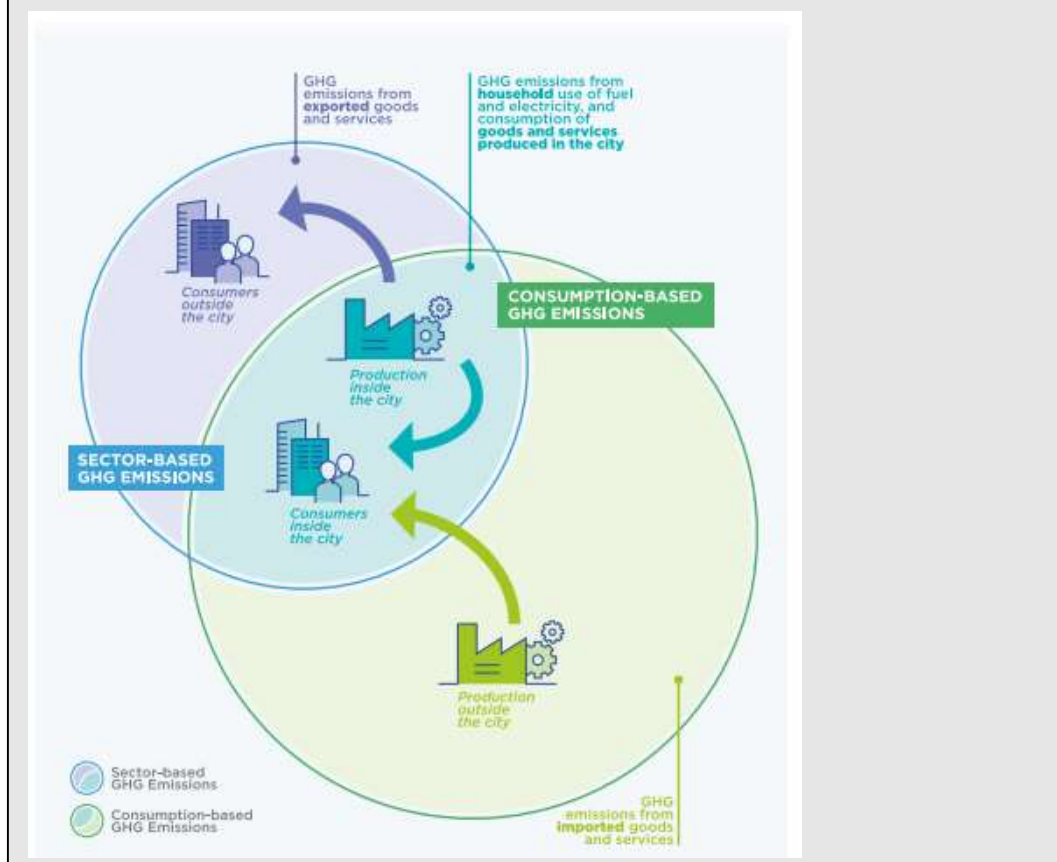
²⁰<https://futurepresent.economist.com/whats-contributing-to-co2-emissions-in-uk-cities/> Accessed Jan 2022

However, a more significant issue is that of consumption-based emissions. These are explained in greater detail in Box 4.2. Place-based city climate policies have tended to ignore ‘place-less’ consumption-based emissions. Instead, they have primarily focused on action within their borders, and within this ‘place’, sector based CHG emissions.

Box 4.2 Consumption based emissions

A city consumption based GHG inventory can be defined as the emissions arising within a city’s boundaries, minus those emissions associated with the production of goods and services exported to meet demand outside the city, plus emissions arising in supply chains for goods and services produced outside the city but imported for consumption by its residents (C40, 2018). This is illustrated in Figure 4.2.1. Consumption-based GHG accounting is an alternative to the sector-based approach to measuring city GHG emissions. This focuses on the consumption of goods and services (such as food, clothing, electronic equipment, etc.) by residents of a city, and GHG emissions are reported by consumption category rather than GHG emission source category.

Figure Box 4.2.1 **Diagram showing the overlap between consumption-based GHG inventories and sector -based GHG inventories (Source: C40, 2018)**



Source: Author based on C40 2018

Cities are geographically small, but their economic power is large; the products bought by city residents are often produced by global supply chains and looking at emissions through the lens of what cities buy opens up new opportunities for climate leadership (Green Alliance, 2018). Focusing on consumption potentially doubles the impact of city policies. New data from 79 city members of C40 reveals that about two thirds of their consumption emissions, or 2.2GtCO₂e, are from imported goods and services (Green Alliance, 2018). This is roughly the same as the emissions produced within their borders (*Ibid.*).

Thus, whilst places such as cities can establish place-based policies to tackle direct locally generated carbon emissions (mostly scope 1 and 2 emissions such as the transport and heat used in that place) it is necessary to engage in the narrative of consumption-based emissions to achieve a truly reduced carbon footprint. This means both potentially recognising the limits of place-based policies unless they recognise the importance of those in the place behaving and consuming differently and acknowledging the need to reach out beyond the place to influence some emissions sectors (explored further in subsequent sections).

Detailed references to specific actions are, however, rarely part of cities' climate emergency declarations. Instead, there are usually general references to updating existing climate strategies, along with new carbon neutrality targets (Rode, 2019). There are many ways for cities to set an emissions reduction target, recent guidance (Science-Based Targets Network, 2020) suggests three main methodologies (which have been thoroughly evaluated and tested) that could be used to set science-based targets in line with the 1.5-degree scenario. These are set out in Box4.3.

Box 4.3 Setting Science-based targets at the city level

Three main methodologies which have been thoroughly evaluated and tested and can be used to set science-based targets in line with a 1.5-degree scenario. One (Arup 2016) presents four different emission reduction trajectories depending on city context, GDP and per capita emissions which turn relies on the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) (WRI Green House Gas Protocol 2014). In this the term city is used throughout this document to refer to geographically discernible subnational entities, such as communities, townships, cities, and neighbourhoods. City is also used to indicate all levels of subnational jurisdiction as well as local government as legal entities of public administration.

The two other main methodologies are the One Planet City Challenge (WWF, 2020) and that developed by the Tyndall Centre ([Homepage -Tyndall Centre for Climate Change Research](#)). The former builds on the Deadline 2020 methodology but integrates new considerations of fair emissions budgets. The WWF methodology is indicated as suitable for any city that reports in line with the requirements of the Global Covenant of Mayors (Science-Based Targets Network, 2020). The Tyndall Centre methodology was developed for local authorities to set carbon emissions targets that are consistent with the UN Paris Climate Agreement. It is noted (Science-Based Targets Network, 2020) that the methodology is best suited for cities in the United Kingdom. Tyndall Carbon Budget reports can be used alongside the Setting City Area Targets and Trajectories for Emissions Reduction (SCATTER) tool, developed by Anthesis Group and available to local authorities for free.

All methodologies need to become clearer on the use of scenarios, carbon budgets, likelihood for temperature targets, and key assumptions - as well discussing equity implications of those assumptions. Cities setting science-based climate targets benefit from clearly defined targets which specify the scale and pace at which they need to reduce their GHG emissions, and which are robust and comprehensive considering city-wide emissions from a variety of sources (Science Based Targets Network, 2020). A good understanding of the GHG sources and reduction potentials is essential for defining feasible targets and designing efficacious reduction strategies (Lützkendorf and Balouktsi, 2019). For example, Greenhouse gas emissions in cities can be brought close to net zero using proven technologies and practices (Coalition for Urban Transitions, 2019), with a bundle of technically feasible low-carbon measures that could cut emissions from key urban sectors by almost 90% by 2050. 58% of these carbon savings come from the buildings sector, 21% from the transport sector, 16% from materials efficiency and 5% from the waste sector (Coalition for Urban Transitions, 2019). Two thirds of local authorities from across the UK have declared a climate emergency, with the vast majority setting a net zero target date (Regen SW 2020 as before). These vary widely in their scope and in the deadline selected, with the most ambitious declaring that their area will be net zero carbon by 2025.

In summary, a clear definition and system boundary setting of 'city' is essential for identifying the different sources of greenhouse gas emissions tied to it. It is also important to select appropriate urban-specific system boundaries based on the specific targets and research questions (Lützkendorf and Balouktsi, 2019).

4.5 Climate Action - Place powers and governance, particularly for city and local governments

To reiterate, understanding the emissions generated, and the challenges around linking their spatial distribution and relationship to place is important. As is then putting in place targets, emissions trajectories, scenarios, and budgets which provide a framework for action. There is a growing understanding of what the problem is, what sectors contribute to the problem, and what actions/interventions are likely to make a difference. However which organisations and actors need to take such actions, what form of governance is appropriate, and what powers and influence over those actions matters, is less clear.

Guidance on Climate Action in cities in response to target setting is wide ranging and a precis is presented in Box 4.4.

Box 4.4 Guidance on Climate Action in Cities

There is a wealth of guidance available to global cities via the previously mentioned networks of city climate action, including the C40 Cities Climate Leadership Group, ICLEI Local Governments for Sustainability, the Global Covenant of Mayors for Climate & Energy and the Carbon Neutral Cities Alliance. This includes guidance on what the carbon issues are e.g., an analysis of the contribution C40 cities can make to delivering the Paris Agreement objective of limiting global temperature rise to 1.5 degrees (C40 Arup, 2016), what are the biggest opportunities for cities to accelerate the reduction of their carbon emissions (C40 McKinsey, 2017), a study investigating the consumption-based greenhouse gas emissions (GHG) from 79 cities (C40,2018) and Defining Carbon Neutrality for Cities & Managing Residual Emissions – Cities' Perspective & Guidance (C40, 2019).

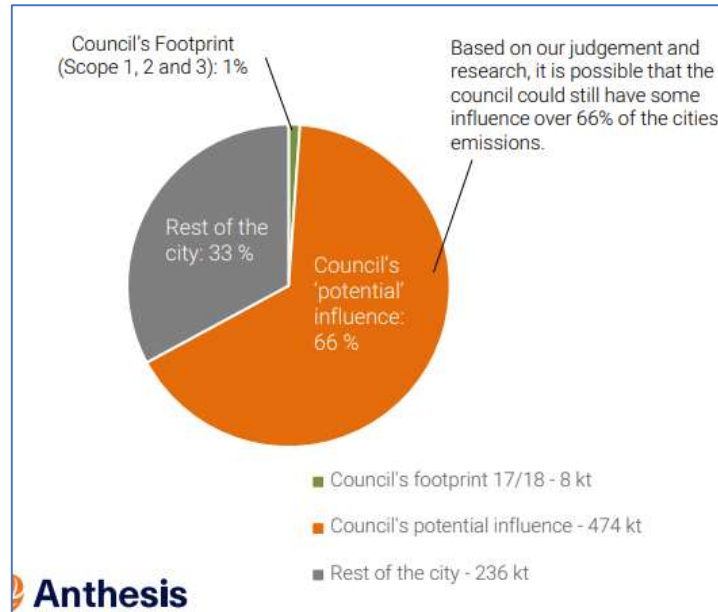
Source: Author based on C40 references as indicated

Common questions raised by those developing plans and strategies include what concrete actions are being demanded as part of emergency declarations by city authorities, and to what degree do cities have control over such measures (Rode, 2019). The strength and combination of powers depends on the degree to which these have been devolved to a city. An assessment of the top emitting consumption sectors, based on analysis of C40 city powers, shows that there are 20 cities in the C40 network, including four of the top ten

emitters, which have strong powers (Green Alliance, 2018, p14). These cities alone are responsible for over 30 per cent of the overall consumption-based emissions from C40 cities. A further 41 cities with partial powers are responsible for half of the total. This means that about 80 per cent of consumption-based emissions (from the C40 cities) come from C40 cities that can exercise a high degree of influence over them (Green Alliance, 2018, p14). However, the cities with a high degree of influence are unlikely to be the norm. Typically, the power of cities over their emissions is more modest (as noted below). The largest and most empowered city governments can deliver only a fraction of their mitigation potential unilaterally (Coalition for Urban Transitions, 2019). The data on how much is still emerging, particularly in the UK, is contested, and needs to be set within the context of the recent claim by the UK Government in its national strategy that “*of all UK emissions, 82% are within the scope of influence of local authorities*”. (UK Government, 2021).

Local authorities have taken a range of actions to reduce emissions including improving building energy efficiency, procuring ‘clean’ or renewable electricity, installing renewable energy systems, upgrading street lighting to LEDs, and switching vehicle fleets to EVs. However, the latest estimates from the UK suggest that “*local authorities are directly responsible for between 2- 5% of their local area’s emissions*” (CCC, 2020b, p4). By way of example, in a recent study of Oxford (Anthesis, 2019, p30) it was noted that “*only a tiny fraction (1%) of the city’s in-boundary GHG emissions is under some influence or concern of the City Council*” (see, also, Figure 4.3).

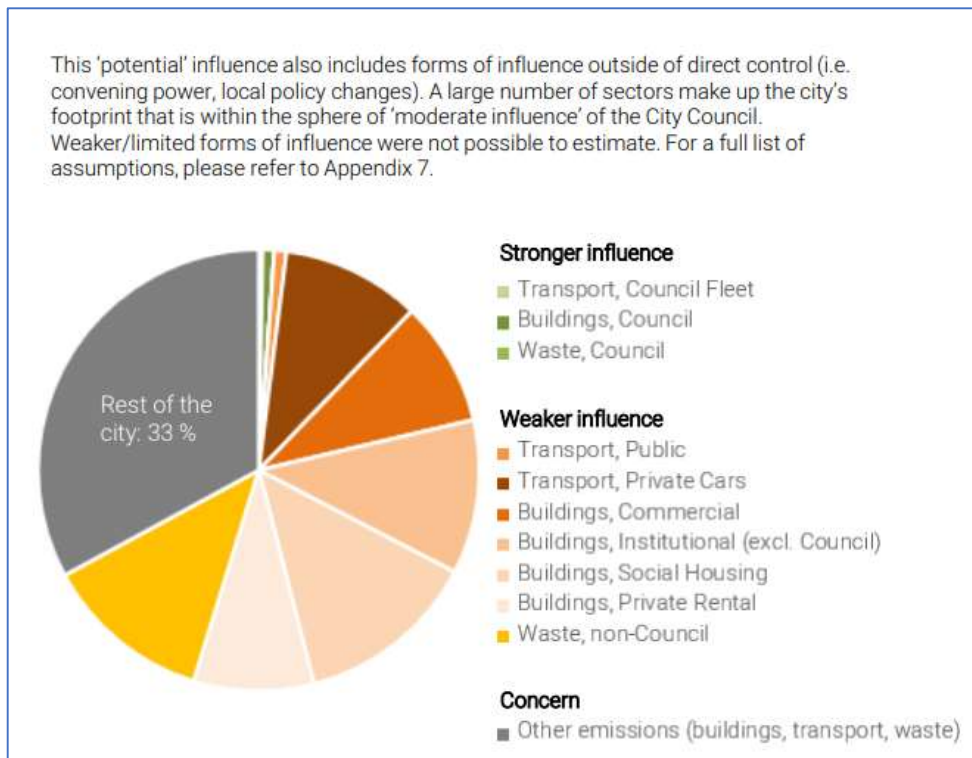
Figure 4.3 Estimate of the influence of Oxford City Council over carbon emissions in the City of Oxford



Source: Anthesis,2019, p30

Beyond their direct council-only emissions, UK local authorities are claimed to “*have powers or influence over roughly a third of emissions in their local areas*” principally in the buildings, transport, waste, and land-use sectors (CCC, 2020b). Or to quote a slightly differing but complementary source “*Local governments have primary authority or influence over 28%, including compact urban form, travel demand management and waste disposal*” (Coalition for Urban Transitions, 2019, p14) and their place-shaping powers and actions potentially influence around a third of UK emissions as further elaborated upon in Figure 4.4. Thus, it is in this area of uncertainty between ‘internal’ local authority emissions and the wider place emissions, over which the local authority may have some influence, that the dynamics of place-based leadership will need to operate.

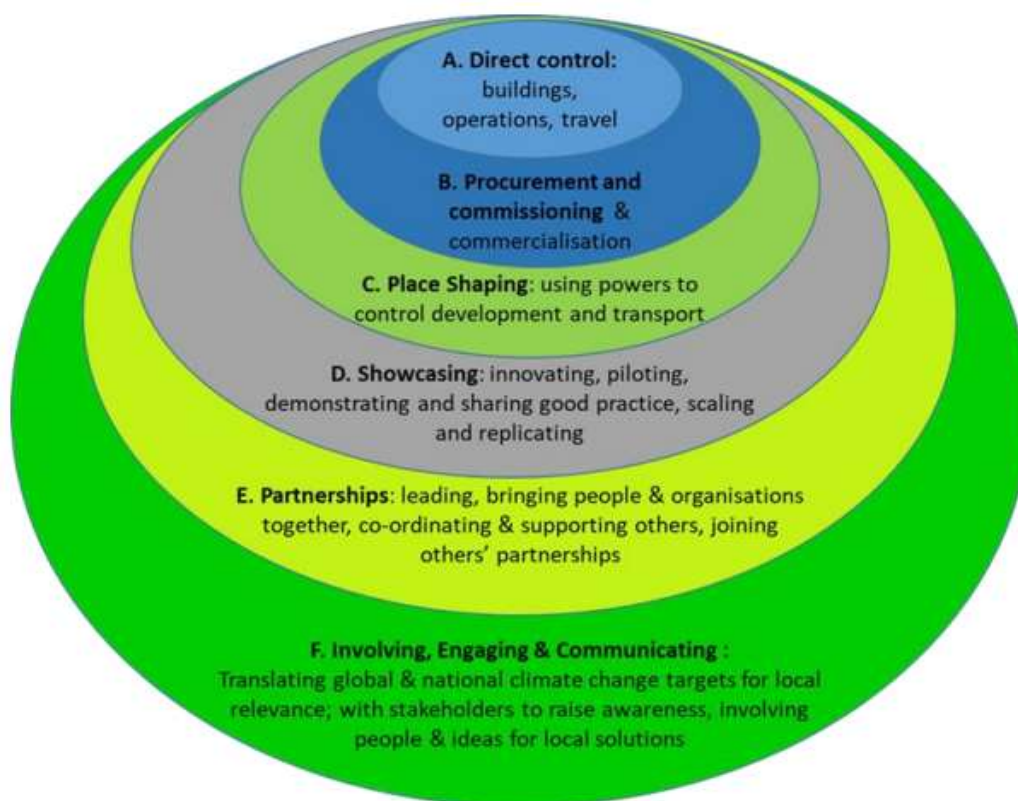
Figure 4.4 Consideration of the nature of a city councils 'potential influence'



Source: Anthesis, 2019, p30

Figure 4.5 presents an alternative comparison which shows local authorities' leverage and influence through their services, planning and enforcement roles, housing, regeneration, economic development activities, education and skills services, and investments in places. The CCC (2020b) argues that their leadership role in partnerships and with the public places them at the heart of the climate conversation, and in developing and replicating local solutions. It is suggested that local authorities are *"well placed to drive and influence action on climate change through the services they deliver, their regulatory and strategic functions, and their roles as community leaders, major employers, large-scale procurers and social landlords"* (Ashden CAC, 2019, p4).

Figure 4.5 How local authorities control and influence emissions



Source: CCC, 2020b, Figure 1.2 p5.

In addition to their formal powers, local leaders can have influence using their democratic legitimacy, leadership skills, and powers of negotiation to achieve outcomes beyond what can be achieved solely through their own legal powers and duties. The nature and level of this influence is, however, contested. It has been described as “enormous” (Ashden CAC, 2019, p7). It is argued that cities can address wider consumption emissions, their powers in local economic development, urban planning, regulation, procurement, and transport, amongst other areas, could be used to lower emissions beyond city boundaries (Green Alliance, 2018, p2). For example, cities can specify low carbon materials and processes in the goods they buy, drive innovation in low carbon goods and services, and increase demand for lower carbon products (Ibid). However, this influence is more indirect and is also contingent upon enrolling support from others, some of whom may not be place-based. For example, it is argued that local authorities have a key role in the energy transition and delivery of a green recovery (Regen SW, 2020). “*With a democratic mandate to work for the good of the people they serve, powers to levy taxes, and*

knowledge of their communities, local and combined authorities are uniquely placed to lead a net zero transition”(Ibid. p9).In other words, “combined authorities and local authorities are a cornerstone of climate change partnerships across the country that link key delivery organisations to deliver Net Zero” (CCC, 2020b, p4).In the UK, Government and local authorities are considered to share a common goal to deliver net zero (CCC, 2020b). It is argued that the UK Sixth Carbon Budget (as noted in previous section) can only be achieved if Government, regional agencies, and local authorities work seamlessly together (CCC, 2020b).

It is noted by a UK group of local government, environmental, and research organisations that *‘a green and fair recovery and meeting the UK’s 2050 net zero carbon target will be dependent on empowering and resourcing the local response.’ (ADEPT, 2021, p4). Councils’ unique insights into local communities and circumstances, their service delivery and regulatory functions, and their convening powers are considered to enable them to drive carbon emissions reductions (Ibid.).There is “public support for local place-based action” (ADEPT, 2021, p4) Evidence prepared in support of the UK Climate Change Committee (CCC, 2020b) suggests that more than half of the emissions cuts needed rely on people and businesses taking up low-carbon solutions - decisions that are made at a local and individual level. Many of these decisions depend on having supporting infrastructure and systems in place. Recommendations for local authorities from the Climate Change Committee (CCC, 2020b) include several overarching priorities including developing action plans, developing capacity, collaborating with neighbouring authorities, and communicating and engaging with local communities. These are reinforced ADEPT (ADEPT, 2021). This group has set out proposals to enable councils to play their part in delivering on the Government’s net zero target. However, it is also noted that further support is needed if the net zero target is to be reached ahead of 2050, and that local authorities need multi-year supportive policy and resourcing frameworks.*

In England and Northern Ireland, there is no overall plan as to how local authorities fit into delivering net zero. The onus is on local authorities to work out their own courses based on piecemeal policies and communications from Government (CCC, 2020b). This particularly affects smaller local authorities with fewer staff working on emissions reductions. The Scottish and Welsh administrations have stronger frameworks and

support systems in place to work effectively in step with their local authorities (CCC, 2020b).

4.6 City responses to the climate challenge -the role of wider governance and institutions (getting other organisations 'in the room')

The 'city' is not only an important object of assessment and level to act, but also a dense network of actors and agents of change (Lützkendorf and Balouktsi,2019). It is comprised of individual users, infrastructure designers and operators, and policy actors (i.e., civil government officials, special-interest groups and other groups involved in governance) as the primary ones (Balouktsi, 2020).

While local governments have taken a leading role in urban climate governance (Hölscher et al.,2019c), a plethora of actors from local communities, regional and national governments, businesses, and research institutes contribute to delivering climate action by generating and integrating knowledge, experimenting with social, economic, and technological innovations, and self-organising service provisions (Hölscher et al.,2019c). This is a view not just shared by the academic literature but also by groups representing local government "*local authorities are by no means the only local actor delivering carbon emissions reductions. They want to work with local people, community groups and non-governmental organisations, and the wider public sector, including expert statutory agencies* (ADEPT, 2021, p5). The role of citizens as both direct and indirect sources of emissions is not thoroughly considered within current inventory frameworks and reporting mechanisms, or carbon neutrality targets, especially those that only focus on Scopes 1 and 2 emissions (Balouktsi, 2020). Indeed, the inclusion of a wide range of Scope 3 emissions could help cities to explore the role of citizens in carbon management and how city initiatives can facilitate their engagement (*Ibid.*)

Some commonalities were observed in approaches to delivering carbon neutral outcomes, in an analysis by Exeter City Futures (2019) of the following 2030 target cities; Adelaide, Bristol, Copenhagen, Nottingham (with lesser data from Stockholm, San Francisco, and Barcelona). This was in respect of the importance of engagement and partnering. Strong engagement and partnership approaches were evident across all the cities researched (Exeter City Futures, 2019), with many cities proposing co-creation approaches and both grassroots (bottom up) and major infrastructure (top-down) change projects (*Ibid.*). The philosophy of engaging everyone across a city was widely observed as necessary for sustainable change (*Ibid.*).This reinforces the point that local authorities

cannot do net zero alone; in the UK it is suggested that they need to create effective partnerships with energy networks, local communities, Local Enterprise Partnerships²¹ (LEPs), and the private sector, as well working across authority boundaries to amplify their plans and influence (Regen SW, 2020).

It has been argued that radical decarbonisation requires the engagement and participation of all key public and private organisations and communities across an area (as well as action by national actors and central government referred to earlier in this Chapter). A local authority's unique role puts it in an ideal position to set up appropriate governance structures to create the buy-in and participation necessary to make a net zero energy system a reality (Regen SW, 2020). The governance board should work at an appropriate geographic scale for the area, which existing publications assert is usually at a county, combined authority, or city region scale (*Ibid.*). In many instances, cities clearly communicate the framework conditions that need to be put in place by other tiers of government to allow for effective urban climate action (Rode, 2019).

Significant changes of urban governance must accompany, or even precede a radical re-direction of urban development pathways towards sustainability and resilience (Hölscher et al., 2019b). A good climate governance system is integral for the effective implementation of a city's Climate Action Plan (C40, 2020a, p24) and essential to delivering long term transformative climate action (C40, 2020b). A summary of the further Guidance on 'Good Climate Governance' in cities is contained in Box 4 5. This reinforces the practitioner messages from global cities that there is a clear need to work with multiple agencies across a city to deliver climate action, and that specific governance arrangements and developed action plans should provide the vehicle to achieve this.

²¹Local enterprise partnerships (LEPs) are non-statutory bodies responsible for local economic development in England. They are business-led partnerships that bring together the private sector, local authorities and academic and voluntary institutions. (Source <https://www.instituteforgovernment.org.uk/explainers/local-enterprise-partnerships>) Accessed Jan 2022

Box 4.5 summary of the further Guidance on ‘Good Climate Governance’ in cities

Specifically recent guidance has been published to support cities strengthen the development and implementation of their Climate Action Plans (CAPs) through better climate governance (C40, 2020a) and in structuring and writing a Climate Action Plan (C40, 2021). The guide suggests that beyond the technical details, effective CAPs explore four key components including emissions neutrality, governance and collaboration, resilience to climate hazards, and inclusivity and benefits. Effective plans are transparent, equitable and developed with stakeholder input and support. It is noted:

“An effective CAP will include information on the relevant aspects of the city’s governance and administrative structure, illustrating the city’s powers and capacity for delivering and facilitating climate action. Effective plans may list city departments or agencies and their role in the development and delivery of the CAP. They can also demonstrate the relationship between local governing institutions and ownership over city systems, services and assets” (C40, 2021, p33).

Climate governance refers to the formal and informal rules and power dynamics that influence decision making processes (C40 2020a). The principles include a tri-partite division between the establishment of a policy framework, suitable government structure and processes and suitable enabling conditions. Most notable to this thesis are reference to the need for *“clear roles and responsibilities allocated to agencies”, “human resource capabilities”, “system of engagement with non-state sectors”* and *“political leadership”* (from Climate governance principles Figure 1 C40, 2020a, p6)

C40 has developed a series of case studies (C40, 2020b) from cities from around world to highlight ‘good climate governance’. The case studies illustrate how good climate governance can assist cities to leverage opportunities and overcome barriers to implementation, as well as engage more effectively with external stakeholders and other levels of government to influence national and state policies, secure financing, attract political support and deliver complex cross-sectoral actions. It is also seen as important to have a Roadmap section which lays out and describes the CAP strategies and actions, what their benefits are and how they will be implemented (C40, 2021). For each action, it is best practice for cities to provide lead agencies and supporting partners which may include governmental and non-governmental institutions as well as delivery timelines (can be short, medium or long). For cities that want to go further, implementation details can include funding and financing mechanisms, costs (can be low, medium or high), and the human and financial resource needs for each action. Some cities may see the advantage of organising actions by ‘responsible entities’, including addressing the role that local residents can play in reducing GHG emissions in a City.

Source: Author’s own

Some cities choose to discuss connections between their city and other levels of government in their Climate Action Plans and in so doing note opportunities for additional collaboration, as needed (C40, 2021). There is the opportunity to communicate how different entities play a role in delivering the CAP, and to internally evaluate capacity gaps and, through so doing, identify key stakeholders who have power in areas beyond the (given) city's control (*Ibid.*) For example, “Universities’ [sic] roles as urban citizens, conveners, educators and knowledge creators alongside their independence and trustworthiness not only implies but demands to take on a special responsibility, not unlike the one of cities, for the coming Climate Decade” (Rode, 2019, p10).

Lessons that have been identified as keyways for other cities to replicate best practices in good climate governance were compared with the characteristics of place-based leadership synthesised in Chapter 2 and are presented in Table 4.2. There is broad agreement between practice and theory; this suggests that the application of place-based leadership to the emerging net zero and governance arrangements is a valid one. This establishes an encouraging context to the more detailed case studies and analysis presented in Chapters 5 and 6.

Table 4.2 Comparison between practice and theory in respect of place-based leadership characteristics

LESSONS LEARNT FOR GOOD CLIMATE GOVERNANCE (C4)	Place-Based leadership characteristics
Use pre-existing processes and structures	
Formally assign responsibilities	*
Secure political support	*
Engage collaboratively with stakeholders	**
Formalise new structures	
Appreciate climate champions	***
Involve civil society	*
Consider department position	*
Allocate time & resources for internal knowledge sharing	**
Combine adaptation and mitigation teams	
Plan engagement carefully	
Use robust data to support actions	
Integrate climate into existing plans and programmes	*
Engage and align with national government	*
Decision-making based on high quality data	
Work with the Communications team	
Have perseverance, and be optimistic and deliberate	
Work with global networks and initiatives	

Source: author based on p45 C40 2020b Case Studies for lessons learnt

A vast literature on global climate governance has already captured the problem of inadequate action (Stevenson, 2020). For example, the C40 Cities Climate Leadership Group promotes itself as a network that enables cities to learn from each other in their efforts to confront climate change. However, most proposed measures support the *status quo*, with most actions focusing on infrastructure and technology, and only a few transformational climate measures are envisaged by the cities (Heikkinen et al.,2019). In other words actions and words do not align; as Stevenson (2020, p5) puts it, “*bullshit is pervasive in global climate change governance and manifests in several, and potentially all, these forms*”.

A recent survey (Howarth et al.,2021) documents the measures taken by local authorities, the growth in community-focused participatory initiatives, and the role played by local businesses and the financial sector in tackling the Climate Emergency. The study is based on conversations with local policy makers and practitioners, a review of relevant documents, and the impressions gained by practitioners and researchers in the field by the Place-based Climate Network (see Box 4.6).

Box 4.6 Details of the Place-based Climate Network

The Place-based Climate Action Network (PCAN) is funded by a Climate Change Network Plus award from the Economic and Social Research Council (ESRC). It commenced in January 2019 and brings together the research community and decision-makers in public, private, and third sectors. The PCAN consists of five innovative platforms which facilitate two-way, multi-level engagement between researchers and stakeholders: three city-based climate commissions (in Belfast, Edinburgh, and Leeds), and two theme-based platforms on adaptation and finance, with a business theme integrated into each climate commission.

Source: Based on PCAN 2021

The Place-based Climate Action Network is about translating climate policy into action ‘on the ground’ to bring about transformative change. In one of its first outputs, a review into all UK research on the social science of climate change (Fankhauser et al.,2019), almost 40 per cent of projects, (representing over half of all funding), were seen to engage academically with questions of climate policy and governance. Research on climate change governance is noted “*as being concerned with the institutional mechanisms and political processes that help steer social systems toward low carbon and climate resilient*

outcomes” (p17 Fankhauser et al., 2019); this research aims to make a further contribution to this public policy evidence base.

In the previously mentioned research by PCAN (Howarth et al., 2021) it is noted that by the end of 2020, only 62% of local authorities had followed up their emergency declarations with a new or updated climate action plan. Noted barriers that hold back local climate action included a lack of capacity and expertise within local authorities; stretched funding; poor coordination with and disorganised support from national government; and institutional complexities in areas such as local transport and housing. Many of these constraints have been exacerbated by the coronavirus pandemic. The overwhelming focus of local climate action has been on reducing greenhouse gas emissions (mitigation). Most importantly the report notes: -

“a period of extensive experimentation with new institutional models that promote more inclusive, partnership-based approaches to local climate action. There is a growing number of local climate commissions, action networks, climate partnerships and participatory forums like climate assemblies and climate juries. Also emerging are new analytical tools (such as place-based net zero carbon roadmaps) that help local actors to structure and formulate their plans”.

(Howard et al., 2021, p3). This research, undertaken in parallel and without awareness of research by Howard et al., directly corroborates the work of PCAN to date. For example, within examples of local authority climate working groups is quoted Glasgow (Howard et al., 2021, p17), whilst Nottingham and Glasgow bring specific implementation case studies. Amongst independent partnerships in the UK Core Cities noted (Table 2 in Howard et al., 2021, p22) are the Belfast and Leeds Climate Commissions, the Manchester Climate Change Agency, the Sheffield City partnership and the Bristol Advisory Committee on Climate Change. It also notes the following Local Authority Initiatives (Table 2 Howard et al., 2021, p23) of relevance, the Glasgow Climate Emergency Working Group, the Birmingham Climate Taskforce (R20) (now renamed), the Newcastle Climate Change Partnership, the Newcastle Climate Change Committee. The Sheffield Climate Alliance is cited as example of a ‘third sector initiative’. These are all climate change governance and partnership bodies that have been identified by this thesis (see next Chapter).

4.7 Summary

This chapter has considered the complex relationships that exist between carbon emissions and scales of place, governance, and climate action plans. In respect of the methods and definitions of measuring carbon emissions and their scope, it has demonstrated that a net zero place needs to consider emissions beyond a place’s

boundary. Emission scope definitions and geographic boundary definitions are not necessarily synonymous. Consequently, there are real questions present around what scale of place action on net zero should occur within. The chapter has outlined extensively how, in the UK, targets and actions on net zero and place-based responses occur at the National (UK) level, at Devolved Nation level, and within cities. Generally, cities are being encouraged by a global and UK narrative to take a place-based approach, and they are setting ambitious local targets and developing strong local rhetoric, strategies, and action plans around net zero.

This chapter has, however, also highlighted some significant challenges around what UK cities can control and influence regarding carbon emissions. The exact quantum and scope of the influence of UK cities is contested, but there seems to be general agreement (apart from the UK Government) that the role of UK city authorities is constrained (with low percentage influence on total place-based and consumption emissions). The logical consequence of this is that there is a greater need to work with other stakeholders and actors in the place, and outside the place, if targets are to be achieved.

City authorities are being encouraged by a raft of guidance to establish climate action plans or strategies with a view to using these to bring together place-based and place-less stakeholders (including national governments) to deliver change. City authorities need to be the place-based leaders and to develop place-based policies. The next part of the thesis considers the results of this research's detailed investigation of this topic, and specifically the role of place-based leadership in this using the UK Core Cities as case studies.

5 CASE STUDIES – THE JOURNEY SO FAR TO NET ZERO – UK CORE CITIES

5.1 Introduction

In this chapter, case study data on each of the eleven UK Core cities (Belfast, Birmingham, Bristol, Cardiff, Glasgow, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield. Belfast joined in July 2019) is presented in the sections below, in alphabetical order. The case study data describes how each of the cities has responded since declaring a climate emergency in 2018/2019 with regards to the development of place-based policies and strategies for net zero. The case studies also outline the development of place-based climate governance arrangements to aid progress towards net zero targets. Some UK Core cities already form part of collective review or research efforts, and the relevant contextual research/summary data is summarised in the first section of this chapter. After the detailed case studies, the data is systematically analysed to discern common themes, trends, and patterns in the development of the strategies and governance arrangements. This is followed in the next chapter by a more detailed consideration of the rich material contained within the strategies produced by the UK Core cities and what this tells us in respect of the research questions posed.

5.2 Contextual research on net zero and the UK Core cities

In October 2019 a common declaration was issued from Core Cities UK Leaders and Mayors as a message for Government. It called for *“far more radical, innovative and urgent action, built on a renewed local/national partnership”*. (Core Cities UK, 2019, p1). The UK Core Cities represent a significant opportunity to tackle carbon emissions by increasing density and reducing reliance on cars through investment in green public transport (Core Cities UK, 2018). Action taken in the Core Cities will determine whether the UK succeeds or fails to tackle this climate emergency (Core Cities UK, 2019). The city regions are home to 20 million people, generate 26% of the UK’s economic output, and are already working together to deliver net zero Carbon (Core Cities UK, 2019).

Table 5.1 was extracted from the 2019 declaration and gives a broad idea, as of Oct 2019, the dates individual UK Core Cities declared for net zero. The UK Core Cities exclude London, the latter being a member of the Carbon Neutral Cities Alliance²² and the C40²³.

²²<https://carbonneutralcities.org/cities/london/> Accessed Jan 2022

²³<https://www.c40.org/cities/london> Accessed Jan 2022

It operates at a more global scale and could be argued to be atypical in terms of its access to resources and expertise to tackle climate change mitigation.

Table 5.1 UK Core Cities target dates for net zero.

Approx. Scope and Year of "Target"	2025	2028	2030	2035	2037	2038 "at the latest"
Council emissions	Bristol Leeds	Nottingham	Cardiff Liverpool			Manchester
City energy and transport		Nottingham	Liverpool Sheffield Birmingham	Leeds		Manchester (& GMCA)
All emissions from city energy and transport and from consumption			Bristol Newcastle Glasgow			

Source: p4 Core Cities UK 2019. Note these are the Core Cities' target dates for Net Zero as of 2019 when this data was published.

2020 was due to be the year in the UK in which those public organisations that had declared a climate emergency in 2019 made the shift into emergency mode: committing resources to taking decisive action towards achieving their net zero carbon goals (Regen SW, 2020). But 2020 brought a global crisis of its own: a pandemic that is far from over (at time of writing in 2022). Local authorities have been pulled into a different type of emergency and forced to refocus their efforts and budgets on immediate health, social, and economic needs (Regen SW, 2020). Nevertheless, progress towards net zero has still been made and this research investigates activity between 2020 and 2021.

A collective intelligence activity has been undertaken along with research on other 'leading sustainable cities' (Liminal, 2020). This encapsulates three of the core cities (Glasgow, Bristol and Nottingham) and through this a picture is given of the different types of routes, activities, and solutions that will be needed to get urban areas to net zero, as well as how they may differ between locations. Best practice recommendations on climate action from case studies of twelve UK local governments²⁴: Birmingham, Bristol, Cardiff, Glasgow, Hull, Leeds, Liverpool, London, Manchester, Newcastle, Oxford, and Somerset form part of a recent study (1000 Cities for Climate Freedom, 2020). The report is claimed to be capable of being used by cities interested in developing and implementing bold climate plans and actions. The first section synthesizes key learnings and recommendations from the case studies. The second section provides detailed case studies of the actions and experiences of the twelve case study cities which can be

²⁴Eight of the eleven UK Core Cities form part of the 12.

referred to for further learnings, as well as additional links and references, and the contact information of representatives from the cities' climate departments. The report makes recommendations related to eight key themes including 'climate action governance and resource allocation', 'climate action networks' and 'climate action implementation' (1000 Cities for Climate Freedom, 2020).

To further explore these issues, the remainder of this chapter presents the data on the process leading to the production of city-wide strategies for net zero. It also outlines any existing or new associated climate change governance arrangements in each of the UK Core Cities.

5.3 Belfast

Since 2018, Belfast has been a member of 100 Resilient Cities, funded by the Rockefeller Foundation. *Future Proofed City - Belfast Resilience Strategy* (100RC, 2020) is one of several documents that aim to deliver the Belfast Agenda and its core objective of inclusive growth. Consultation on the Belfast Resilience Strategy was undertaken in 2020. The Belfast Resilience Strategy committed the city to have agreed, by the end of 2021, a Carbon Budget for Belfast - an agreed definition of what counts towards its carbon footprint, a target for carbon the city will produce, and an agreed date to become a net zero Carbon City.

In 2019 Belfast Council established a *Resilience and Sustainability Board* through its Community Planning process. The Resilience and Sustainability Board is made up of the key public and community bodies in the city and aims to share experience and knowledge on environmental sustainability to drive the agenda forward. The City Council (as of April 2022) is working towards publishing a *climate adaption and mitigation plan*. When published, the plan will aim to deliver the vision set out in the draft Belfast Resilience Strategy - to transition to a low-carbon economy in a generation. The plan is being developed in consultation with several cities as part of Belfast's membership of the Resilient Cities Network.

The City Council climate plan will focus on actions that it can take as a council in relation to climate adaptation; actions taken to prepare for the effects of climate change, such as building flood defences and climate mitigation; and processes associated with preventing or alleviating the impacts of climate change, such as reducing greenhouse gas emissions by reducing our carbon footprint.

Belfast City Council and Queen's University Belfast on 10 January 2020 launched the '*Belfast Climate Commission*', to drive action on the climate crisis. The Commission was formally established in December in 2019 and commenced a major study to make the economic case for decarbonisation. The first phase of the study ran until December 2020. Progress was then reviewed, and the second phase ran from January 2021 to December 2021. The Commission will play a key role in place-based climate action necessary to achieve the UK Government's target of reducing greenhouse gas emissions to net zero by 2050. Co-chaired by Queen's University Belfast and Belfast City Council, the Commission is one of three city-based climate commissions across the UK (Belfast, Edinburgh, and Leeds), funded by the Economic and Social Research Council for the Place-Based Climate Action Network (PCAN). Working alongside existing city structures and programmes, the Commission has been established to translate climate policy into action 'on the ground' to bring about transformative change.

Belfast City Council has set up several governance structures to ensure it deals with climate change issues urgently through partnership working and other institutions. In addition to the Belfast Climate Commission, the Resilience and Sustainability Board, and an All-Party Working Group on the Climate Crisis which is taking forward the development of the Council's own plan have been established.

The Belfast roadmap (Gouldson et al.,2020) was launched with the Belfast Resilience Strategy, marking the publication of the city's first climate action plan²⁵. The roadmaps use economic modelling to show how, by making changes to housing, buildings, transport and industry, cities can accelerate towards net zero emissions by their respective target dates: with the UK target of 2050 for Belfast. The roadmap highlights that the local authorities alone cannot deliver on cities' net zero ambitions. Instead, they stress that to achieve the reduction in emissions, the public, as well as private and third sectors need to work together - the ethos of the three core PCAN climate commissions for Belfast, Edinburgh, and Leeds.

5.4 Birmingham

Birmingham had a Carbon Roadmap established in 2013 by the Green Commission. This has been superseded by *The Route to Zero (R20) Taskforce* which was created in the

²⁵<https://pcancities.org.uk/news/new-net-zero-carbon-roadmaps-published-belfast-and-edinburgh> Accessed Jan 2022

autumn of 2019 (Birmingham City Council, 2020a). This brings together members and officers from the Council with representatives from the West Midlands Combined Authority, the NHS, higher education, business, faith communities, the third sector, youth climate strikers, climate campaigners, and other key stakeholders and partners. This body meets regularly and has publicly available minutes of meetings and members.

Between January and February 2020, the council ran an online survey to understand the barriers that the people of Birmingham face in helping to tackle the climate change, and to seek their views and ideas on how different people can act. The findings from this survey informed the work of the Taskforce in developing the climate action plan for the city (see paragraph below). There were two sandpits/workshops on housing and planning held in March 2020 by the R20 Task Force. The sandpits brought experts together to explore ideas and solutions for how to retrofit and decarbonise the city's housing stock, and regarding how to plan for a net zero-carbon built environment. As of August 2020, the Route to Zero Task Force (TF) was reconvened to become a thematic partnership that sits under the City Board (The City Board is a leaders' group that was launched in September 2018). The taskforce worked in collaboration with the council to produce the *Route to Zero Action Plan - Call to Action* (Birmingham City Council, 2020b). The report summarises the key priority actions proposed by the council. The taskforce has since been disbanded, and now takes on a new form called the 'Climate Assembly'²⁶.

5.5 Bristol

Following the first ever Bristol City Gathering in July 2016, at which Bristol City Council (BCC) shared its earliest thinking on the One City Approach, the Council published the first iteration of the *Bristol One City Plan*. BCC set up the *Bristol City Office* and six Thematic Boards - made up of people from the public and private sectors, unions, civil society, and politics –with each taking responsibility for one of the six strands in the One City Plan. The Bristol City Office provides a convening space for everyone who wants to be involved in the One City Approach, and also manages production of future versions of the One City Plan. Launched in January 2019, the first issue of the *One City Plan* describes where Bristol wants to be by 2050, and how city partners will work together to create a fair, healthy,

²⁶https://www.birmingham.gov.uk/info/20015/environment/2026/climate_emergency/5
Accessed Jan 2022

and sustainable city. The One City Approach brings together a wide range of public, private, and third sector partners within Bristol.

The January 2019 first issue of the One City Plan was informed by *Our Future A Vision for an Environmentally Sustainable Bristol* which had been produced by Bristol Green Capital Partnership in January 2019. This set out a series of ambitious, but achievable, actions and timelines across five themes: energy, food, nature, resources, and transport which were developed in close collaboration with partnership member specialists. Drawing upon feedback, input, and consultations throughout the year, the City Office have produced the second iteration of the *One City Plan* (Bristol One City, 2020). This has seen the six Thematic Boards take on the challenge of making the plan better, and sharpening the vision and the sequences of outcomes, challenges, and campaigns that Bristol must deliver to make it real. They worked to refresh their own timelines of activity and ran joint sessions with fellow boards to work with their interdependencies. The Environment Board of the One City Plan is leading on delivery of environmental sustainability aspects of the *One City Plan* and is working closely with the five other boards covering the themes of economy, homes, health, and wellbeing, learning and skills, and transport and connectivity.

In parallel, in November 2018 the Full Council of Bristol City Council passed a motion which declared a Climate Emergency and asked the mayor to report back to Council as to the action that he and the Council would take. The *Bristol City Council Mayor's Climate Emergency Action Plan* (BCC, 2019) provides the mayor's response and provides background information. This Action Plan builds upon many years of achievement and environmental innovation as underlined by Bristol's status as the UK's first European Green Capital in 2015. It addresses the urgent challenge faced by the council and the city; one which is made harder because, compared to most places, Bristol has already completed the 'quick wins' and picked the 'low hanging fruit'. The *Bristol City Council Mayor's Climate Emergency Action Plan* was updated in 2020 (BCC, 2020).

In March 2020, the Board released the *One City Climate Strategy (OCCS)* (Bristol One City, 2020). The strategy sets out the key things that the city needs to do to achieve a carbon neutral and more climate resilient city by 2030. It describes the dramatic changes needed in the city's transport, heat, and electricity networks, what the city consumes and wastes, its food, businesses and public services, buildings, infrastructure, and natural environment. The associated evidence base includes an assessment of Bristol's resilience

to climate change, the carbon footprint of the economy of Bristol, a report on consumption-based greenhouse gas emissions for Bristol, and a pathway to achieving carbon neutrality by 2030 for the city's direct emissions (all Spring 2020, details referenced in BCC (2020)).

The *OCCS* is rooted in the evidence base and can be a guidance for other cities (BCC, 2020). It is acknowledged that there is a need to consider how to frame it so that organisations understand how they can contribute to and build on it. The *OCCS* is not a Council document; it has been created in partnership and it needs to be owned by partners across the city so that they may consider it in how they work.

The One City Environment Board, with the support of the One City Office, now coordinates the city's progress to make the changes required to deliver the One City Climate Strategy. The Mayor formally endorsed the One City Climate Strategy on behalf of Bristol City Council on 3 March 2020.

A new *Bristol Advisory Committee on Climate Change (BACCC)* was established in October 2019. This Committee provides independent technical advice on achieving a carbon neutral city to all One City boards. The BACCC has published terms of reference. The Committee provides technical advice on reducing greenhouse gas emissions and adaptation measures to all six 'One City' thematic boards, which cover the areas of economy, environmental sustainability, health and wellbeing, homes and communities, learning and skills, and transport and connectivity. The Committee is also empowered to undertake analysis on its own initiative. Almost 40 experts came forward through an open expressions of interest process to become members of the Committee. The co-chairs have invited an additional 23 members to join them across a range of areas of specialism. A Register of Experts enables the Committee to draw on knowledge from beyond its members. The Committee provides advice on the city's climate change response and all aspects of the One City Plan given the cross-cutting nature of greenhouse gas emissions. An initial workshop was held on 27 September 2019 to gather inputs for the Committee's terms of reference, ways of working, and priorities. All those who expressed interest in the Committee and the Register of Experts were invited to participate.

As of May 2020, engagement meetings of the BACCC were on hold due to COVID-19 but continuing conversations with partners and other Boards, supported by BACCC were noted as happening. These conversations will help all the Boards to have ownership of strategy. The One City Environment Board is working on a coordination plan, hopefully

supported by resources from BCC. It is also working on a communications plan and a heat decarbonisation delivery plan. As part of this it is looking at how it uses OCCS to inform COVID-19 recovery work and aligns strategy work as part of the wider recovery, thereby ensuring a low carbon recovery.

A multi-million-pound programme (*The BCC Climate and Ecological Emergency Programme* (Bristol City Council 2020) to reduce the carbon and ecological footprint in Bristol was approved, as the city marks the anniversary of its being the first in the UK to declare a climate emergency. The £4m financial package, agreed by Cabinet at a meeting on Tuesday 3 November 2020, will fund a new three-year combined Climate and Ecological Emergency Programme. This will see Bristol City Council continuing to lead the way with investment to reduce its carbon footprint and ecological impact even further – while also working to ensure that everyone can play their part. The programme complements the council’s action on travel, housing, energy, nature, and a host of other initiatives around the city that bring together many different groups and organisations. It is designed to be an ambitious yet achievable response to the climate and ecological emergencies and will help Bristol City Council deliver its aim of being carbon neutral for direct emissions by 2025 through its estates, capital projects, and in training its staff. It will also help the council lead and support other organisations in the citywide effort to become a carbon neutral and resilient city by 2030.

To deliver this comprehensive programme and fill recent vacancies Bristol City Council is, as of end 2021, recruiting eight posts in its Sustainable City and Climate Change Service, and its Property Service and Strategic Procurement and Supplier Relations Service²⁷. Through the programme the council will work with partners and communities to rapidly accelerate progress, over the next three years, to help achieve the strategy’s goals. The City Council is recruiting two roles as part of the 8 to add to its existing capacity to do this. These two roles are a Climate Strategy Co-ordination Project Manager, and a Community Engagement and Diversity Project Manager. The role for the first post relies on the ability of the post-holder to build relationships, co-ordinate, and secure voluntary action by partners²⁸. The strategy outlines 10 delivery themes and 6 areas in which the city needs to create the right enabling conditions. A series of action plans will be developed to

²⁷<https://www.bristol.gov.uk/web/bristol-sustainable-city> Accessed Jan 2022

²⁸<https://www.bristol.gov.uk/web/bristol-sustainable-city/climate-change-project-manager-strategy-coordination> Accessed Jan 2022

implement the strategy. Some of these will be led by Bristol City Council and others will be led by partners.

5.6 Cardiff

In January 2020 Cardiff City Council published the '*Capital Ambition*' document. It includes a commitment (p6) to Deliver the 'One Planet Cardiff' Strategy as a response to the climate emergency, and thereby makes Cardiff a world-leading city for sustainable development. The Capital Ambition Plan is supported by a Corporate Plan 2020-2023. This plan also sets out how the council will respond to the Climate Emergency and ensure that Cardiff grows in a resilient and sustainable way. It suggests that the council has set out a £1billion programme of rail, bus, and bike projects by which it will drastically reduce its carbon emissions, air pollution, and congestion, and outlines a range of initiatives in sustainable energy, housing and food. In detail, the Corporate Plan suggests that the council is already invested in several activities that will help decarbonise the city, and that it is committed to accelerating this agenda moving forward. This will include bringing forward a *revised* [author's emphasis] One Planet Cardiff strategy which will set out the council's aspirations and begin a city-wide conversation about what more the council, the city, and residents could be doing to tackle the Climate Emergency.

In October 2020 it was announced that residents and businesses could have their say in a five-month public consultation on the *new* One Planet Cardiff plans and that this process would start after the council's cabinet had voted on the plans on 15 October 2021²⁹. The new *One Planet Cardiff* document (Cardiff Council, 2020) is an ambitious new plan that is designed to drive Cardiff towards becoming a carbon neutral city by 2030. '*One Planet Cardiff*' sets out the Council's response to the climate change emergency and calls upon businesses and residents to join forces with the council to make the lifestyle changes required. The draft document (Cardiff Council, 2020) indicates that the Council is able to lead by example and can act as a focal point for responding to the climate emergency. The strategy proposes to establish an internal project board chaired by the Leader with cross-departmental representation to oversee the implementation of the strategy.

In May 2021 Cardiff Council produced an interim report on the One Planet Cardiff activity (Cardiff Council, 2021). This interim report will be followed by a full and final One Planet Cardiff Strategy (as of March 2022 still unpublished). This will contain details of the carbon

²⁹<https://www.bbc.co.uk/news/uk-wales-54487077> Accessed Jan 2022

accounting methodology and project prioritisation process, along with a more detailed 10-year action plan by which to deliver the city's Carbon Neutral ambitions.

5.7 Glasgow

Sustainable Glasgow is a council-led initiative that was formed in 2010 to make Glasgow a world-leading centre for sustainable policy, innovation, and action. It has partners from housing, communities, business, universities, enterprise, and education. The initiative is an innovative partnership between government, academia, and business – including Glasgow City Council; the University of Strathclyde; Scottish and Southern Energy; Scottish Power; Scottish Enterprise; Glasgow Housing Association; the National Health Service; Scottish Water; SPT (Glasgow's major transport provider); Clyde Gateway; IBM; Honeywell; BT, and Siemens. Sustainable Glasgow has strong political backing, and the initiative is led by the Council leader.³⁰

In February 2019, the establishment of a City Council-led *Climate Emergency Working Group* was agreed. Cross-party membership of the group was decided upon to reflect the significance of the issues which it addresses. Members were also able to include external partners, third sector bodies, and community voices as they saw fit. Councillor Martha Wardrop chaired the Climate Emergency Working Group. The working group, which included representation from all four political groups at the council, citizen activist groups and Glasgow Chamber of Commerce, has set Glasgow a target of carbon neutrality by the year 2030 - seven years ahead of the previous 2037 target. Several Glasgow's peers from across the UK Core Cities network have declared climate emergencies, and Glasgow City Council has tried to learn from them. It also received evidence in its public survey about what cities elsewhere in Europe and across the world have been doing. Whilst their circumstances differ and their approaches are diverse, the Glasgow Climate Emergency Group has concluded that the key element in success for all of them lies in the quality of leadership at political and executive levels.

The details of all the *recommendations of the working group* (Glasgow City Council, 2019) can be found in the committee papers for meetings of the council's Environment, Sustainability and Carbon Reduction Policy Development Committee. The recommendations in the report have the potential to affect all council departments and cover broad ranging issues including energy use, roads and transport, development,

³⁰<https://www.thinkdifferentevents.co.uk/organisations/sustainable-glasgow-partnership.html?eventid=586andorgid=594> Accessed Jan 2022

infrastructure and planning, waste management, food, and pensions. As much as possible, each one has been linked to a corresponding numbered priority under each of these themes. This approach allows lead politicians and senior officers to get a straightforward sense of where they need to focus their work. At the same time, the Climate Emergency Working Group is calling for a much greater sense of ownership of climate issues across this broad agenda and at all levels of the Council and its partner organisations.

In February 2020 the working group of Sustainable Glasgow was given an update on the progress of the Climate Emergency Working Group. The Report was given by City Convener for Sustainability and Carbon Reduction (Councillor Anna Richardson). New research based on local authority data showed that from 2005 to 2017, Glasgow cut carbon emissions by 36.4% – but was behind Sheffield, Bristol, Cardiff, Liverpool, London, and Liverpool, according to the analysis by Utility Bidder³¹.

In February 2020 Glasgow unveiled its first detailed roadmap setting out how to reach its net zero targets ahead of the COP26 climate conference taking place in November 2020. Based on forecasts commissioned by Scottish Power from Capital Economics, the report outlined what needs to be done for Glasgow to become the UK's first net zero city. The *Climate Emergency Implementation Plan* (Glasgow City Council, 2020) provides a response to the recommendations set out by the Climate Emergency Working Group. It sets a course for further action and describes how the city and its people will face the extraordinary challenges of the global climate emergency. The city council was looking to undertake a consultation (Nov 2020-January 2021) to engage and galvanise local organisations, businesses, communities, and citizens to inform the development of the proposed Climate Emergency Implementation Plan and support its delivery. This process will allow the council to gather feedback on the plan's proposed actions, thematic approaches, and the level of its ambition. This was undertaken through this survey and a series of public Climate Emergency Conversations, allowing all organisations and individuals in Glasgow to participate. *The Sustainable Glasgow Partnership* was relaunched in early 2020 and partners committed to working together towards achieving carbon neutrality and the city. Sustainable Glasgow is working on four thematic hubs (Heating and Housing; Greening the city; Green Infrastructure and Transport; Private Sector and Economy). Work is progressing on each of the hubs and the respective chairs have been confirmed. The Sustainable Glasgow Team has been assigned to provide a

³¹<https://www.heraldscotland.com/news/18632098.glasgow-leads-way-signing-climate-emergency-education/> Accessed Jan 2022

secretariat role to these hubs and general coordination between the hubs. A communications group was set up with participation from the COP26 team to align communications between COP26 and Sustainable Glasgow.

As of December 2020, Glasgow Council indicated³²that it was halfway through the development of the net zero scoping study and that outputs had been shared with the board members and that a workshop had been established to review these outputs in December 2020. In March 2021 the City Council commissioned a “*scoping study to net zero*” (Glasgow City Council, 2020, 23) which will pave the way for future work where energy planning, land-use planning, housing planning, and mobility planning are integrated, thereby helping to ensure that the city achieves its carbon neutrality target by 2030.

5.8 Leeds

Leeds City Council recognised value in bringing together key city partners to form a Commission to mirror the National Committee on Climate Change. The *Leeds Climate Commission* was launched in September 2017. It brings together key organisations and actors from across the city including public, private, and third sectors. Informed by the work of the UK Committee on Climate Change, the Leeds Climate Commission seeks to be an independent voice in the city, and to provide authoritative advice on steps towards a low carbon and climate resilient future that will inform policies and shape the actions of local stakeholders and decision makers. It will monitor progress towards meeting the city’s carbon reduction targets and recommend actions to keep the city on track. Leeds Climate Commission covers the geographic area of the unitary authority of Leeds City Council. The Commission is guided by a Strategy Group and supported by working groups on low carbon development, climate resilience, and public engagement and communications. It has terms of reference, and an implementation plan was produced in 2018. The most recent list of members is dated from May 2020. Leeds City Council has also, since July 2019, established a Climate Emergency Advisory *Committee*. This advisory Committee is authorised to consider and make recommendations regarding climate change and sustainability. It meets approximately monthly, it possesses terms of reference, and minutes are produced. The last strategy group meeting that has publicly accessible minutes is dated March 2019.

³²[viewSelectedDocument.asp \(glasgow.gov.uk\)](#) Accessed Jan 2022

Evidence was prepared in the form of a *Leeds Carbon Roadmap* (Leeds Climate Commission, 2019) to establish a science-based carbon reduction target for the city so that Leeds would have a clear set of city-wide measures for all sectors. These were reported to Leeds City Council's Executive Board in April 2019 and published in July 2019. This suggested that much deeper and faster emissions cuts are needed. The science-based targets are expressed as 5-yearly carbon budgets.

The Leeds Climate Change Citizens' Jury was put together by Leeds Climate Commission working with professional facilitators Shared Future Community Interest Company as part of its response to the Big Leeds Climate Conversation following Leeds City Council's declaration of a climate emergency in March 2019. The citizens' jury process ran from 12 September to 3 November 2019. In December 2019 the Big Leeds Climate Conversation saw council officers and volunteers engage with residents about the climate emergency and promote consultation at more than 80 meetings and events across the city. Leeds City Council partnered with the World Wide Fund for Nature to better understand the average carbon footprint of residents (Leeds City Council, 2020). In January 2020 the results from the Big Leeds Climate Conversation and next steps, including the proposed future action plan (which details areas where support is required from national government) was taken to Leeds City Council. This is the action plan specifically for the Council and not for the wider city.

In 2019, a successful PCAN Research Network involving Leeds, Edinburgh, and Belfast was announced at the Leeds Investing in Local Energy conference co-hosted by Leeds Climate Commission. A Climate Action Readiness Assessment devised by PCAN researchers for the Leeds Climate Commission identified opportunities for unlocking climate action at the local level. The methodology, which uses participatory stakeholder workshops to determine states of readiness, was presented in a webinar in November 2020. The Leeds Climate Commission oversaw the production of a *Net-Zero Carbon Roadmap for Leeds* (PCAN, 2021). This shows how the city can achieve its ambition of net zero emissions by 2030 and the accompanying positive benefits for health, equality, travel, housing, and the environment. The Leeds report, which looks at the direct carbon emissions from all fuel and electricity use in the city, shows that if the city continues to emit greenhouse gases at current rates, Leeds will have used up its entire share of the global carbon budget in just nine years' time. It also calculates the impact of acting on the recommendations of the Leeds Climate Change Citizens' Jury. Doing so would reduce the gap between where the city is now and where Leeds needs to be by 2030 by ten per cent – on top of a raft of

other cost-effective and more ambitious options. Finally, the report examines a range of innovative interventions, including hydrogen-based heating, the electrification of heating and cooking, zero-carbon heavy goods transport, and massive reforestation programmes that could deliver the remaining shortfall in emissions cuts to make the 2030 target a reality. The Leeds Roadmap was presented at an online event on 7 January 2021. The report does not address the impact of indirect emissions that relate to the wider carbon footprint of Leeds residents' consumption of goods and services; for example, through longer distance travel and aviation, including from Leeds-Bradford Airport. Work by the Climate Commission to tackle this has been identified as a priority and will be undertaken in future analysis. A further iteration of the roadmap is currently being worked on and will consider Leeds's Scope 3 emissions, including the impact of aviation. It was hoped that this would be published in the summer of 2021 (Leeds Climate Commission 2022) but at the time of writing it is still not available.

5.9 Liverpool

Liverpool City Council joined 277 local authorities in declaring a climate emergency in 2019 and the city has already reduced its greenhouse gas emissions by an amount equivalent to 840,000 tonnes of carbon dioxide since 2005³³. The city's net zero ambitions are also clear in policies such as its air quality plan which encourages active travel and introduces hydrogen buses. The city's energy plans, delivered working with city region partners, include developing Europe's largest tidal power project, and tripling the energy generated by offshore wind.

In January 2020 Councillor Laura Robertson-Collins was appointed Liverpool's new cabinet member for climate change. The council is gathering information to create a baseline for a plan for change across all areas including air quality and transport, the built and natural environment, the low carbon economy, and waste, resources and energy. In July 2020 it was noted that Liverpool City Council is also working on a Climate Change Action Plan and a Clean Air Zone³⁴.

In October 2020 Liverpool City Council (LCC) appointed a consultancy, Eunomia, to develop a roadmap for the city to achieve net zero carbon emissions by 2030. The roadmap will integrate the overarching strategy set by LCC and will offer a variety of

³³<https://www.eunomia.co.uk/liverpools-road-to-net-zero-by-2030/> Accessed Jan 2022

³⁴<https://liverpoolexpress.co.uk/climate-change-emergency-1-year-on-12-actions-that-speak-louder-than-words/> Accessed Jan 2022

options for reaching the net zero goal. The project will include extensive stakeholder engagement to identify practical actions to influence and accelerate decarbonisation. The focus is on clear implementable actions that can be taken by the council and other members of civic society. At the time of data gathering in 2021/early 2022 the Liverpool net zero roadmap had not been published.

Liverpool City Council have recently stated that they aim to be net zero Carbon by 2030.³⁵

5.10 Manchester

The *Manchester Climate Change Board* plays a central role in supporting and enabling climate change action in Manchester. The Board and its work sit as part of the city's wider 'Our Manchester' policy and governance framework. Our Manchester is the city's overarching strategy for 2016-25. It was developed based on the views of residents and organisations from across the city as part of a programme of devolution and decentralisation facilitated by Manchester City Council. Terms of Reference were published and approved in 2017 for the *Manchester Climate Change Board*.

In February 2019 the *Draft Manchester Zero Carbon Framework 2020-2038* (Manchester Climate Change Board, 2019) was published by the *Manchester Climate Change Board*, *The Manchester Climate Agency*, and *Zero Carbon Manchester*. It set out the proposed approach by which Manchester would achieve its climate change targets. It was published in February 2019 to maintain the momentum established by the Board, the Agency, and their partners during 2018, and was to be used as a key step towards producing a Final Framework and Action Plan by March 2020. The approach described in the document was to engage and mobilise stakeholders across the city, to help ensure that all residents, businesses, the public sector, and all other sectors take urgent and sustained action on climate change. The draft framework was underpinned by the commitments of the *Manchester Climate Change Board* members. They represent approximately 20% of Manchester's CO2 emissions, from across public, private, housing, academic, faith and community sectors. The Sector and Organisation Actions (Appendix 4, Manchester Climate Change Board 2019), contains further details of these commitments.

In February 2020, the Manchester Climate Change Partnership and Agency which is responsible for overseeing and championing climate change action in the city issued the

³⁵<https://liverpool.gov.uk/communities-and-safety/action-on-climate-change/#:~:text=In%202019%20Liverpool%20City%20Council,Zero%20Carbon%20city%20by%202030> Accessed Jan 2022

(Draft) *Manchester Climate Change Framework 2020 – 2025* (Manchester Climate Partnership, 2020). This framework builds on the Draft Manchester Zero Carbon Framework 2020-38 and Manchester City Council’s July 2019 declaration of a climate emergency. The document has been shaped by experts in climate change to ensure that it is in line with the latest science and the Paris Agreement (including a review of targets in late 2019/early-2020). It is stated it has also been informed by the Greater Manchester Authority and national commitments, to ensure that Manchester contributes to and can benefit from working as part of wider city-region and national programmes. The precise relationship of the Manchester Climate Change Partnership and Agency to the Greater Manchester Combined Authority is not clear.

The Framework was officially adopted by Manchester City Council on 11 March 2020. The *Manchester Climate Change Framework 2020-25 Rev 1 Version 1.0* (Manchester Climate Change Partnership February 2020) is the city's high-level strategy for tackling climate change. It sets out how Manchester will “*play its full part in limiting the impacts of climate change*”, a commitment in the Our Manchester Strategy 2016-25. It is different to the approach that most other cities have adopted, typically in the form of a Council-led strategy and a single implementation plan. The document set out the actions required to achieve a 50% reduction in City Council direct CO2 emissions by 2025. It still lacks a pathway - that is to say, actions that demonstrate the route to net zero. The *Manchester Climate Change Agency* has also developed a draft guidance document based on 15 actions that organisations can download and use to help develop their plans (Manchester Climate Change Agency, 2020). This is the list of actions they need every organisation in Manchester to adopt for the city to meet its climate change targets.

The City Council declared a Climate Emergency in July 2019 and, in parallel, developed a *Climate Change Action Plan 2020-2025* (Manchester City Council, 2020b). This was approved by Executive in March 2020. This report provides an update on the significant progress that had been made in delivering the Plan over the previous 10 months despite the challenges posed by the COVID-19 pandemic. An analysis of Manchester City Council’s progress against its climate emergency declaration and its climate action plan 2020-2025 was published by Climate Emergency Manchester in May 2020, as well as a response to the Manchester Climate Change Partnership’s Proposal to Manchester City Council on the 30 June 2020. On 18 March 2021 the *Our Manchester Strategy – Forward to 2025* was launched as part of the Council’s formal policy framework (Manchester City Council, 2021c). The *Our Manchester Strategy 2016–2025* sets the long-term vision for

Manchester's future and details the priorities that everyone in the city will need to work on together to put Manchester in the top-flight of world class cities by 2025. The Strategy sets out the city's strategic priorities for 2016-25, including the commitment that "*Manchester will play its full part in limiting the impacts of climate change and by 2025 will be on a path to being a zero-carbon city by 2050*" (Manchester City Council, 2021c, p2).

The Council has been closely involved in building additional capacity within the Manchester Climate Change Agency and Partnership. Recent developments include the appointment, in November 2020, of Mike Wilton (Arup) as the new Chair of the Manchester Climate Change Partnership, and the entry of the Manchester Airport Group to the partnership in January 2021. A new structure for the Manchester Climate Change Agency has been developed and recruitment to several roles has progressed. As of March 2021, The Manchester Climate Change Agency are working on 'version 2.0' of the *Manchester Climate Change Framework 2020-25*. This work will set SMART objectives for the 6 themes of the Framework, actions for residents and businesses, a detailed 2022-25 implementation plan, and a reporting framework. Public consultations were planned for during 2021, and the final version was scheduled to be published in 'early 2022' as part of the EU Zero Carbon Cities project (Manchester Climate Change Agency 2022). As of March 2022, it remains unpublished.

5.11 Newcastle

Since it declared a climate emergency in April 2019, the City Council has instigated the creation of the Climate Change Convention. The Climate Change Convention consists of three elements, a *Climate Change Committee*, a *net zero Task Force* and a *Citizens Assembly*. The *Climate Change Committee*: an advisory committee of council, is chaired by the Leader of the Council, and is charged with engaging both elected members and the public with the climate challenge facing the city. The committee has sought the views of stakeholders and technical experts in the field of climate change through a Climate Change Summit (12 February 2020), and a call for evidence (open between 17 December to 31 January 2020). Over 1,200 individuals and groups provided their views on what the city could do to reduce emissions, and these have been considered alongside the technical analysis undertaken by the *net zero Task Force*.

The *net zero Task Force* is a partnership group bringing together key players in the city. Co-chaired by the Leader of the Council and an academic expert, it has commissioned work to establish a citywide path to 2030 and is assessing the implications for all partners. Hayley Fowler, Professor of Climate Change Impacts at Newcastle University's School of Engineering was noted as co-chairing the net zero Task Force with Newcastle City Council (then) leader Cllr Nick Forbes³⁶. City partners including Newcastle University and Newcastle Hospitals NHS Foundation Trust have also declared a climate emergency. Whilst the timescales for achieving net zero are not fully aligned between all partners, the declarations provide a sound basis upon which to develop a citywide framework for action. The net zero Task Force has provided a mechanism to engage and unite partners in support of the net zero ambition. It has also become a forum in which organisations are exchanging ideas, information and intelligence about carbon reduction measures and opportunities.

The first advisory report from the Climate Change Committee to Newcastle City Council's Cabinet "*net zero Newcastle Responding to the climate emergency-Draft Advisory report*" was produced in 2020. (Newcastle City Council, 2020a). This provided the Council's Cabinet with information on what the Convention has done since the declaration of a climate emergency. It set out the actions undertaken by the council and others to reduce emissions, their impacts to date, and potential further activities to be undertaken to address production emissions and better mitigate against them. A Climate Change Summit was held on 12 February 2020 to discuss the city's key climate change priorities and actions that the city could take to deliver net zero by 2030.

On 4th September 2020 the city council published a draft '*net zero Newcastle - 2030 Action Plan*'³⁷(Newcastle City Council, 2020b). This Action Plan is a continuation and enhancement of the Climate Emergency Advisory Report which was presented and approved at Newcastle City Council's Cabinet in March 2020 and the previous reports which set out detailed proposals for multiple low carbon interventions and had been presented to Climate Change Committee. Newcastle was recognised as global climate leader on 18 November 2020³⁸for its efforts to become carbon neutral by 2030. The city

³⁶https://www.ncl.ac.uk/press/articles/latest/2020/11/cdpranking/?utm_source=fbandutm_medium=socialandutm_campaign=university-news-promotionandutm_content=cdpranking Accessed Jan 2022

³⁷<https://www.newcastle.gov.uk/citylife-news/action-plan-unveiled-make-newcastle-net-zero-city> Accessed Jan 2022

³⁸<https://www.ncl.ac.uk/press/articles/latest/2020/11/cdpranking/> Accessed Jan 2022

is one of only four places in the UK (and one of only 88 globally) to receive the top “A” grade from international climate research provider CDP³⁹.

5.12 Nottingham

Nottingham has set an ambitious plan to be the first carbon neutral city in the UK with a target of net zero emissions by 2028. This manifested itself in the *Nottingham 2028 Carbon Neutral Charter* (Nottingham City Council, 2019) which sets out a vision for sustainable carbon neutrality on behalf of the Council and the city’s Green Partnership. In January 2020 Nottingham Council launched a *Draft Carbon Neutral Nottingham 2020 – 2028 Action Plan* (Nottingham City Council -now unavailable). This plan built on the Charter by setting out high-level objectives to achieve a resilient and carbon neutral Nottingham by 2028. This was subject to consultation with many positive responses received from January to March 2020, which gathered feedback on the draft Action Plan. The approach was to listen, inform, and learn from citizens and partners. This was followed by the *Carbon Neutral Nottingham 2020 – 2028 Action Plan Version 2* (Nottingham City Council, 2020). This has identified some of the key partners to help shape and deliver activities in Nottingham, including, but not limited to the *One Nottingham Green Partnership*⁴⁰. The strategy contains five key groups or chapters. Each chapter contains an introduction on the key associated issues and current activities, a series of key objectives with a range of actions which will deliver them and, through that, the necessary change by 2028. Under each objective it identifies actions that Nottingham City Council can take as well as those that the Council needs to take in partnership with others.

5.13 Sheffield

The *Green City Strategy* (Sheffield City Council, 2018) aimed to reduce the city’s impact on the climate by becoming a zero-carbon city by 2050 and taking steps to move to a low-carbon economy immediately. It also set out plans to empower communities, residents, the public sector, and businesses to become resilient to climate change and ensure that the city’s homes and businesses use sustainable and affordable energy.

Sheffield City Council declared a climate emergency in February 2019 and established an ambition to become zero carbon by 2030. A new commitment was made to bring forward

³⁹ <https://www.cdp.net/en/climate>

⁴⁰ [Outside bodies - One Nottingham \(Green Nottingham Partnership\) - Nottingham City Council](#)
Accessed Jan 2022

the city's carbon neutral target from 2050 to a minimum of 2030⁴¹. The approach taken was to assign a proportional carbon budget which excludes consumption-based emissions (Tyndall Centre, 2019). It also potentially allows some flexibility in the rate of reduction.

The Council committed, in January 2020, to holding a Climate Citizens Assembly which would inform the development of a Zero Carbon Sheffield Plan and develop the evidence base. The report was anticipated to provide details on the specific options and actions needed to ensure that city achieved its net zero emissions within a decade, as well as the further actions that the Council would need to take to completely decarbonise its own activities, including its council homes, offices, and transport fleet. Sheffield City Council held its first Zero Carbon Sheffield Summit in March 2021 where it released the *Pathways to Zero report* (Arup 2020)- the city's response to the climate crisis. The report had been developed over a last 9-month period by Arup and Ricardo, in partnership with the Sheffield City Council and the *Green City Partnership Board*⁴², (a group of local stakeholders with representatives from local businesses, Sheffield Chamber of Commerce, both universities, and campaign groups including the Sheffield Climate Alliance).⁴³

5.14 Case Study summary

The data from the eleven UK Core Cities described within this chapter relates, as noted, to broadly data collected in the period between early 2019 and spring 2020, with a limited review of updates from the spring of 2021. This data set was synthesised using the topics and elements noted in Chapter 3. A summary is presented in Table 5.2.

⁴¹<https://sheffnews.com/news/climate-emergency-actions-and-investment-in-sheffield> Accessed Jan 2022

⁴²<https://democracy.sheffield.gov.uk/ecSDDisplayClassic.aspx?NAME=SD1253andID=1253andRPID=4143603andsch=docandcat=13504andpath=13504> Accessed Jan 2022

⁴³<https://sheffnews.com/news/sheffield-to-hold-its-first-climate-summit-exploring-how-city-can-build-back-better-through-addressing-climate-change> Accessed Jan 2022

Table 5.2 Summary of case study data from UK Core Cities (as of Autumn 2021).

UK Core City	Climate Emergency ⁴⁴ Zero Carbon by ⁴⁵	Place-based leadership Institution and owner of net zero Strategy (independent or not independent of lead city authority) studied/published Strategy Produced (and date) Carbon emissions scope considered Place-based Leader for net zero strategy	Place-based Climate Change Governance body to aid delivery Membership inclusivity Transparency of governance ToR =Terms of Refence	Wider Citizen Involvement and beyond
1 Belfast	02/10/2019 ⁴⁶ Not specified	The Belfast Climate Commission was established in January 2020 INDEPENDENT A Net-Zero Carbon Roadmap For Belfast (Gouldson/PCAN 2020) Excludes Scope 3 Emissions BCC co-chaired by Prof John Barry of Queen's University Belfast and PCAN, and Belfast's Commissioner for Resilience, Grainia Long, who is also the lead author of the Belfast Resilience Strategy. Professor Gouldson Leeds University Richard McLernon (Resilience Project Coordinator) Resilience Unit	Belfast City Council and Queen's University Belfast 10 January 2020 launched the 'Belfast Climate Commission', to drive action on the climate crisis. Members of the Commission are drawn from key organisations and groups across the city from the public, private and civic sectors. ToR and members available	Unclear at this stage
2 Birmingham	11/06/2019 2030	Birmingham City Council Route to Zero Action Plan - Call to Action	Birmingham Route to Zero (R20) Taskforce (January 2020)	Unclear at this stage.

⁴⁴<https://www.egi.co.uk/news/how-are-uk-cities-faring-in-the-race-to-be-the-countrys-most-sustainable/>

⁴⁵<https://www.egi.co.uk/news/how-are-uk-cities-faring-in-the-race-to-be-the-countrys-most-sustainable/>

⁴⁶<https://www.bbc.co.uk/news/uk-northern-ireland-49907596>

UK City	Core	Climate Emergency ⁴⁴ Zero Carbon by ⁴⁵	Place-based leadership Institution and owner of net zero Strategy (independent or not independent of lead city authority) studied/published Strategy Produced (and date) Carbon emissions scope considered Place-based Leader for net zero strategy	Place-based Climate Change Governance body to aid delivery Membership inclusivity Transparency of governance ToR =Terms of Refence	Wider Citizen Involvement and beyond
			(Birmingham City Council 2020b) Excludes some Scope 3 Emissions (ref to city wide) Maria Dunn (BCC) seems to be leading and giving updates (Head of Development Policy at Birmingham City Council).	The Route to Zero (R20) Taskforce was created in autumn 2019 and brings together Members and officers from the Council and representatives from the West Midlands Combined Authority, the National Health Service, higher education, the business community, faith communities, young climate strikers, climate campaigners, and other key partners and stakeholders ⁴⁷ . ToR and members available	
3 Bristol	13/11/2018 2030	The One City Environment Board is Working on coordination plan, supported by resources from Bristol City Council Semi - INDEPENDENT One City Climate Strategy (Bristol One City March 2020) Considers Scope 3 Emissions Alex Minshull Sustainable City and Climate Change Manager Alex Ivory – Climate Manager at Bristol City Council	One City Environmental Sustainability Board ⁴⁸ The Board, with the support of the One City Office, will now coordinate the city's progress to make those changes happen. ToR and members available -Bristol Advisory Committee on Climate Change ⁴⁹ A new Bristol Advisory Committee on Climate Change has been established to provide technical expertise to help the city to understand and accelerate progress	Bristol Green Capital Partnership There is a general Citizen's Assembly which has considered Climate Change and Housing as an issue.	

⁴⁷https://www.birmingham.gov.uk/info/20015/environment/2026/climate_emergency/4 Accessed Jan 2022

⁴⁸<https://www.bristolonecity.com/environment/the-environment-board/> Accessed Jan 2022

⁴⁹<https://thebaccc.org/> Accessed Jan 2022

UK Core City	Climate Emergency ⁴⁴ Zero Carbon by ⁴⁵	Place-based leadership Institution and owner of net zero Strategy (independent or not independent of lead city authority) studied/published Strategy Produced (and date) Carbon emissions scope considered Place-based Leader for net zero strategy	Place-based Climate Change Governance body to aid delivery Membership inclusivity Transparency of governance ToR =Terms of Refence	Wider Citizen Involvement and beyond
			towards its ambition to be a carbon neutral and climate resilient city by 2030 ⁵⁰ ,.	
4 Cardiff	28/03/2019 2030?	Cardiff Council One Planet Cardiff (Cardiff Council 2020) is an ambitious new plan designed to drive Cardiff towards becoming a carbon neutral city by 2030 No detailed emissions scope modelling Gareth Harcombe – Energy and Sustainability Manager	None specifically, “We will work with city wide partners to develop a road map and action plan”	
5 Glasgow	16/05/2019 2040	Glasgow Climate Emergency Working Group Glasgow’s Climate Emergency Working Group has delivered a report with over sixty recommendations that it considers provides a pathway to a carbon neutral city. Glasgow City Council Led, the <i>Climate Emergency Implementation Plan</i> (Glasgow City Council 2020) provides a response to the recommendations set out by the Climate Emergency Working Group No detailed emissions scope modelling Dr Duncan Booker, COP26 Stakeholder Manager, Glasgow City Council, Sustainable Glasgow Manager and Chief Resilience Officer	Not entirely sure if Sustainable Glasgow Partnership will play a part? The Climate Emergency working group, which included representation from all four political groups at the council, citizen activist groups and Glasgow Chamber of Commerce No TOR no membership	

⁵⁰<https://bristolgreencapital.org/bringing-wealth-expertise-bristols-net-zero-2030-ambition/#:~:text=A%20new%20Bristol%20Advisory%20Committee,climate%20resilient%20city%20by%202030>. Accessed Jan 2022

UK Core City	Climate Emergency ⁴⁴ Zero Carbon by ⁴⁵	Place-based leadership Institution and owner of net zero Strategy (independent or not independent of lead city authority) studied/published Strategy Produced (and date) Carbon emissions scope considered Place-based Leader for net zero strategy	Place-based Climate Change Governance body to aid delivery Membership inclusivity Transparency of governance ToR =Terms of Refence	Wider Citizen Involvement and beyond
6 Leeds	27/03/2019 2030	Leeds Climate Commission ⁵¹ INDEPENDENT The Leeds Climate Commission is chaired by Professor Andy Gouldson (University of Leeds), with the vice chair from Leeds City Council (Councillor Lisa Mulherin), The Leeds Climate Commission, has produced a <i>Net-Zero Carbon Roadmap for Leeds</i> . (PCAN 2021) Scope 1 and 2 but some reference to scope3 Tom Knowland Head of Sustainable Energy & Climate Change Professor Gouldson, who is Chair of Leeds Climate Commission	The Leeds Climate Commission has members being drawn from key organisations and groups from across the city. The Commission is guided by a Strategy Group and supported by working groups on low carbon development, climate resilience and public engagement and communications The Commission will engage more broadly through the Leeds Climate Forum that will hold open meetings at least twice a year TOR and membership – 2021 updated	Leeds Climate Jury ⁵² inputted to work in November 2019 In December 2019 The Big Leeds Climate Conversation (BLCC) saw council officers and volunteers engage with residents about the climate emergency Minutes of Climate Change Commission available
7 Liverpool	24/03/2019 2030, 2040?	October 2020 Liverpool City Council (LCC) appointed consultants to develop a roadmap for the city to achieve net zero carbon emissions by 2030. Eunomia appointed October 2020 ⁵³ No emissions data or analysis	None yet	None yet

⁵¹<https://www.leedsclimate.org.uk/> Accessed Jan 2022

⁵²<https://www.leedsclimate.org.uk/news/climate-jury-delivers-verdict-city-leeds> Accessed Jan 2022

⁵³<https://www.eunomia.co.uk/liverpools-road-to-net-zero-by-2030/> Accessed Jan 2022

UK Core City	Climate Emergency ⁴⁴ Zero Carbon by ⁴⁵	Place-based leadership Institution and owner of net zero Strategy (independent or not independent of lead city authority) studied/published Strategy Produced (and date) Carbon emissions scope considered Place-based Leader for net zero strategy	Place-based Climate Change Governance body to aid delivery Membership inclusivity Transparency of governance ToR =Terms of Refence	Wider Citizen Involvement and beyond
8 Manchester	26/07/2019 2038	<p>Manchester Climate Change Partnership and Agency</p> <p>INDEPENDENT</p> <p><i>Manchester Climate Change Framework 2020-25 (Rev 1 Version 1.0) (Manchester Climate Change Partnership February 2020)</i></p> <p>Scope 1, 2 and 3 emissions considered</p> <p>Jonny Sadler Programme Director Manchester Climate Change Agency</p> <p>Jonny is Deputy Director for the Manchester Climate Change Agency. Working to the Climate Change Agency Board of Directors, he is responsible for the day-to-day operation of the Agency, development of new partnerships to strengthen climate change action across the city and working with partners to promote Manchester as a leading city for its progress and innovative stakeholder-led approach.</p> <p>David Houliston, Position: Strategic Lead Policy and Partnerships Samantha Nicholson Position: Zero Carbon Programme Lead</p>	<p>Manchester Climate Change Board⁵⁴ and Manchester Climate Change Partnership⁵⁵</p> <p>Manchester Climate Change Partnership is made up of 60 members, across ten sectors, with responsibility for 20% of Manchester's direct CO2 emissions. Its members also have reach into the remaining 80% through their staff, students, customers, tenants, football fans, theatregoers, worshippers, and others.</p> <p>TOR updated 2021 for the partnership and list of members</p>	<p>Internally, Manchester City Council set up the <i>Manchester City Council Zero Carbon Coordination Group</i> chaired by the deputy chief executive.</p> <p>Also, part of EU Zero Carbon Cities network⁵⁶</p> <p>Also, a Manchester Zero Carbon Advisory Group⁵⁷</p>

⁵⁴<http://manchesterclimate.com/content/manchester-climate-change-board-terms-reference> Accessed Jan 2022

⁵⁵http://manchesterclimate.com/MCCP?_ga=2.161022456.458108409.1595693198-1693585713.1594551832 Accessed Jan 2022

⁵⁶<https://urbact.eu/zero-carbon-cities> Accessed Jan 2022

⁵⁷http://www.manchesterclimate.com/zero-carbon-advisory-group?_ga=2.168903012.458108409.1595693198-1693585713.1594551832 Accessed Jan 2022

UK Core City	Climate Emergency ⁴⁴ Zero Carbon by ⁴⁵	Place-based leadership Institution and owner of net zero Strategy (independent or not independent of lead city authority) studied/published Strategy Produced (and date) Carbon emissions scope considered Place-based Leader for net zero strategy	Place-based Climate Change Governance body to aid delivery Membership inclusivity Transparency of governance ToR =Terms of Refence	Wider Citizen Involvement and beyond
9 Newcastle	03/04/2019 2030	Newcastle City Council <i>Draft 'net zero Newcastle - 2030 Action Plan'⁵⁸ (Newcastle City Council 2020)</i> Mostly Scope 1 and 2 COUNCILLOR NICK FORBES Leader of Newcastle City Council and Co-Chair of Newcastle's city-wide net zero Taskforce Tim Rippon Policy Team (Climate Change) at Newcastle City Council	A net zero Task Force to bring together organisations and institutions with the largest climate impact. That includes Newcastle and Northumbria universities, Newcastle Hospitals NHS Foundation Trust, Nexus, NE1 and Newcastle Airport ⁵⁹ . No TOR or clear membership for net zero task force ⁶⁰	Citizens' Assembly: an externally managed and facilitated citizens' assembly bringing together representative residents' groups. Climate Change Committee: an advisory committee of council, chaired by the Leader of the Council,
10 Nottingham	21/01/2019 2028	Nottingham City Council <i>Carbon Neutral Nottingham 2020 – 2028 Action Plan Version 2 (Nottingham City Council 2020)</i> Mostly Scope 1 and 2 Carbon Neutral Policy Officer	One Nottingham Partnership ⁶¹ TOR and membership for Green Nottingham Partnership dated 2012 only	
11 Sheffield	18/01/2019 2030	Sheffield City Council Arup – only the evidence-based study <i>Pathways to Zero report (Arup 2021)</i> Scope 1 and 2 only	Council's Green City Partnership Board ⁶² Yes 2021 TOR and Membership	As part of that stakeholder engagement a Citizens Assembly is being commissioned to consider

⁵⁸<https://www.newcastle.gov.uk/citylife-news/action-plan-unveiled-make-newcastle-net-zero-city> Accessed Jan 2022

⁵⁹<https://www.newcastle.gov.uk/citylife-news/climate-change/newcastle-climate-summit-considers-citys-net-zero-future> Accessed Jan 2022

⁶⁰<https://www.newcastle.gov.uk/our-city/climate-change-newcastle> Accessed Jan 2022

⁶¹<http://www.onenottingham.org.uk/?p=5812> Accessed Jan 2022

⁶²https://sheffieldnewsroom.co.uk/news/zero_carbon/ Accessed Jan 2022

UK Core City	Climate Emergency ⁴⁴ Zero Carbon by ⁴⁵	Place-based leadership Institution and owner of net zero Strategy (independent or not independent of lead city authority) studied/published Strategy Produced (and date) Carbon emissions scope considered Place-based Leader for net zero strategy	Place-based Climate Change Governance body to aid delivery Membership inclusivity Transparency of governance ToR =Terms of Refence	Wider Citizen Involvement and beyond
		Mark Whitworth Sustainability and Climate Change Service Manager Sheffield City Council		the actions needed to meet Sheffield's 2030 target, leading to a Zero Carbon Sheffield Plan. is expected to be underway from June 2020 ⁶³ . Sheffield Climate Alliance ⁶⁴ Sheffield Climate Alliance is a not constituted body

Source: Author's own

5.15 Case Study discussion

The data presented from the UK Core cities in the previous sections of this chapter reveals that over the period under investigation, all UK Core Cities except Liverpool⁶⁵ produced some form of public facing strategy for tackling the climate emergency and moving towards net zero. The evidence bases for the strategies produced vary in sophistication, with several relying on reports produced by the Tyndall Centre for Climate Change Research⁶⁶. Some cities have adopted a carbon budget approach (such as Manchester),

⁶³<https://sheffieldnewsroom.co.uk/news/reducing-the-impact-of-climate-change-in-sheffield/> Accessed Jan 2022

⁶⁴<https://www.sheffieldclimatealliance.net/about-us/> Accessed Jan 2022

⁶⁵It is beyond this study to investigate as to why Liverpool is lagging behind the others (a decision to embark on a strategy was taken in October 2020), however its political leadership challenges are well documented. It is also a city in which the city region has taken significant leadership to date on net zero, via a directly elected Metro Mayor, producing a net zero action plan.

⁶⁶[Tyndall Centre for Climate Change Research](https://www.tyndall.ac.uk/research/) | Accessed Jan 2022

whilst others (such as Glasgow) have adopted a more specific absolute emission reduction to be achieved by certain dates.

For this thesis a comparative analysis of each UK Core City and their progress along a continuum of action was developed and is indicated in Table 5.3. This was developed primarily as a cross-check to assist in the review of each case study in respect of any information that might have been missed in the write up of the city vignette narratives presented above in this chapter. This thesis is not primarily an investigation into the relative performance to date of each of the UK Core Cities in respect of net zero.

Table 5.3 “Normative progress” and comparative analysis of each UK Core City (as of Autumn 2021)

UK Core City	Climate Emergency	New or dedicated Council Committee	City Governance Body	Science Evidence Base	Scope 3 Emissions included	net zero strategy draft produced	Consultation	Publication (Strategy Rev2)	Action Plan
Belfast									
Birmingham									
Bristol									
Cardiff									
Glasgow									
Leeds									
Liverpool									
Manchester									
Newcastle									
Nottingham									
Sheffield									

Source: Author’s own

The stages established in Table 5.3 were not pre-ordained but instead have been developed from the data gathered for this stage of the methodology. The stages may not be fully directly comparable across the case studies but have been simplified in Table 5.3. To view these as fixed would imply full adherence to a common methodology and approach across the cities, which (by definition) is not the case as the strategies have generally been developed independently. This is as would be expected given the geographically dispersed and politically distinct nature of the UK Core City Network. The data however has been presented in Table 5.3 to suggest a progression over time where all the UK Core Cities are moving broadly through a broadly common methodology and working towards approximately the same outcomes. This reflects a linear nature of

mobilisation to achieve place-based transformation change which is also implied by early stages of the conceptual framework devised for this thesis (Figure 2.6, p43).

A discussion follows of some the main distinctions between the approaches being taken by the UK Core Cities from the city context data analysis, largely in relative terms. A more considered analysis is presented in the following chapter in respect of what the data in the published net zero strategies by each of the cities reveals specifically in respect of place-based leadership.

Table 5.3 indicates that the majority (seven of the eleven) of UK Core Cities have established, often in advance of net zero strategy development, climate change mitigation governance bodies. These bodies differ in respect of the organisational or partnership structures put in place, with regards to the terminology, purpose, range of constituents, resources and thus the data available on them. Some appear 'loose' affiliations of organisations with an interest in greening or making the given city more sustainable (e.g., in Newcastle or Sheffield). The more mature organisations (e.g., in Bristol) or those with specific supporting academic funding (Leeds and Belfast) do have the more visible mechanisms that come with this such as a modest secretariat and thus published terms of reference, minutes of meeting and up to date lists of members.

All city authorities (bar Liverpool) have produced engaging public facing strategies and of these, all bar it would seem Birmingham have offered these for formal consultation by stakeholders and the public. This would be to be expected given the duties that typically befall upon UK Local Authorities to make such material available in this way. Leeds and Belfast have strategies that have been produced by an academic-led forum and thus the consultation and engagement may well differ from those issued directly under local authority aegis. Only Manchester and Nottingham councils have visibly edited, finalised, and republished their strategy documents at the time of finalising the data collection for this thesis (the end of 2021). Sheffield at the time of writing is still reliant upon a study that is only available via its consultant's website.

The main goal of the net zero strategy in each city is to culminate with an action plan of tasks and owners for which together when enacted, will arguably move the city significantly towards a net zero emitting place by the appropriate timescale stipulated. As indicated by Table 5.3, Bristol, Birmingham, Glasgow, Nottingham, Newcastle, and Sheffield all have action plans to some degree. These provide the richest material for the subsequent analysis as the action plans typically do indicate the institution responsible

for (and thus to some degree the geographic remit of) each main action. The presence of an agreed published multi-agency action plan reflects a degree of consensus and cross-boundary or silo working in the place concerned. The subject of the identification of resources to lead and deliver on the action plans is the topic of one of the research questions examined in the next chapter. Bristol however (at time of analysis in 2022) appears the most 'advanced' in being able to secure funding for significant additional staff resources to aid in the implementation of its plan via its Climate and Ecological Emergency Programme⁶⁷.

The level of specificity as well as the sophistication of the action plans vary too, with the most complex plans containing many actions assigned to a very wide range of institutions. Some take a more devolved approach to the achievement of city-wide carbon goals. Manchester and Bristol in particular stand out with a distributed approach to the ownership of the necessary carbon actions. It is noticeable that none of the strategies assigns actions to individuals, only organisations. It is not obvious in most cities the degree to which any climate change governance body (often established prior to strategy publication) is now directly guiding the delivery of the respective action plan. This is an issue explored in further detail in terms of what this might say about the devolution of place-based power to other place-based actors in the following chapter.

There are also differences in approach and terminology apparent especially in respect of geographic and administrative boundaries. This is with strategies also aimed at the respective councils' operations in many cities as well as the strategy being aligned to the city area in its entirety.

5.16 Summary

This chapter has presented a wealth of meta data from the net zero case study of the UK Core Cities. It illustrates that there are many different aspects suitable for analysis and many which lie beyond the scope of this thesis. However, the summary of the data suggests that despite very significantly different contexts in terms of external governance, politics and geography, the UK Core Cities are following a broadly similar path. This is true both in terms of their net zero strategy development and, to some degree, the approach being taken to developing new climate change governance arrangements.

⁶⁷[£4m boost to Bristol's action on the climate and ecological emergencies](#) Accessed Jan 2022

As always, the devil is in the detail, and a more comprehensive analysis of the place-based strategies produced, as well as the nature of the place-based governance arrangements reveals more subtle issues and challenges. These are explored in Chapter Six of this thesis in a more detailed interrogation and synthetic analysis of the data in relation to the research questions and what they might contribute to the academic discourse is presented.

6. FINDINGS AND ANALYSIS

6.1 Introduction

This chapter presents the findings and analysis of the strategies identified from the case study review in Chapter 5, and specifically the strategy documents identified in Table 5.2. It does so with the aid of the research questions developed in Chapter 2.

6.1.1 Document content analysis of the published strategies

Due to the importance of these strategies in the materiality of this thesis as research data, the strategies were specifically reviewed prior to their use. As indicated in Chapter 3, to ensure a good understanding of the production context a checklist was developed from existing best practice in document analysis for research purposes (Table 3.6 p78). The results of applying this analysis checklist are presented in Table 6.1 and thereafter discussed.

Table 6.1 Context and content analysis of principal case study secondary source data

Document	Context	Content
1.A Net-Zero Carbon Roadmap For Belfast (PCAN Dec 2020)	Produced by academic-led coalition, based on same model as Leeds, Edinburgh. Preface by Climate Commission Chairs High credibility but not significantly linked to the City Authority. City Wide in scope No significant public engagement in its production Glossy for public consumption	Heavy on Targets, Carbon budgets, but only scope 1 and 2 Lacks Action Plan and thus clear ownership of next steps.
2.Route to Zero Action Plan - Call to Action (Birmingham City Council December 2020b)	Produced by the council from consultant evidence base No significant engagement in its production	Applies to whole city but with emphasis on the council's role
3.One City Climate Strategy (Bristol One City March 2020)	Produced for the council from consultant evidence base Two major workshops used in its production, though not itself subject to consultation Glossy for public consumption	Applies to whole city and does tackle whole scope of emissions, implies the whole city beyond the City Council area but this is not clear Lacks the delivery plan elements currently
4.One Planet Cardiff (Cardiff Council Oct 2020)	Strongly Council-led Issued as Draft to inform consultation. Glossy for public consumption	Lacks Action plan, Lacks Targets and emission trajectories Qualitative

5. The Climate Emergency Implementation Plan (Glasgow City Council Nov 2020)	Strongly Council-led Elected member produced 'Forward' Slightly re-packed from earlier document No significant engagement in its production Glossy for public consumption	Has actions, but lack of owners
6. Net-Zero Carbon Roadmap for Leeds. (PCAN Jan 2021)	Produced by academic-led coalition, based on same model as Glasgow, Edinburgh. Preface by Climate Commission Chairs High credibility but not significantly linked to the City Authority. City Wide in scope No significant engagement in its production Glossy for public consumption	Heavy on Targets, Carbon budgets, but only scope 1 and 2 Lacks Action Plan and thus clear ownership of next steps.
7. Liverpool -none published	Absence suggests a lack of strong local leadership or political interest in this issue	
8. Manchester Climate Change Framework 2020-25 (Manchester Climate Partnership Rev 1 Version 1.0 February 2020)	Document has been subject to a limited revision following publication but not formal consultation. Limited tieback to the political and city council Lots of use of "We" by an unelected group Public consumption	General Strategy backed by Tyndall centre target work Applies to the whole city system, clearly beyond the City Council Boundary but still less than the Greater Manchester area
9. Draft 'net zero Newcastle - 2030 Action Plan' (Newcastle City Council Sept 2020)	Local authority produced Elected member produced 'Forward' Based on outcomes of an engagement exercise even if the doc itself has not been subject to engagement Glossy for public consumption	Extensive actions (almost too many), action owners Geographic boundary not clear – implied as the city council area, with City and City Council area viewed as synonymous
10. Carbon Neutral Nottingham 2020 – 2028 Action Plan Version 2 (Nottingham City Council June 2020)	Local authority produced Elected member produced 'Forward' Subject to 8-week consultation to lead to a second version Glossy for public consumption	Clear Action planning Quantitative actions Geographic boundary not clear – implied as the city council area, with City and City Council area viewed as synonymous
11. Pathways to Zero report (March 2021) (Arup 2021 for Sheffield City Council)	Consultant produced document. Not directly accessible Lacks the engaging entry part	Sophisticated range of actions Very Quantitative

	Commissioned by the City Council	Maturity of perspectives in relation to constraints and opportunities
	Raises questions around level to which it is supported by council	

Source: Author's own

In respect of context, overall, the net zero strategy documents produced for the 10 UK Core Cities are relevant to the research problem and purpose. Most had been produced by the lead city authority based on consultant evidence-based work, with only the strategy for Sheffield (at the time of writing (March 2022)) remaining a consultant study available only from the consultant's website. Two of the cities have had strategies produced by academic led networks (Leeds and Belfast) with involvement from the city authorities in question. Most fit the aims of the study, in that they are place-based strategies and policies, created by place-based institutions and they do mostly reference new governance arrangements and transformational place-based change. It is noticeable that there is a lack of the explicit consideration of agency in the documents. Whilst it would be expected that the documents were designed to have a shelf life and would not name individual local authority or stakeholder actors, the lack of identification of named posts or responsible officers for actions is challenging because it inhibits investigation into personal agency. For a study into place-based leadership this represents to some degree an 'elephant in the room'. The leaders mostly need to be inferred from the authors understanding of the context around the document production (i.e., email correspondence) as well as additional sources referred to, such as the minutes from council committees at which draft or final versions of the appropriate strategies were presented.

In respect of the content in respect of the questions raised in Table 3.6 p62, the documents are publicly accessible documents which, given the publishing institutions, mostly local authorities, consultants, and universities, will have undergone significant checking and review prior to publication. In several cases there are forwards produced by publicly elected officials or council chief executives. The documents are, therefore, credible. Most, if not all have extensive technical evidence bases and some were subject specifically to public consultation or engagement either as part of their production or post a draft publication (see Chapter 5 Tables 5.3 and 5.4). The target audience is clearly intended as technical stakeholders, government, investors, and technically literate members of the public. There is an emphasis in many of branding or positioning the city in question as a leader in the climate action debate and a sense that the UK Core Cities

are ‘competing’ to establish their credentials as the most forward thinking or acting on net zero.

Within the detail of the documents there are several aspects that can be drawn out for discussion, especially around the methodologies used for assessing carbon, establishing targets, carbon budgets, and the scope of emissions considered. Some of the cross comparison on methods in respect of carbon emission is beyond the scope of the thesis. The analysis of the content as opposed to the context to the production, in respect of the research questions raised in the Introduction and Chapter 2 of this thesis is presented in detail in the remainder of this chapter. However, one consistent contextual omission in all the studies which is of significance to this research is that none of the ten strategies appear to define the place to which they refer, i.e., the geographic boundary of the named city is not clear or defined. The boundary is often implied as the city council area, but with the city and City Council, local authority area and other geographic terms viewed as synonymous. This issue is discussed further in terms of the implications for theory within Chapter 7.

6.1.2 Introduction to the textual analysis, and revisit of research questions

The remainder of this chapter presents the analysis by each question (and sub-question) developed in Chapter 2. As indicated in Chapter 3 Methodology, paragraphs, and sentences from the ten UK Core City net zero strategies (available as of end of 2021) were extracted which formed the basis of the core data available. Most of the data in this chapter is presented as extracts embedded within an analytical narrative that illustrates the arguments in relation to the research questions.

6.2 Research Question 1 -People, agency, and leadership

Section 6.2 addresses the research questions aligned to the theme of people, namely: -

- Who are the place-based leaders leading on strategy production and what institution do they herald from? Can the characteristics of place-based leadership be discerned?
- What evidence is there that the leadership identified requires transformational change in the place?
- Is there recognition in strategies that internal institutional contexts (especially resources) affect individuals’ capacity to contribute to place-based leadership processes?

6.2.1 Who are the place-based leaders leading on strategy production and what institution do they herald from?

Analysis of the place-based leadership institutions and place-based leaders within the case study data is contained within Table 6.2.

Table 6.2 Suggested place-based leadership institutions and place-based leaders for net zero strategies in UK Core Cities

UK Core City	Expressed lead Institution	Political forward to Strategy	Place-based Leader for net zero	Directly Elected city Mayor	Regional Body (With Directly elected Mayor)
1 Belfast	None specifically -co-chair of the Climate Change Commission	Yes	Academics and/or neutral person (resilience officer)		
2 Birmingham	City Council		Local Authority officer		West Midlands Combined Authority (Y)
3 Bristol	Environment Board	Yes	Local Authority Officer and/or neutral body (One City Boards)	Y	West of England Combined Authority (Y)
4 Cardiff	City Council	Yes	Unclear from the research. Strong emphasis in the documentation to elected members and no obvious identification of a lead officer from published material		N (but Welsh Government)
5 Glasgow	City Council	Yes	Local Authority Elected Members and Officers		N
6 Leeds	Climate Change Commission		Academics and Local Authority Officer		West Yorkshire Combined Authority (N)
7 Liverpool	None		Not obvious at city level, some officer leading		Liverpool City Region Combined Authority (Y)
8 Manchester	Mixed, positive agency from both the City Council and separately the Manchester Climate		Neutral Body (Climate Change Agency), with some local authority support		Greater Manchester Combined Authority (Y)

UK City	Core Institution	Expressed lead	Political forward to Strategy	Place-based Leader for net zero	Directly Elected city Mayor	Regional Body (With Directly elected Mayor)
	Change Agency, but city not the leader					
9 Newcastle	City Council but not explicit claiming of leadership role	Yes	Senior elected member and Local Authority officer			N
10 Nottingham	City Council	Yes	Local Authority Officer			N
11 Sheffield	City Council, albeit not expressed directly in city council document		Local Authority Officer			South Yorkshire (Sheffield City Region Combined Authority) (Y)

Source: Author's own

The predominant place-based leadership institution is the city/local authority, and within this the professional or managerial officers from within those institutions, and particularly those involved in the function of public service delivery. This is consistent with the findings of previous investigations (Budd et al., (2017, p4); Sotarauta and Beer, (2017, p216); and Sotarauta and Beer, 2021, p6)). This is evidenced in the discussion which follows sourcing the data as appropriate from the city strategies.

Birmingham City Council and Manchester City Council explicitly acknowledge their role to lead, have convening powers, and stimulate and influence action: -

“3.35 The City Council and anchor institutions have a responsibility to drive system change and lead by example. This can deliver a city-wide change” (Birmingham City Council ,2020a, p11).

“There is a consensus that Birmingham City Council should continue to have accountability and convening powers for the R20 Task Force as the democratic body for the city” (Birmingham City Council, 2020a, p1).

“Although the direct emissions that the City Council controls or has strong influence over is relatively small, the City Council still has an important role in stimulating and influencing action across the city”. (Birmingham City Council, 202a, p.12).

“Manchester City Council Climate Change Action Plan 3.1 The Climate Change Action Plan 2020-25 sets an ambition for the Council to reduce its direct CO2 emissions by 50% between 2020 and 2025 based on a 13% year on year reduction

trajectory. The [Manchester City Council] Plan also recognises the Council's unique leadership role in supporting and influencing the city to reduce its emissions and in ensuring that the city's residents are protected from the impacts of climate change" (Manchester City Council, 2021b, p5).

Similarly with Sheffield City, though the role of the council is articulated in a consultant's report rather than directly by the council: -

"Many of the actions contained within this report are directed towards the Council but none of them can effectively be carried out by the Council in isolation. In many cases, the role of the Council is as a facilitator, making it easier for others to take action. In addition to this, there is one role the Council must adopt with vigour – that of a leader" (Arup 2021, p4)

With Cardiff Council, Glasgow City, Council and Nottingham Council they see their institutional place-based role in addition as one empowering, enabling, and mobilising stakeholders: -

As Cardiff Council, we will enable, empower and coordinate the city to address the challenge, but we cannot achieve this alone. Tackling the Climate Emergency will only succeed with everyone's involvement and support, requiring a city-wide commitment from citizens, business, academia and the public sector. We offer to lead the mobilisation of stakeholders and aim to collaboratively prepare an action plan to make this paradigm shift to a carbon neutral city (Cardiff Council, 2020, p19)

"We recognise that the city council must show leadership on this issue. The city council cannot, however, address this challenge alone; it will take commitment from all of us. With this Climate Emergency Implementation Plan, we call upon existing networks, partnerships, organisations, and individuals in the city to work with us" (Glasgow City Council, 2020, p4)

"Many of the actions in this plan will require the involvement of multiple partners on a local and national scale. This reflects the leadership role that the city must take for Glasgow in meeting the carbon neutrality target by 2030, and how this action will require the involvement of a range of city stakeholders from public, private sector and our communities across the city adopting a multi sectoral and collaborative approach" (Glasgow City Council, 2020, p15)

"Nottingham City Council will play a leading role in enabling, empowering and coordinating the city to tackle to the challenge, but it cannot achieve this alone" (Nottingham City Council, 2020, p4)

Why these institutions feel that they can take this place-based leadership position is articulated by Glasgow City Council quite clearly: -

“The city council can also act in a much broader influencing role however, as it is the only body in the city with a democratic mandate and a statutory leadership role” (Glasgow City Council, 2020, p8).

Political leadership is often expressed, with approximately half of the place-based strategies for net zero having a politically written Forward in their documents. The degree to which leadership has evolved from the political sphere to influence officers, or managerial officers have presented the case and led on strategy production only involving political leadership later for endorsement is not clear from the data.

In four cases (Belfast, Bristol, Leeds, and Manchester (and to a lesser degree Newcastle)) a wider pattern of place-based leadership can be discerned, with an element of leadership explicit beyond the city council in question. In these cities, intermediary bodies such as local universities, NGOs, and semi-public entities are important (Wolfram et al.,2019, p9; Sotarauta and Beer, 2017, 216), see below: -

“The programmes have been endorsed by the city’s Resilience and Sustainability Board and will be taken forward in a collaborative way by city partners in this decade” (Belfast City Council, 2022, Introduction to Website).

“Bristol’s Environmental Sustainability Board, we are proud to lead this transition for the city” (Bristol One City Climate Strategy, 2020, p2).

“Manchester Climate Change Partnership is made up of 60 members, across ten sectors, with responsibility for 20% of Manchester’s direct CO2 emissions. Its members also have reach into the remaining 80% through their staff, students, customers, tenants, football fans, theatregoers, worshippers, and others. Manchester City Council is a member of the Partnership” (Manchester Climate Change Partnership et al.,2020, p5).

“Manchester Climate Change Partnership and Agency -The Partnership and Agency are responsible for championing, coordinating and facilitating the implementation of this Framework. Their activities are focused on working with partners on the following headline objectives... 2) Helping our city to establish the strategy, governance and partnerships needed to meet the targets 3) Helping our city to take action 4) Helping our city to understand its progress” (Manchester Change Partnership et al.,2020, p35).

“Joint working between Manchester City Council, Manchester’s strategic partners, Greater Manchester Combined Authority, UK Government, and their agencies to provide the support, incentives, standards and infrastructure residents and organisations need” (Manchester Change Partnership et al.,2020, p34).

“The remainder of the report focuses upon the actions the council proposes to take which impact upon the city as a whole. The actions that the council can take within the powers and resources currently at its disposal, however, will not be sufficient to move the city to a net zero position. The council cannot impose this change

but can help to provide people with better information through which to make their choices” (Leeds City Council, 2020, p3).

“Above all, it will involve a collective leadership and shared ambition to deal with this challenge head on.” (Manchester City Council, 2021b, p2).

“The 'net zero Newcastle - 2030 Action Plan' is not..... a barrier. The plan isn't intended to impose rules that stifle innovation and other work occurring in the city. Far from that being the case, we want this plan to encourage others to come forward with their own initiatives and demonstrate leadership in the net zero transition” (Newcastle City Council, 2020, p4).

In respect of individual agency, the situation is more subtle. During the data gathering phase (see Chapter 3) contacts were made with the lead city authority officers responsible for climate change/sustainability, the majority of which meet at the UK Core City level to discuss, share information, and best practice, and drive forward net zero (no specific contacts were made for Cardiff and Liverpool). The named public individual leading on net zero in some cases would seem to be a more ‘neutral’ agent, such as the Chief Resilience Officer in Belfast, or chairs/co-chairs of local place-based climate action or governance networks (e.g., Bristol, and Leeds), or even local place-based organisations – such as the Manchester Climate Change Agency.

6.2.2 Can the characteristics of place-based leadership be discerned from the actions proposed as necessary by those enacting place-based strategies?

The approach taken in this research ascertained if the main features attributed to place-based leadership could be inferred from the approaches (current or anticipated) taken by place-based institutions and their leaders. As outlined in Chapter 3, this was derived mainly from a combination of the intent in the strategies produced, and/or in the intent contained within job descriptions prepared for new roles to deliver change in the respective places.

This section considers the nature of the relationships between the lead body and city stakeholders, this is followed later by an analysis of the narratives around the nature of the place-based change proposed by the leadership. Research question three considers issues in relation to the power relationships formal and informal, and the distribution of said power within the places.

One of the most widely agreed dimensions of place-based leadership is that it is the product of collaboration rather than the efforts of an individual and that place leaders have the capacity to influence others, *“it is this reliance on persuasion that differentiates*

leadership in regions and cities from the leadership of these communities” (Beer et al.,2019, p172). This can be clearly seen from the example job descriptions below for climate change project managers and directors in some of the UK Core Cities examined, (assumed as discussed in the methodology) to be the most likely or anticipated place-based leaders for net zero in their respective places.

From Cardiff there is a clear emphasis on working with multiple partners: -

“Knowledge and Experience, Desirable requirements -Achievement in the successful planning and implementation of energy projects / programmes. Multi-agency working” (Climate Emergency Manager Job Description Cardiff Council Accessed Oct 2021⁶⁸)

Those from Bristol stress the crucial aspects of building relationships, distributing action and leadership across many organisations and without any formal authority to do so: -

“The successful translation of the One City Climate Strategy into substantial new action relies on the ability of this post-holder to build relationships, co-ordinate and secure voluntary action by partners” (Climate Change Project Manager - Strategy Co-ordination - Bristol: a sustainable city - bristol.gov.uk Accessed Jan 2022⁶⁹)

“The delivery of the One City Climate Strategy will be a complex process distributed across many organisations rather than one which we directly manage. ... you will bring experience of managing work programmes through your skills and influence rather than through power and control” (Climate Change Project Manager - Strategy Co-ordination - Bristol: a sustainable city - bristol.gov.uk Accessed Jan 2022⁷⁰)

In Manchester and Sheffield (albeit with jobs advertised by the city regions rather than the cities) the very senior posts give emphasis to the need to work across and influence a wide range of sectors and partners. Whilst Manchester’s post refers more to such relationships within the city:-

“The Manchester Climate Change Agency and Partnership are seeking a dynamic and experienced leader to drive forward the implementation of the Manchester Climate Change Framework. ... Candidates will ideally have a track record of successfully implementing high profile programmes, which have delivered measurable outcomes and outputs. The ability to build and maintain positive working relationships with a range of community, business, public and private

⁶⁸https://www.jobscardiffcouncil.co.uk/internal/jobs/climate-emergency-manager-pla00141-1?lang=en_GB Accessed Jan 2022

⁶⁹<https://www.bristol.gov.uk/web/bristol-sustainable-city/climate-change-project-manager-strategy-coordination> Accessed Jan 2022

⁷⁰<https://www.bristol.gov.uk/web/bristol-sustainable-city/climate-change-project-manager-strategy-coordination> Accessed Jan 2022

sector stakeholders is a key skill required to be a success in the post” (Manchester Climate Change Agency Director Job description⁷¹)

“Deputy Director for the Manchester Climate Change Agency. Working to the Climate Change Agency Board of Directors, he is responsible for the day-to-day operation of the Agency, development of new partnerships to strengthen climate change action across the city, and working with partners to promote Manchester as a leading city for its progress and innovative stakeholder-led approach” (Manchester Climate Change Agency Job description⁷²)

the Sheffield post specifically highlights the need to influence vertically, which would be predicted from the conceptual framework for place-based leadership: -

“We are now seeking to appoint an outstanding individual to work across the Sheffield City Region Mayoral Combined Authority (MCA), the Local Enterprise Partnership (LEP), and the South Yorkshire Passenger Transport Executive (SYPT). The successful candidate must be highly motivated, a powerful influencer, with the ability to convince, persuade and advocate regionally, nationally and internationally (Sheffield City Region Mayoral Combined Authority - net zero Project Director Job Description⁷³)

Despite the strong role noted above for individual employed managerial leaders, *“‘place-based leadership’ (PBL) is now approached as a product of relationships between a range of potential actors, including those from local or regional authorities, but also varied public, private, community, voluntary or civic organizations”*. (Vallance et al.,2019, P1). Thus, it might be expected that the net zero strategies examined would encourage and enable the bringing of a wider selection of groups ‘into the room’. The strategies produced by Bristol and Cardiff explicitly acknowledge this: -

“We will also need to engage stakeholders and connect decisionmakers with citizens, business owners and third sector representatives to make change happen” (Bristol One City, 2020, p23).

“As Cardiff Council, we will enable, empower and coordinate the city to address the challenge, but we cannot achieve this alone. Tackling the Climate Emergency will only succeed with everyone’s involvement and support, requiring a city-wide commitment from citizens, business, academia and the public sector. We offer to lead the mobilisation of stakeholders and aim to collaboratively prepare an action plan to make this paradigm shift to a carbon neutral city” (Cardiff Council, 2020, p19).

⁷¹<https://www.linkedin.com/jobs/view/manchester-climate-change-agency-director-at-manchester-city-council-2485115486/?originalSubdomain=uk> Accessed Jan 2022

⁷²<https://www.manchesterclimate.com/MCCA> Accessed Jan 2022

⁷³<https://sheffieldcityregion.org.uk/wp-content/uploads/2021/02/Advert-Net-Zero-Project-Director.pdf> Accessed Jan 2022

Communicating with selected stakeholders is unlikely to be sufficient for effective place-based leadership. As explored in Chapter 2: -

“A key feature of the literature on place leadership is the way key individuals and agencies share responsibility to enact change and span administrative, political and other structures. Boundary spanning is central to place leadership, with the process of reaching out to others critical,”. (Beer et al.,2019, p.174).

The net zero challenge in cities particularly seems to necessitate this with the place-based leadership institutions in Glasgow, Nottingham and Newcastle anticipating this, and Glasgow explicitly referring to moving away from sectoral thinking: -

“Climate Emergency Theme 1 Communication and Community Empowerment We must continue to move away from siloed or sectoral thinking, taking a more integrated and inclusive approach has proven results in other areas of work”, (Glasgow City Council, 2020, p16).

“Engagement is also critical to delivering actions, so many of which are in partnership. This engagement work continues, both within the Council and across the city, helping make Nottingham a city of Climate Leaders”., (Nottingham City Council, 2020, p13).

“The net zero transition is not something that can be achieved by one organisation, agency or community acting along, but by the city coming together, building on our strong history of partnership and cooperation” (Newcastle City Council, 2020, p3).

As a reminder, place-based leadership involves a set of more informal facilitation roles where a *“willingness to participate and share authority in horizontal inter-organizational coalitions becomes imperative”* (Vallance et al.,2019, p3). Sharing authority, devolving power and ownership, and enabling others to also lead would all be expected to be encountered as ambitions of place-based policies and strategies. Bristol, with its One City approach distinct from the council, and Manchester with the Manchester Climate Change Partnership (also distinct from the council), are proud to champion this approach: -

“Bristol is a city where leadership comes from all sectors and all people; formal structures will only ever represent a part of the picture,”. (Bristol One City, 2020, p69).

“Manchester has adopted a different approach to most other cities. We don’t have a single plan setting out how we will meet our climate change targets. Our approach is based on every resident and every organisation in the city making and delivering their own commitments and action plans (Manchester Climate Change Agency,2022).

Newcastle City Council also acknowledges a “whole city approach” though this still forms part of a more conventional city council led and produced strategy: -

“We know that no individual or organisation can deliver the city’s net zero commitment alone, and we must work together to enable everyone across the city to engage in a meaningful way and to understand the individual, collective and organisational changes that we must deliver together. ...this fundamentally requires a whole city approach, with businesses, universities, the private sector, residents and communities going on this journey with us” (Newcastle City Council, 2021, p4)

The consultants working on behalf of Sheffield council (one of the later produced strategies) appear to acknowledge the limitations on the power in a way most of the other strategies do not: -

“Domestic sector -It is a clear example of an intervention that will require engagement and support from many stakeholders (i.e., citizens) over which the Council has few direct policy levers at their disposal. When this issue is on its way to being solved, we can have confidence that others will follow” (Arup, 2020, p7).

There is evidence therefore of incorporation of some aspects of place-based leadership into the strategies. Given that the concept exists principally in the academic literature this is unlikely to be a conscious decision by the place-based leader to respond to existent discourses. It is more likely to be recognition and mature understanding of the challenges posed by the limited direct influence of the lead institutions in question. There is an additional dimension to the questions around people, and the role of the place-based leader, that of influencing to achieve significant change. This is considered in Section 6.2.3.

6.2.3 What evidence is there that the leadership identified requires transformational change in the place?

As noted in the literature review, *“Place leadership is about the mobilisation of key resources, competencies and powers” (Sotarauta and Beer 2021, p5)*. This takes place via the processes of influencing and teaching other actors to understand why and how certain activities and goals need to be accomplished, and thus strengthens the transformational capacity of a place (Sotarauta and Suvien, 2019, p1763; Holscher et al., 2019b, p187). It is also argued that *“results can be achieved only if the key actors are wholly committed to working towards change or, as they argued further, if the entire system is set into motion in a desirable direction” (Sotarauta and Beer, 2021, p4)*. This is, as illustrated in Figure 1.1 in the introduction, and the conceptual model for this thesis in Figure 2.6, p43. In both figures there is a broadly linear process envisaged by which change is achieved. That is the place-based leader mobilises other actors to achieve the place-based intentions and thus the desired city development.

Nearly all the place-based strategies examined anticipate the mobilisation of a wide group of actors to both change and deliver transformational change in the places concerned. This was to be anticipated given the significant nature of the net zero challenge as discussed in Chapter 4. The mobilisation process is evidenced below: -

“In order to achieve the vision transformational shifts will be required. There are some actions that the City Council and partners can put in place now and other actions that will require help and support from UK Government. There are actions which individuals, communities and businesses will need to take; this is a city-wide endeavour which will require buy-in from all parts of society – it will be everyone’s responsibility. To achieve the vision the City Council and other institutions will need to make a clear commitment to work differently”, (Birmingham City Council, 2020a, p10)

“This strategy is a call to action. We call on you, as people who live, work, visit and invest in Bristol, to join with us on this exciting decade of transformation” (Bristol One City, 2020, p2).

“It also requires a meaningful shift in social values, attitudes and behaviours. However, we have already demonstrated how, as a society, we can make fundamental shifts in our behaviour and rapidly adapt”.”,(Cardiff Council, 2020, p3).

“In consideration of all of the above the City Council presents the following five key themes through which we will pursue bold and transformative action over the coming years”,(Glasgow City Council, 2020, p15).

Our action on the climate emergency will allow a move towards more integrated, collaborative, and transformative action,”. (Glasgow City Council, 2020, p16).

“Delivering the further changes needed to meet ambitious targets – especially in the coming decade when fast and deep carbon cuts are required - will depend on transformative action in all parts of the city” (Leeds Climate Commission, 2019, p8).

“A crucial next step is to establish a city wide ‘conversation’ to raise awareness, review and refine the options and to start to build public, business and political support for transformative action. • Moving forward, support has to be maintained, capacities have to be built, ideas need to be developed, finances need to be secured, changes need to be delivered, progress needs to be tracked and learning needs to be accelerated. • Leeds Climate Commission can play an active role in all of these areas – but transformations are required across the whole city”, (Leeds Climate Commission, 2019, p8).

“Transitioning to a zero-carbon economy will require massive change in many (if not all) aspects of life. It will need the buy-in of every citizen, company, institution, third-sector organisation and industry body across the city” (Arup, 2020, p4).

Whether the change advocated really is transformational is to a large degree beyond the scope of this research. It is certainly advocated as being such, but what this means in practice for the places concerned, and the societal change and the technologies to be used is often not fully articulated. Cynically, with many of the other economic, social, and

political challenges post the global pandemic (and at the time of final editing in Sept 2022 the war in Ukraine and the fuel price shock) the author is anecdotally less convinced that the actions postulated articulated in Chapter 4 needed to achieve Net Zero. That is the whole scale system change envisaged and advocated. There seems also a lack of recognition in most cases of the changes needed in organisations beyond the core lead institution and thus the full extent of wider scope of carbon emission reduction required by other stakeholders. To echo recent global research into such city strategies, the *“findings indicate that most proposed measures support the status quo, with the majority of actions focusing on infrastructure and technology, and only a few transformational climate measures are envisaged by the cities”*, (Heikkinen et al.,2019, p90). The strategies arguably are simply owning the leadership piece, but also pointing out the challenges and even hinting at the role others should be taking in leadership.

The final question to consider is whether there is an acknowledgement in the strategies that, for effective place-based leadership to happen, there are institutional limitations; the answer to which is covered in the final part of this chapter.

6.2.4 Is there a recognition in strategies that internal institutional contexts (especially resources) affect individuals’ capacity to contribute to place-based leadership processes?

To re-iterate, it is argued that *“good [place]leadership depends on having sufficient uncommitted resources, and especially high-quality individuals – human resources – to devote to questions of strategic significance”* (Beer and Clower, 2014, p11). The issue of available resources in UK local government in the post pandemic era is a live one. Given this, it would be expected that the need for additional human and (and thus fiscal) resources to deliver place-based changes would be recognised by those publishing place-based strategies. In about half of the data examined (Birmingham, Bristol, Manchester, and Sheffield) this was found to be the case as evidenced below: -

“Identify a staff resource and funding to support the preparation of the strategy”, (Birmingham City Council, 2020a, p14).

“The strategy will be followed by delivery plans, in some instances these will be existing statutory plans, in other instances a new approach will be required. In both cases, it is essential to ensure that there are sufficient human and financial resources within partners to deliver the plans”. “Delivery will comprise elements that are both top-down and bottom-up” (Bristol One City, 2020, p69).

“Influencing behaviour and being a catalyst for change – Additional capacity for the Manchester Climate Change Agency is being put in place and the new structure and posts have been approved by the Council’s Personnel Committee. A

new Director will be in place in mid-April 2021 and the other posts will also be filled including the crowd funded Youth Champion role”, (Manchester City Council 2021a, p13).

“To address this, in combination with the engagement work of the Manchester Climate Change Partnership, we need our public authorities and strategic partners to provide the necessary support, incentives, standards and infrastructure”, (Manchester Change Partnership et al.,2020, p30).

“• Put in place sufficient internal resource and governance procedures to be able to respond quickly to government financial supports and provide other support. Target funding to support. p31 Arup 2020 Pathways to Zero Carbon in Sheffield

“City-wide actions Council enabling actions are shown in italics. It is worth noting that without these enabling actions, significant progress on these city-wide actions is highly unlikely to be realised”, (Arup, 2020, p32).

The absence of data does not however mean that the other UK Core City members do not understand and recognise the issues of having to enable and fund staff and posts to deliver place-based change. It is unlikely that the situation in the four local authorities identified is unique in some way, but this would need to be investigated separately, along with the degree to which internal change is being considered. The literature notes: -

“...that understanding how regional co-mobilizations create institutional change within regional organizations is critical to articulate properly how PBL [place-based leadership] functions across a range of institutions: not only universities, but also firms, local government and societal organizations” (Benneworth et al.,2017, p246).

It is not sufficient, therefore, just to have sufficient resources, it requires that *“the leadership and development work is not hampered by structural or institutional issues”* (Sotarauta and Beer, 2021, p4). For this research it has not been possible to directly investigate the degree to which institutional change is or is not planned by the city authorities concerned. Instead, the published material hints or suggests the processes underway and the need for change e.g.,

“Changes to governance structures-The current structure of local government does not give mayors and local leaders the institutional capacity to deliver the changes needed in transport, housing and spatial planning policy” (Centre for Cities, 2021, p42).

Whilst the planned recruitment of additional resources within place-based institutions (in the form of new officer appointment) can be evidenced, the internal organisational structures being established are less identifiable via secondary data sources. Several local authority place-based institutions have, nevertheless, put in place new committee structures to oversee the delivery of their net zero strategies, namely:

“Environment, Sustainability and Carbon Reduction City Policy Committee” (Glasgow City Council, 2022⁷⁴)

“Climate Emergency Advisory Committee” (Leeds City Council, 2022⁷⁵)

“Environment and Climate Change Scrutiny Committee” (Manchester City Council, 2022⁷⁶)

“The Climate Change Committee” (Newcastle City Council, 2022⁷⁷)

The degree to which a new alignment or grouping of councillors in the new committees noted above constitutes any form of structural or institutional change (and thus enables the lead place-based officer) is not clear. Most likely the new groupings may provide at least a more specific internal governance arrangement. These modest changes do not appear to be the *“institutional change within regional organizations”* (Benneworth et al., 2017, p246) which is argued to be important to enable place-based leadership to function successfully.

6.3 Research Question 2 – Place and the role of emissions scope and geography

Section 6.3 addressed the research questions aligned to the place theme, that is: -

- how relevant is a place-based policy approach to the thematic issue under consideration? And
- What scale of place is appropriate?

Although first definitions of net zero emission concepts on an urban scale can be found in the literature, their precise meaning and applicability still remain vague, with unclear system boundaries, calculation, and assessment rules (Lützkendorf and Balouktsi, 2019). It is argued that any organisations that are developing frameworks to encourage cities and communities to adopt low-carbon plans should extend the boundaries of their work to consider not only production but also consumption-based emissions (Millward-Hopkins et al., 2017, p1476); as Chapter 4 outlines.

⁷⁴<https://www.glasgow.gov.uk/councillorsandcommittees/committee.asp?bodyid=1878andbodytitle=Environment%2C+Sustainability+and+Carbon+Reduction+City+Policy+Committee> Accessed Jan 2022

⁷⁵<https://democracy.leeds.gov.uk/mgCommitteeDetails.aspx?ID=1133> Accessed Jan 2022

⁷⁶<https://democracy.manchester.gov.uk/mgCommitteeDetails.aspx?ID=358> Accessed Jan 2022

⁷⁷<https://www.newcastle.gov.uk/citylife-news/environment/new-committee-lead-climate-change> Accessed Jan 2022

Only approximately one third of the net zero strategies examined considered a wider scope definition that includes consumption-based emissions (Box 4.2 p97), and even in those cases there was only an acknowledgement of the issue rather than setting targets to address these emissions: -

“These activities should focus initially on Leeds’s direct (Scope 1 and 2) carbon footprint as these emissions are most directly under the city’s influence. However, we should also recognise the need to consider our broader (consumption-based/Scope 3) carbon footprint”, (Leeds Climate Commission, 2021, p6).

“The City Council’s own emissions from scope 1, 2 and 3 account for around 8% of the City’s total emissions. It should be noted that there is some overlap between the City Council’s scope 3 emissions and the wider City’s emissions. Although the direct emissions that the City Council controls or has strong influence over is relatively small, the City Council still has an important role in stimulating and influencing action across the city” (Birmingham City Council, 2020a, p12).

“Manchester has chosen to take responsibility for a much wider scope of CO2 emissions than the majority of other cities. Currently, most cities typically take responsibility and commit to action on their direct CO2 emissions only. However, in line with our commitment to ‘play our full part in limiting the impacts of climate change’, we believe it is important to be as ambitious and transparent about our responsibilities as the global climate emergency demands is necessary, including where we need to work with UK Government, and others”, (Manchester Change Partnership et al.,2020, p19).

“...we do however recognise that it is important that we focus our immediate efforts on addressing the Scope 1 and Scope 2 emissions because we can have a much more direct impact on reducing these emissions. We intend to explore further the emerging options for delivering a consumption-based approach as it does not help the climate if we simply move production to another country. In the meantime, we will evaluate options to eliminate Scope 3 emissions and non-CO2 based GHGs directly, through partnership working, and by lobbying for change at national and international forums” (Newcastle City Council, 2020b, p12).

From the above it would appear, as would be expected from the nature of emissions in Scope 3 as outlined in Chapter 4, that the wider the emission scope and the extension into consumption-based emissions the greater the need for partnership working and leadership outside of the city concerned. The strategies mostly are conservative in this respect and consider mostly just the role of the lead municipal authority, i.e., a consideration of the emissions and role of the wider city or place being beyond the scope of the document. Manchester and to a degree Newcastle being the exceptions as the extracts above indicate. There is recognition in others that emissions beyond the ‘place’ are important, such as in Nottingham and Manchester, which would be predicted

with a greater understanding of the limits of place-based leadership within the cities alone:

“The target covers direct and indirect energy related CO2 emissions, referred to as Scope 1 and 2. It does not cover Scope 3 or imported emissions. This is for several reasons, including: Ability to monitor and measure effectively Alignment with the local carbon budget model embedded Ability to influence and shape sources of emissions directly. Some of these emissions may occur outside of the city boundary. As with the city target, the Council will consider wider embodied emissions in its internal policy to affect those emissions outside of the main target”(Nottingham City Council, 2020, p18).

“Where these powers or funding don’t exist at the local level, the City Council will work with the Greater Manchester Combined Authority and Government to secure them, extending our partnership-based approach beyond the city’s boundaries”,(Manchester Change Partnership et al.,2020, p5).

“Research by the Coalition for Urban Transitions estimates that for cities around the world to realise their climate ambitions the powers and responsibilities for action are either: a) • 14% with the city • 67% with the national government • 19% through working together -when decarbonisation of the electricity supply is included OR b). • 28% with the city • 35% with the national government • 37% through working together -when decarbonisation of the electricity supply is NOT included. This makes it clear that we need our partnership-based approach to extend beyond the city’s boundaries, to build a strong collaboration between Manchester City Council, the city’s strategic partners, Greater Manchester Combined Authority, UK Government, and their agencies”, (Manchester Change Partnership et al.,2020, p30).

“The Council, alongside a number of other strategic partners in the city, have produced this plan to support the delivery of the citywide Manchester Climate Change Framework 2020” (Manchester City Council, 2020, p1).

This raises questions around the definition and role of place in net zero emissions place-based strategies. If the true extent of emissions generation extends well beyond city boundaries, ‘what is the appropriate scale of place’ becomes a key question; this is explored further below.

The ‘city’ as an object of assessment and level to act is difficult to define and model due to its dynamic, complex, and constantly evolving character (Lützkendorf and Balouktsi, 2019). The review of the ten UK Core City Strategies suggests that there is a real lack of clarity as to terminology on place. In most cases an individual city council’s administrative boundary forms the basis of the place-based strategies. However, in many other terms such as just the city, or the city placename are used throughout imprecisely. This is evidenced in the following examples:

*“A summary of their action plans is available in Appendix 2. A methodology is currently in development to support organisations and sectors to set carbon reduction targets, in line with the **city-level** [authors emphasis] targets in this document. The Tyndall Centre have developed recommendations to support the development of this methodology” (Manchester Change Partnership et al.,2020, p29).*

*“This Action Plan presents Newcastle’s view of how **the city** [authors emphasis] can achieve its ambition to be net zero carbon by 2030. In its creation, we have engaged with a diverse range of individuals and organisations from across the city”, (Newcastle City Council, 2020b, p4).*

*“It is important to stress that delivering on these targets will require action across **the city** [authors emphasis] and the active support of the public, private and third sectors” (Belfast Climate Commission/ Place-Based Climate Action Network, 2020, p6).*

Place-based policies have a focus on specific cities, localities, or regions and embody an ethos about, and an approach to, the development of economies and society that acknowledge that the context of each and every city, region, and rural district offers opportunities for advancing well-being (Beer et al.,2020). The explicit terminology of ‘place-based’ is only raised in one UK Core City Strategy, that of Glasgow:

“Climate Emergency Theme 3 Well Connected and Thriving City This plan seeks to move towards more integrated, collaborative, and transformative action. Through Investing in Communities and adopting a place-based approaches” (Glasgow City Council, 2020, p16).

“This proposed plan focusses on communities and place-based approaches first and foremost” (Glasgow City Council, 2020, p16).

This may in turn directly reflect the more explicit place-based agenda of the Scottish Government that was noted in Section 4.3. That said, the use of place-based in this context would seem to broadly correlate with local neighbourhood rather than being used to pertain to the city or the city region i.e., the geographic extent which aligns to the full geographic scope of the carbon emissions under consideration. Only in the case of two cities, Sheffield and Manchester, as touched on previously, is there a recognition that the place-based approach needs to embrace the full system boundary geographic stakeholders beyond the city boundaries (however defined) as per below:

“Assuming that local efficiencies have been maximised, going further than this 90% reduction would require Sheffield to take on a greater proportion of energy generation at which point we must ask ourselves whether this is the right approach. To quantify and address Sheffield’s emissions, we are drawing a slightly arbitrary boundary around the city – the reality is that Sheffield is not an island,

and it fits within a national context. We must question whether further generation in Sheffield is the best solution in the national context” (Arup, 2020, p6).

“Research by the Coalition for Urban Transitions estimates that for cities around the world to realise their climate ambitions the powers and responsibilities for action are either: a) • 14% with the city • 67% with the national government • 19% through working together -when decarbonisation of the electricity supply is included OR b). • 28% with the city • 35% with the national government • 37% through working together -when decarbonisation of the electricity supply is NOT included. This makes it clear that we need our partnership-based approach to extend beyond the city’s boundaries, to build a strong collaboration between Manchester City Council, the city’s strategic partners, Greater Manchester Combined Authority, UK Government and their agencies”, (Manchester Change Partnership et al.,2020, p30).

The nature of ‘net zero’ as a challenge (as outlined in Chapter 4) is one which is more collective in potential, and the nature of change more systemic, than the regional economic competitiveness agenda more usually associated with place-based leadership. So what is certain is that scale matters, as Ayres (2014, p24) notes: -

“There is a need to develop a theory of place-based leadership appropriate to scale (geography, population, GDP) and type (devolved/decentralized, urban/rural, city mayor, council leader). Without this, findings will have limited resonance with scholars looking for precision or practitioners seeking ‘toolkits’”.

Scale remains an important and unresolved issue. As noted in Chapter 2, the literature is not clear as to what place means in respect of place-based leadership. The key authors do seem to use the term without much precision, with Hambleton (as noted in Chapter 2) generally equating to a UK city scale whilst others do so to a finer grain. For example, in one of the more widely cited papers *“defining leadership at the **local level** [authors emphasis] is an important first step towards implementing good leadership practice within a community and in advancing our understanding of this important concept”* (Beer and Clower. 2014, p7). Local would also seem to be a scale referred to in several of the UK core city strategies that explicitly reference a place-based approach. Glasgow is one such example. So, there are legitimate questions pertaining to the applicability of a concept (place-based leadership) to an issue for which the response needs to be both local, regional, national, and international. The challenge of net zero cities suggests that place-based leadership and policies need to consider the full carbon system (outlined in Chapter4) and thus the geographic extent of those emissions, and the influence that is possible to have over them. Arising from this is a consideration of governance and power in relation to place and scale of place; this is considered below and addresses the question of who needs to be ‘in the room’ to affect the place-based carbon emissions. It may be

that the nature of achieving net zero as an issue may make it feel less necessary to make places feel autonomous (than it is with agendas based on public services or economic development for example).

6.4 Research Question 3 – Powers and place-based governance

This last section of Chapter 6 addresses the research question aligned to the powers theme, namely: -

- What evidence exists for new place-based partnerships and collaborative governance as a means of delivering whole system/transformational change?

6.4.1 Horizontal governance – use of place-based partnerships and governance

As noted in the literature review and as anticipated in the conceptual framework, place-based leadership for improving place-based outcomes “*tends to be collaborative* [authors emphasis] *rather than hierarchical – that is, it involves collaboration across a number of institutions, individuals and firms*” (Beer and Clower, 2014, p7). A direct consequence of the collaboration aspect is the need to ‘bring more people into the room’ i.e., “*diverse stakeholder involvement is often a primary aspiration of place-based development ideals*” (Bentley et al.,2017, p197). Whom to bring ‘into the room’ is one of the overriding questions that drove this author to embark on this thesis. Research suggests that “*stakeholders who are members of leadership structures are drawn from agencies and networks in a wide geographical area in a relatively unbounded territory to devise and implement strategies to achieve place-based development goals*”,(Bentley et al.,2017, p197).It follows, that in any consideration of place-based leadership allied to net zero one would expect to see evidence of diverse local stakeholder engagement. This has been considered, in part, in the evidence presented in respect of Research Question 1 in the earlier part of this chapter. It would appear there is clear documentary aspiration and recognition of the need to work with a wide range of place-based stakeholders.

To deliver transformational change in a place requires more, however, than simply ‘involving’ and ‘engaging’ with stakeholders. It is postulated that “*place leaders amplify their often-limited power bases by constructing policy platforms, which are aimed at providing placeless actors with unique opportunities in a specific place* (Sotarauta and Suvien, 2019, p1764). Thus, it would be expected, as outlined in Chapter 2, that evidence of creating or using the existing structures of stakeholders to mobilise and create the case for change would be encountered but, as also noted in Chapter 2 and in the conceptual framework for this thesis, stakeholders can be horizontal, or place-based or vertical; that

is place-less. The effective leadership of cities and regions *“calls for collaborative governance whereby the horizontal relationships between actors within the partnership hold greater significance than the vertical relationships between the subnational partnership and the national governance framework”* (Broadhurst et al.,2020, p8). Given this, it would be expected that locally place-based coalitions of stakeholder actors would be as important as a general grouping. That is *“a pattern of ‘horizontal’ governance; that is, it refers to a constellation of sub-national actors”*, (Bentley et al.,2017, p197). Within horizontal relationships a common set of factors may support a place-based partnership approach to development.

There is a cross over in terminology, especially between different parallel academic discourses from place-leadership to climate change governance. The ‘networks’ of one literature, can be compared to ‘place-based partnerships’ (Bowden and Liddle, 2018; Broadhurst et al.,2020), horizontal governance (Bentley et al.,2017) and the ‘climate change governance’ (Holscher et al.,2019c) of other literature. For example,

“...the challenge for strengthening transformative climate governance that crosses policy siloes ... will be to develop rigorous institutional and organisational conditions that decisively stipulate a prioritisation of climate change across scales and sectors, provide action mandates and enable wider outreach and learning” (Holscher et al.,2019c, p854)

shares similarities to

“...core processes of well-functioning micro-level practices that have the potential to influence sets of actors and move them in harmony and in this way to produce desirable outcomes” (Sotarauta and Beer, 2021, p4).

This is explicitly recognised in both the Bristol and Cardiff strategies: -

“Enabling conditions for change National and regional action and city leadership – Why? -To have rapid and radical transformational action we will need to reshape governance systems and distribute powers appropriately”, (Bristol One City, 2020, p23).

“We recognise that there are many direct actions that the Council can take in our decarbonisation journey, from financial and operational decisions through to smarter selection of suppliers and better use of our regulatory powers. However, we can also work in collaboration with and seek to influence others.”, (Cardiff Council, 2020, p19).

All the UK Core cities bar Liverpool have established, or reinvigorated, transformative climate governance. As previously noted, Liverpool is not yet at this stage with any of its climate change mitigation activities. The mechanisms established are those that cross

policy siloes and/or new well-functioning micro-level practices that have the potential to influence sets of actors as evidenced below: -

Belfast

“We will start by establishing a new Resilience and Sustainability Board - a permanent part of our Community Planning structures for the city. The Belfast Resilience and Sustainability Board will bring together key agencies and organisations focused on preparing for climate change. Its immediate objective will be to develop a Climate ... Mitigation Plan for Belfast” (Belfast City Council, 2020, p67)

“Establishing an independent Belfast Climate Commission has already helped to draw actors together and to build capacities to take and track action” “The Belfast Climate Commission is acting as a critical friend to the city, helping to promote stakeholder engagement and build buy-in and a sense of common ownership for the climate action plan, as well as in supporting, guiding and tracking progress towards its delivery” (Belfast Climate Commission/ Place-Based Climate Action Network, 2020, p43).

Bristol

“Cities are complex places. We know that no single organisation, nor even the organisations that make up the Environmental Sustainability Board can deliver the scale and pace of change we need alone.” (Bristol One City, 2020, p2).

Birmingham

“The Route to Zero (R20) Taskforce was created in autumn 2019 and brings together Members and officers from the [City of Birmingham] council and representatives from the West Midlands Combined Authority, the NHS, higher education, the business community, faith communities, young climate strikers, climate campaigners, and other key partners and stakeholders” (Birmingham City Council, 2020a, p11).

Cardiff

“Collaboration · We’ve established a Climate Emergency Partnership Board made up of large public sector organisations in the city to share best practice and agree and drive forward a city-wide carbon neutral target” (Cardiff Council, 2020, p7).

Glasgow

“The report links the city with other local partners, especially through the city’s Sustainable Glasgow partnership, as well as with national government and its agencies”. (Glasgow City Council, 2020, p5).

Leeds

“It is also preparing an investment prospectus – with an emphasis on community-based as well as institutional investment – to stimulate low carbon investments across the city. The [Leeds Climate] Commission is also restructuring itself to develop action groups to support, catalyse, guide and track low carbon initiatives

in housing, public and commercial buildings and transport across the city”. (Leeds Climate Commission, 2021, p23).

Manchester

“To enable this to happen we have established a devolved, partnership-based approach to climate action. It is built on two key components: • Engaging and empowering Manchester residents and organisations to take action, using the Manchester Climate Change Partnership and its networks as our key engagement mechanism, and • Joint working between Manchester City Council, Manchester’s strategic partners, Greater Manchester Combined Authority, UK Government, and their agencies to provide the support, incentives, standards and infrastructure Manchester’s residents and organisations need”, (Manchester Change Partnership et al.,2020, p5).

Newcastle

“We have established a Climate Change Convention as a framework to deliver our net zero 2030 commitment. The convention comprises: • The Climate Change Committee This committee has been established to engage both members and the public with climate change and net zero issues. ... The committee complements the more technical work of the net zero Taskforce and allows members to hold officers and partners to account. • The net zero Taskforce The taskforce creates partnership working between key players in the city, including our universities and college, hospital trust, airport, housing, transport, business, voluntary sector and utilities representatives. The taskforce is responsible for commissioning work to establish a citywide path to net zero 2030 and assessing the implications and expectations of all partners” (Newcastle City Council, 2020b, p14).

Nottingham

“This is one of the most important and complex challenges any society has faced, which is why the Council has taken it to the core of how it operates, and why it is so pleased to be working with Green Partnership members to provide a genuine citywide response that can engage and support everyone in the city to take action”.(Nottingham City Council, 2020, p4).

Sheffield

“The Green City Partnership Board will: 2.1 Work with partners to ensure that Sheffield can achieve Green City Strategy objectives and deliver a low carbon, resilient and sustainable city. 2.2 Oversee the preparation, development and implementation of policies and strategies which contribute to achievement of the Green City Strategy Objectives” (Sheffield Green City Partnership, 2018, p2).

The establishment of such governance bodies is one thing, the degree to which they are empowered to act is another. As one of the most central issues in a study of place leadership is to analyse the relationships between governance, power, and place leadership (Sotarauta, 2016), the degree of devolved power matters, *“place leadership is a dispersed form of leadership (Ibid., p50).* It follows, that if place-based leadership is

enabled by strategies in the manner suggested by Sotarauta (2016, 2019) it would be expected that there would be attempts to distribute or disperse power across institutions and networks within a given place. However, others argue that the role of some place-based leadership institutions in facilitating place-based leadership is still dependent on tapping into legitimating forms of institutional and resource power that (even during periods of austerity) remain the preserve of organizations with 'assigned' local leadership functions (Vallance et al.,2019, p9). It is likely that a mixture of a greater devolution of power might be anticipated in the case studies, with some lead institutions and place-based leaders going further than others. This challenges the meaning of governance when applied in a place-based horizontal setting. That is, it forces a consideration of the differences between new governance arrangements established by place-based leaders to oversee the actions of a lead body or group, and those which attempt to genuinely distribute power and actions to a wider group of stakeholders. A selection of cities, namely Manchester, Newcastle, Nottingham, and Sheffield have reached the stage where such a distribution of power and ownership of collective place-based actions can be discerned, as evidenced below: -

"The Manchester Climate Change Partnership is the city's main mechanism for engaging and inspiring organisations and residents to act...Partnership members have developed their own bespoke action plans, setting out how they will contribute towards the successful delivery of this Framework", (Manchester Climate Partnership et al.,2020, p29).

"Set out in this part of the Action Plan are more detailed timelines and key details that are proposed to be taken in order to deliver the identified Priority Actions set out in Parts 1, 2 and 3. Responsible Party / Parties - a short list of a select number of key organisations, groups or key stakeholders who are expected to lead the Priority Action and / or are considered important to the Priority Action achieving a successful outcome", (Newcastle City Council, 2020b, p48).

"Governance - It will require us to work in different and new ways to ensure we remain agile and joined-up to effectively solve and tackle the issues we face. We will all need to focus on how to generate and capture more ideas, actions and resources across the Council, its partners and the city" (Nottingham City Council, 2020, p12) and "Key to becoming carbon neutral by 2028 will be all people, businesses and organisations in the city working effectively and in harmony with each other. Each business or organisation can succeed with certain things alone, but the greatest impact will come from working together across all sectors. We have identified some of the key partners to help shape and deliver activities in Nottingham, including, but not limited to the One Nottingham Green Partnership and following organisations", (Nottingham City Council, 2020, p15).

“In each of the sectors there are clear actions that the Council can and must take to achieve the target of a Zero Carbon Sheffield in 2030. These actions relate not only to elements of the city’s emissions that are within their direct control but also to emissions that are ultimately under the control of other actors. It is clear that the Council has a key role in encouraging and facilitating action by others. ... It is worth highlighting that Sheffield City Council does not act in isolation within the sub-region”, (Arup, 2020, p9).

Bristol has recognised the need for the devolved and distributed approach as evidenced below. However, a comprehensive action plan has, at the time of writing, yet to be developed: -

“Cities are complex places. We know that no single organisation, nor even the organisations that make up the Environmental Sustainability Board can deliver the scale and pace of change we need alone. This strategy is a call to action. We call on you, as people who live, work, visit and invest in Bristol, to join with us on this exciting decade of transformation”, (Bristol One City, 2020, p2).

There is however a large caveat to the analysis above. The distribution of actions in the place-based strategies is only to the institutional level, not individual actors. The nature of the place-based institutional leadership distribution is as set out in Table 6.3. There are variations in approach with Manchester identifying a totally devolved approach with the largest range of place-based stakeholders.

Table 6.3 Nature of Action Distribution in net zero Strategies in UK Core Cities

City Strategy	Place-based actions
Glasgow	The Action plan makes explicit reference to actions by named proposed partners including place-based (e.g., Glasgow Chamber of Commerce), and non-place-based institutions e.g., Scottish Government, Transport Scotland)
Manchester	The Manchester Climate Change Partnership is the city’s main mechanism for engaging and inspiring organisations and residents to act. The Partnership currently has 60 members, across 10 sectors, with responsibility for over 20% of Manchester’s direct CO2 emissions. It is noted that by working with their supply chains members are also helping to reduce the city’s consumption-based CO2 emissions (Manchester Climate Change Partnership et al.,2020, p29). The document also identifies a list of 15 actions every organisation in Manchester is to take up to meet the climate change targets. See https://www.manchesterclimate.com/15-actions . However, there are also actions identified for every citizen and place-based community.
Nottingham	The document is divided into actions Nottingham City Council can take, actions the City Council can take in partnership and how Central Government can help. Note no specific action owners are identified on the partnership section.

Newcastle	The action plan contains a very detailed list of actions (>50), timescales, cost estimates and identification of responsible party/parties. The latter comprise specific place-based organisations from across the mainly public sector. Over 20 different organisations are mentioned, with the City Council, Combined Authority and Local universities dominant
Sheffield	The actions are broadly set into three categories, Sheffield City Council actions, City Wide Actions and governing bodies actions. Prioritised Actions are indicated. These are stated as “a prerequisite is an immediate clear mandate for action from all areas of the Council (decide to act)”. Following this “enabling actions (‘show the way’) can begin in parallel with more direct interventions (‘take the path’)”.

Source: Author’s own based on source strategy documents referenced in Table 5.2-5.6

The research and the data presented in Table 6.3 suggests that ‘horizontal’ governance (as predicted by the conceptual framework) and thus power distribution via distributed actions can broadly be discerned in the case studies examined. This is also in keeping with the discussion presented in Chapter 4 which alluded to the limited direct influence of UK local authorities. It appears, that ‘get net zero done’ requires bringing as many as possible of the place-based stakeholders into the room. The conceptual framework, however, suggested that there would be evidence of needing to work with governance in a vertical sense; this is discussed further in the Section 6.4.2.

6.4.2 Vertical governance, place-less power and need for devolution and external enablers

As reiterated from the literature review, *“place-less leaders...have gained extraordinary power and influence”* (Hambleton, 2015a, p168). This contrasts with place leadership which aims specifically to make sure that place-based ambitions are not pushed aside but instead achieved (Sotarauta, 2021). As per the conceptual framework *‘place leadership operates ...between the intentions of placeless actors ... and on the other hand, amidst a variety of place-based needs and intentions* (Sotarauta and Beer, 2021). Unpredictable external forces such as the centralisation of political power in the UK, and the rise of global corporations are why it is argued that *“place-less power has grown inexorably in the last 30 years”* (Hambleton, 2015a, p168). Whilst only largely anecdotal, the impression in the UK is of a continuing centralisation of power post Brexit and the Covid pandemic.

As noted in Chapter 2, a proposition has been made that, in theory, the scope for the exercise of leadership at the sub-national level is shaped by the controlling mechanisms utilized by central government under different vertical governance systems (Bentley et al.,2017, p206).From examining the data, therefore, it would be expected that strategies

would acknowledge place-less actors, and that there would also be a recognition of the role of vertical governance within the most contextually aware net zero city strategies. In the UK, the basis of the case studies undertaken, the primary vertical governance systems are the regional, devolved, and national government structures which sit over the respective UK Core Cities. When examined, the data from most of the UK Core City Strategies (not Cardiff and Glasgow, and as with all analysis excluding Liverpool) explicitly supports this as evidenced below. Bristol, Birmingham, Leeds, Manchester, Newcastle, and Sheffield explicitly identify the main place-less vertical governance challenge as being the UK Government: -

“Current UK legislation and policy will not enable Bristol to become a carbon neutral and climate resilient city. We need to work with the UK government to help them create the right laws and policies and to devolve powers and freedoms to the regional and city level”, (Bristol One City, 2020, p23).

“Birmingham City Council cannot achieve Route to Zero on its own. We will need to work with a range of partners to deliver the measures needed over the transition period. In particular we will require support from central government in terms of legislation changes and financial resources”, Birmingham City Council, 2020a, p1).

“Council officers and Executive Members are continuing to lobby for additional funding and policy changes to support the delivery of the Climate Change Action Plan. This includes attendance at a range of Greater Manchester meetings and direct lobbying and meetings with Government departments including BEIS, MHCLG and HM Treasury”, (Manchester City Council, 2021, p15).

“We understand the climate related issues in Newcastle; however, we require increased funding, support and intervention from Government to ensure we can contribute consistently to reducing emissions. Whilst we are committed to working with stakeholders to implement our ambitions plans to decarbonise the city, without action from Government to increase powers, funding and resources progress at the city level, we will be severely constrained”, (Newcastle City Council, 2020b, p25).

“These actions relate not only to elements of the city’s emissions that are within their direct control but also to emissions that are ultimately under the control of other actors. It is clear that the Council has a key role in encouraging and facilitating action by others. The Council also has an essential role in communicating with central government on the changes that are needed to effectively deliver zero carbon with practicality and realism. It is worth highlighting that Sheffield City Council does not act in isolation within the sub-region”, (Arup, 2020, p9).

Whereas in Leeds, Manchester, and Nottingham there is additional recognition that placeless power and influence may reside in both investors, regional government (as discussed in Chapter 4) or national and international research organisations: -

“It will require political, social and business support within the city, and support from central government, investors and organisations who influence life in the city”. p8 Leeds Climate Commission 2019... “Leeds Climate Commission is currently preparing a series of policy briefs to highlight the policy changes required at the local, regional or national scales to unlock low carbon activities across the city”, (Leeds Climate Commission, 2021, p6).

“Where these powers or funding don’t exist at the local level, the City Council will work with the Greater Manchester Combined Authority and Government to secure them”, (Manchester Change Partnership et al.,2020, p5)

“However, it is likely that there will be gaps. To fill them we need two things to work in tandem: • Proactive joint-action by Manchester City Council, Manchester’s strategic partners, Greater Manchester Combined Authority and UK Government to deploy the powers and funding they have available, including instances where devolving Government powers and funding to the local level will enable us to move even quicker”, (Manchester Change Partnership et al.,2020, p33).

“We have identified some of the key partners to help shape and deliver activities in Nottingham, including, but not limited to the One Nottingham Green Partnership and following organisations...Civil Service e.g., Her Majesty’s Revenues & Customs (HMRC), Central Government, Research partnerships with both Nottingham universities and wider national and international research organisations”,(Nottingham City Council, 2020, p15).

Vertical governance by place-based leadership institutions relates, as previously noted, mainly to the relationship ‘upwards’ between the appropriate power limited local organisation and more powerful overseeing government or other placeless institutions. However, *“where governments invite other actors into the policymaking process at all stages and encourage autonomy in multiple sites of authority there will be more room for experimentation, economies of scale and, ultimately, the progression of an inclusive low-carbon transition”* (Gillard et al.,2017, p8). This raises questions around the degree to which excessive governance from above might inhibit innovation and thus local and overall progression towards net zero. The eleven UK Core Cities examined within this thesis represent one example of some relative autonomy (as anticipated by Gillard et al.,2017) in multiple sites. The diversity of approaches between the cities in their approaches to the net zero challenge should, therefore yield experimentation and the economies of scale as argued, yet the research for this thesis has generally shown a high degree of similarity between the approaches and place-based strategies being developed

by the UK Core cities. This, perhaps, suggests limited innovation. The reasons for this are not clear. In research by others into the C40 Cities the targets and climate actions proposed in all the studied international C40 cities were found to be similar (Heikkinen et al.,2019), even though the cities were noted as being quite different from each other. Heikkinen et al., (2019) revealed this similarity but did not allow for drawing conclusions concerning its causes. They argued that policy learning might be taking place between the cities, that the (C40s) network's own agenda may be successfully diffusing around the globe, and that all cities may be drawing on some common external source to develop their ideas. A similar process may well be underway with the UK Core Cities network. As Chapter 3 indicates, there are regular meetings of the UK Core Cities Low Carbon, Energy and Resilience hub working group.

As noted in the literature review, polycentric forms of governance in a place are often claimed to be most effective (Ostrom, 2010), with polycentric governance consisting of multiple centres of decision-making authority with overlapping jurisdictions (Gillard et al., 2017, p174). If the UK is considered a 'place,' the UK Core Cities could be seen via the UK Core Cities Network to be multiple centres of decision-making authority. If this is the case, there should be some evidence of polycentric governance. This would be active place-based aspirations to work with other place-based centres of autonomy to learn, to experiment, and to collaborate. Within the data, Bristol, Manchester, Newcastle, and Sheffield express this desire, although Manchester is the most explicit about its aims in this regard: -

"We need to have a shared understanding of the challenge we are facing, and data is not always available across partners and citizens. In order to achieve our objectives, we also need to encourage climate action elsewhere in the world; sharing and learning from other cities is therefore vital", (Bristol One City, 2020, p25).

"We will do this in collaboration with other cities, to ensure that we can replicate tried-and tested solutions here, at the same time as sharing our experience from working to become one of the first zero carbon, climate resilient cities in the world", (Manchester Change Partnership et al.,2020, p5).

"There are examples from other UK and international cities where local, regional and national government have worked together, often with the involvement of local partners, to address a city's climate change needs. These precedents provide us with valuable inspiration and learning so that we can replicate the solutions that we know already work", (Manchester Change Partnership et al.,2020, p30).

"UK Cities and the Core Cities Network In the UK, the Core Cities network provides a group of key peers for Manchester to share with and learn from. It also provides

a critically important vehicle for developing proposals to Government, including the October 2019 climate emergency declaration”, (Manchester Change Partnership et al.,2020, p37).

“There are also a wide range of expert forums, think tanks and advocacy groups, and co-ordination forums covering various topics at a national level that we will engage with where appropriate”, (Newcastle City Council, 2020b, p25).

“ •. Identify leading cities and partner with them to learn from each other”, (Arup, 2020, p31).

There may well be implications for places (and thus place-based leaders) which do not reach out to communicate with other cities, they would miss out on the benefits as “polycentric systems tend to enhance innovation, learning, adaptation, trustworthiness, levels of cooperation of participants, and the achievement of more effective, equitable, and sustainable outcomes at multiple scales” (Ostrom, 2010, p552).

6.5 Summary

This chapter presents the analysis of the specific investigation using the research questions developed from the knowledge gaps identified in, and the questions posed from, the literature review. It uses the content analysis of the UK Core City net zero strategies as the basis of its findings and focuses on what the analysis of the data can tell us about academic discourses in respect of place-based leadership and policy.

It finds significant evidence to support the use of place-based approaches and leadership as a theoretical lens by which to understand the responses by the UK Core Cities to the climate emergency.

Place-based leadership by key officers in the requisite city authorities has been identified, with the city council in most cases forming the lead place-based organisation for net zero. It is not an exclusive picture and, perhaps as should have been predicted from the literature, in some cases universities or relatively neutral organisations have also stepped in to take the lead.

Perhaps more crucially, the characteristics of place-based leadership can be ascertained from the data and the language used within the city strategies. Principally, the identified need for collaboration, working with multiple stakeholders/partners, and a recognition of the need to work across institutional boundaries/silos to bring a wide range of parties together to affect change was evidenced. Specifically, it seems that the lead place-based organisation and thus those within it recognise the limits of its/their authority. They thus

also recognise the need to work with other stakeholders via engagement, empowerment, and collaboration to win hearts and minds rather than using formal powers.

The place-based leadership organisations have clearly set out net zero visions for transformational change for their individual locales, with the development of place-based strategies being the primary mechanism by which place-based leaders are attempting to affect such changes. The need for institutional capacity to deliver strategic change within the lead place-based organisations is also identified, as predicted by the literature.

The insights gained from the first research question acts in an affirmatory way in respect of what could be expected from the conceptual framework developed for this thesis about place-leaders and place-based leadership and where they might originate from. In addition, the broad leadership characteristics from the more specific framework developed by Nicholds et al., (2017, p253) were encountered.

The second research question raises key questions around terminology, definitions, and assumptions relating to geographic scope and what is meant by place in the context of this literature and the case study data. In this sense the research challenges key aspects of place-based literature. Firstly, it seems that there are real issues with the degree to which administrative and geographic city and place boundaries for the purposes of net zero align with emission scope and mitigation measure boundaries. However, this is perhaps more an issue for recommendations and improvements in the implementation and delivery of effective net zero strategies than this thesis. The real elephant in the room is the degree to which narratives and discourses on place-based leadership and policy are implied to apply only at the local, and at best regional, scale. The net zero challenge is one in which the most appropriate scale of place for effective action is contested. The examination of the governance arrangements also lend weight to the need for an acknowledgement of place being at the Devolved Nation or UK level for leadership on net zero given the powers which reside in the UK only at this level.

The research in respect of the third research question on powers and place-based governance found, as per the first research question, strong evidence of the governance arrangements that would be expected from the place-based leadership literature. New and re-invigorated place-based horizontal governance arrangements could be widely found and form the place-based partnerships of stakeholders necessary to deliver significant change. Most of the place-based partnerships comprised the wide range of public and private stakeholders to be expected and their primary role is to oversee the

delivery of place-based strategies. The data however indicates that in about half the cases, the place-based governance arrangements form more than an oversight role and are a key part in distributing power and thus possess ownership over the actions necessary. This would be expected if place-based leadership processes were underway.

In addition to horizontal place-based governance, there was also clear evidence of a significant acknowledgement in the place-based strategies of the need to work vertically, with central, government, to deliver place-based change. In fact, as greater understanding and maturity is reached on understanding the powers and reach (or not) of a typical UK Core City local authority the later strategies give considerable weight to the need to bring in sources of place-less power to aid delivery. This raises questions around the utility of some of the city strategies as effective means of tackling the net zero challenge. Action at all scales from National, sub-national/Devolved nation, city, town, and neighbour will all be necessary. Finally, the research has identified some evidence of multi-level or poly-centric climate governance, whereby the UK Core Cities are starting to work together to share knowledge and leadership on the net zero issue.

Notwithstanding the above, the analysis of the strategy documents and thus place-based networks is only part of the story. The overall thesis is framed around a combination of information – the content analysis of the net zero strategies presented in this chapter, the processes and new city climate governance arrangements underway in each UK core city outlined in the previous Chapter 5, and a consideration of the wider governance setting in which each city and place-based leader operates as discussed in Chapter 4. Overall conclusions from the whole research are presented in Chapter 7, along with a consideration of any benefits and limitations posed by the research design and/or the data. This is followed by some suggestions on areas for further study.

7.CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This final chapter is structured as follows. It starts with a summary of the core findings of the overall thesis and how these relate to the conceptual framework developed for this research. This is followed by a summary of the detailed investigation and responses to the research question(s) and, through this, the key contribution of this thesis to academic learning. Thereafter, the chapter provides a concluding summary from the case studies in respect of implications for policy and practice. The limitations of the research design and methodology are then considered alongside suggestions for further research.

7.2 Core Findings -summary in respect of the overall thesis

This research set out to answer one overall question – How do place-based leaders use strategies to effect change? This summary question, as outlined in Chapter 1 and 2, is based upon one aspect of a recent literature synthesis of place-based leadership (Sotarauta and Beer, 2021, p11). From the literature review was developed a conceptual framework for how a place-based leader might use strategies to effect change (Figure 2.6 p43). The processes proposed within Figure 2.6 are critically reviewed in the light of the overall research process undertaken and discussed below.

The evidence gathered suggests that strategy production is seen as an important part of creating the momentum and enabling environment for articulating and delivering the place-based transformational change required. Strategies were shown to have addressed the PEOPLE part of the conceptual framework as the formal strategy documents form a vital role in articulating the actions required of the place-based leader(s) and the asks of other place-based actors, stakeholders, place-based institutions, and the public. The published strategy is also a vehicle for outlining any public commitment to increasing the resources available in the lead place-based institution to enable greater action by the place-based leader. PLACE proved also important as a geographic entity to which strategies need to refer within the cities examined. ‘Local’ emerged from both government publications and many of the strategies as synonymous with the scale of action for place-based approached. However, the issues of appropriate scale and definitions of place remain challenging, and these are discussed further later in this chapter.

One of the key roles for strategies in effecting place-based change emerged as acting as a vehicle for establishing new, or reinforcing the role of, place-based climate governance networks. Acting to legitimise and give weight to such collations, both the process of strategy development and overseeing the actions identified within the strategies are roles for such governance. It is an important stage in the conceptual framework. However, as predicted by the conceptual framework, the strategies also identify the actions for, and the limitations of the POWER of, the place-based organisations.

One of the key strengths of the conceptual framework developed for this thesis is that it sets out all the components of the change process and the role of actors within it. Particularly important it seems is the explicit identification within the framework of the need for strategies to recognise that for place-based leadership to operate effectively place-based leaders must do two things. They (via the published strategies) must anticipate a need not just to work horizontally with the usual place-based stakeholders 'in the room'. In doing so they need to openly acknowledge and anticipate the need to bring in and work with place-less stakeholders, whom are often those in central government or in other sectors such as national businesses. Thus, the strategy is also a vehicle for acknowledging the limits to POWER and establishing the asks of non-place-based organisations of the place-based leadership actor and/or institution.

The research finds that the development of strategy is a necessary but not sufficient condition for the development of the transformative governance required for effective action for net zero carbon. This is perhaps not a surprising conclusion given the publication of any strategy does not guarantee action either by the institution publishing the strategy or wider stakeholders. Places also need the *“transformative climate governance ... such as institutional settings, beliefs and financial resources, and in the structural conditions that are created as a result of the activities of actors”* (Holscher et al., 2019a, p793). The transformative climate governance arrangements proposed in the series of case studies examined provide the forum for a place-leader to operate and work with other place-based leaders and stakeholders from other institutions. The governance arrangements associated with the strategies examined provide the space in which a place-based leader can interact across silos and institutional boundaries, to work with multiple stakeholders at difference scales of place and use informal influence to deliver change in a non-hierarchical manner. These are all aspects of place-based leadership identified from previous research (Sotarauta and Beer (2017); Nicholds et al., (2017); Vallance et al.,

(2019); Broadhurst et al., (2020); and Sotarauta and Beer (2021)). In terms of the specific contribution to academic discourses on place-based leadership and policy the research offers the following structured around the three sub research questions developed.

7.3 Specific contribution to academic discourse

Chapter 6 sets out in detail the analysis and responses specifically in respect of the three sub-research questions posed. This section considers the role of the thesis more in the round.

As a reminder to one of the key challenges established by the literature (Chapter 2): -

“...we indeed need to know more about how, for the development of cities and regions, strategic decisions are reached; how visions guiding shared activity emerge or are constructed as well as communicated; how place-specific networks and ways of organising are constructed, organised and directed” (Sotarauta and Beer, 2021, p4).

This study makes a direct contribution to this identified knowledge gap. **It adds to the place leadership literature by exploring the important but understudied link between place-based leadership and strategy production for transformational change. The role of formal published strategies as enabling tools for the place-based leader is examined and new insight offered.** The approach of this study also aligns with previous research (e.g., Ayres 2014) that call for a better understanding of what is meant by place, particularly within place-based leadership studies – posing as it does several key questions around scale of place and consideration of national leadership.

As a parallel outcome to the core consideration of strategies and place-based leadership, the thesis suggests that place-based leadership provides a suitable explanatory framework for understanding place-based responses to climate change mitigation needs, affirming its relevance in several keyways. **It adds to the literature on climate change, climate change governance and policy, and net zero city strategies, by specifically focusing on place-based approaches and leadership in the context of carbon emission mitigation. In doing so it makes a unique contribution to the academic literature and growing discourse on place-based approaches, leadership, and policy.** With climate change advancing and the challenge of sustainable development mounting, there is an increasing need to enhance place leadership towards these ends (Sotarauta and Suvinen, 2019, p1749). As noted previously, *“what is largely missing from current scholarship is a sober assessment of the mundane aspects of climate change governance on the ground”* (CastanBroto and Westman, 2020, p1). This thesis contributes to both place leadership

studies related to sustainable development and an assessment of climate governance on the ground, via the eleven case studies.

In respect of the specific research questions the discussion below now follows each one in turn, following the people, place and powers structure as per the thesis conceptual framework (Figure 2.6, p43).

In terms of who are the place-based leaders, the literature suggests that place-based leadership is one role which can be undertaken by a range of actors in a place, with professional staff noted as serving as important catalysts for change at the community level (Beer and Clower, 2014). There also is an emerging corpus of work that examines the role of higher education institutions as place leaders (Benneworth, Pinheiro, and Karlsen, 2017). However much of the literature focuses on the agency exercised by civic leaders (Hambleton 203369999915a, 2015b, and 2019). The latest summary (Sotarauta and Beer, 2021) as discussed in the literature review suggests that there are five actor types who may potentially, independently, or in some combination make up the concept of place leadership. From this research place-based leadership by key officers in the requisite city authorities has been identified ('managerial actors'). This is with the city council in most cases forming the lead place-based organisation for net zero. It is not an exclusive picture and perhaps, as was predicted from the literature, in some cases universities ('academic actors') or relatively neutral organisations ('civic actors') have also stepped in to take the lead. Business actors can largely be seen to only contribute to place-based partnerships. The subtle shift from the current models of the leadership of place-based partnerships presuming that public sector organizations hold significant power and authority to the private sector (Bowden and Liddle, 2018, p154) appears less prevalent in the net zero case studies examined. It may well be that this is a function of timing, in that the public sector bodies have had to be first to be seen to act on net zero. The private sector responses at time of writing are growing, but perhaps are more place-less and reliant on national market initiatives such as electric vehicles.

Formal and informal assigned and non-assigned place leadership roles can be present (Sotarauta and Beer, 2021). Generally, within the net zero city environment, most place-based leadership roles identified were those with formal authority (sustainability related city officers) and/or assigned roles e.g., chairs of place-based organisations etc). Informal and/or non-assigned actors may of course be influential and present but from formal source documentation and strategies their roles are more difficult to identify.

The characteristics of place-based leadership was ascertained from the data, particularly from the language used within the city strategies. The approach being adopted, *“unlike more conventional organizationally oriented leadership approaches, is by nature collective, distributed, bottom-up, facilitative, and emergent* (Sotarauta,2014, p29). The features identified included the identified need for collaboration, working with multiple stakeholders/partners, and a recognition of the need to work across institutional boundaries/silos to bring a wide range of parties together to affect change. It follows, that the collaboration, power sharing and trust that are argued to be important in the formation of horizontally based leadership coalitions (Beer and Clower, 2014) were encountered. Specifically, it seems that the lead place-based organisation and those within it recognise the limits of its/their authority and thus the need to work with other stakeholders via engagement, empowerment, and collaboration, rather than using formal powers.

An exception might be the ‘bottom up’ and ‘emergent’ aspect (Sotarauta,2014, p29). This study, at least within the thematic case studies examined, has found more evidence of place-based leadership from senior defined professional grades within local authorities or academia, so the way place-based leadership operates and emerges may perhaps be more middle tier rather than ‘bottom’. This research also notes that such emergence correlates with those defined local authority roles, rather than arising more organically from elsewhere within the actors in the local authorities or wider city system. However, there is a caveat in that, as noted in the limitations later in this chapter, it has not been able to distinguish within the local authorities the more nuanced issue of if the local authority officers are influencing the elected politicians, or if political leadership is really driving the imperative to move towards place-based change.

Previous research on place-based leadership is generally argued to have produced a *“portfolio of in-depth case studies on place-based leadership”* (Beer et al., 2019, p172) but has been *“unable to draw conclusions across wider spatial scales, economic structures, time periods or systems of government”* (*ibid.*). This study has specifically adopted a broader approach across eleven UK cities which comprise different political constitutions and are geographically sited across all four of the devolved nations of the UK. The conclusions of this research, based largely on extensive published data, add to the breadth and diversity of the existent evidence base on place-based leadership.

Primarily place leadership is seen as an economic development asset. As noted in Chapter 2, Place-based knowledge leadership processes for more economically resilient regions have been identified (Sotarauta, Horlings, and Liddle cited in Sotarauta et al., 2012). Revealing how place leadership is enacted in different places and times would allow a fleshing out of the questions of how and why some places are able to adapt strategically to ever-changing social, economic, and environmental circumstances while others fail to do so (Sotarauta, 2016). As this study has encountered no specific empirical research or evidence base in respect of the use of place-based leadership as a tool to address climate change and/or net zero outcomes, it significantly broadens the thematic base from existing studies of economic development.

Empirical research (Sotarauta and Suvinen, 2019) suggests that place leadership takes generative modes of action to produce indirectly transformational effects. This is since, often, place leadership by just one or a few individuals is simply not powerful enough to produce transformational changes. As a result, place-leaders “...*build on knowledge of the interests and motivations of many socio-political actors and then work to diverge [sic] external stimuli into internal responses and opportunities.*” (Sotarauta and Suvinen, 2019, p1763). In the vast majority of the place-based leadership organisations investigated, a vision for transformational change for the places concerned was experienced, with the development of place-based strategies being the primary mechanism by which place-based leaders are attempting to affect this change.

Whether institutional organizational contexts affect individuals’ capacities to exercise institutional change exogenous to their organizations (Benneworth et al., 2017, p245) was also broadly investigated in so far as the institution recognised the need for additional resources to support place-based leadership actions and strategy implementation. The scope of this research investigation was not, however, to examine full institutional contexts. Anecdotally it would seem that austerity and responding to Covid-19 and its ensuing effects have inhibited the organisational contexts for concentrating on net zero during 2020 and 2021. Only towards the end of 2021 in the run up to COP26 did institutional contexts re-align more closely around this agenda. A general lack of resources within the local authorities and public agencies (not the local universities) was acknowledged in many of the case studies confirming “*other public sector organizations are hamstrung by a shortage of ‘slack’ resources to dedicate to this civic task*” (Vallance et al., 2019 p10). That said, in several cities recruitment for additional posts had commenced within the duration of the research.

Overall, the insights gained from answering the parts of the first research question affirm the principal findings from the literature. Namely, that the characteristics of place-based leadership hold true when investigated in a net zero city context. Since place-based policies are a way of responding to economic and social challenges (Beer et al.,2020), with a focus on specific cities, localities or regions, the data reviewed for the first question provides ample evidence of place-based policies in an emerging area, that of carbon mitigation for net zero.

The second research question raises key questions around terminology, definitions, and assumptions relating to geographic scope and what is meant by place in the context of the literature and the case study data. In this regard, the research challenges some of the very basis of place-based literature. As noted in Chapter 2, the literature review undertaken for this research revealed that there appears to have been little further discussion of this specific issue (scale and type of place) in subsequent research. The references to 'local' as the main scale of place-based leadership (Beer and Clower, 2014) are prevalent in both the academic and the grey literature considered; and it appears that place is never synonymous with National. This suggests there are legitimate questions raised by this work pertaining to the applicability of a concept (place-based leadership) to an issue for which the response needs to be local, regional, national, and international.

As noted in earlier chapters, the review of the ten available UK Core City Strategies suggested a real lack of clarity as to terminology on place. City Council administrative boundaries generally form the basis of the place-based strategies examined. The use of 'place-based' within several of the strategies (and in government policies) would seem to broadly correlate with 'local neighbourhood' rather than being used to refer to the city or the city region i.e., the geographic extent which aligns to the full geographic scope of the carbon emissions under consideration. The net zero challenge is thus one in which the most appropriate scale of place for effective action is contested. The examination of the governance arrangements below also lend weight to the need for an acknowledgement of place being at the Devolved Nation or UK level for leadership on net zero.

This research with its choice of thematic case studies, has revealed a blind spot in existent literature. Discourses on place-based leadership would appear to ignore the possibility that place might be a nation, and that the place-based leader could be the leader of a devolved nation or the UK. The extent of place-less emissions and the evidence presented as to the importance of place-less (non -municipal) power all points towards the

importance of national net zero strategies, as well (or instead of) as city strategies as a valid unit of analysis. If this is the case, then those developing said strategies, promoting their use, and arguing the case for place-based transformational change are equally valid place-based leaders. In the UK context this would be the national place-based civil service staff who are ultimately respond to national elected place-based political leaders. Future research should consider this possibility and consider whether the relationship between place and national governments is the same across nations, and if size and cultural identify play a role.

COVID-19 is a classic example of a wicked problem; the effective response to which is framed by, but goes way beyond, science. It has fundamentally changed our relationship with place, both in terms of how we live and work, though whether this change is permanent or temporary has yet to be determined (Hambleton (2021) reviewed in Creamer (2021)). Some have argued that place-less power and a national government's failings to address the many signals that a new disease was spiralling out of control across the globe, severely delayed and negatively impacted the United Kingdom's response to COVID-19 (Ibid). *"At a local level, however, a more action-oriented agenda has been evident; with the pandemic having 'stimulated a remarkable upswing in mutual aid, community activism and caring behaviours' in response to both old and new challenges facing cities and communities"* (Hambleton 2021 reviewed in Creamer 2021, p180). COVID-19 has in many minds highlighted the power of the leaders of the Devolved Nations and the leader of the UK Government to exercise considerable place-based leadership to drive transformational change.

Governance, understood as collective decision-making for societal problem-solving, by necessity involves diverse actors in public, private, civil, and third sectors (Wolfram et al.,2019). This research found as per the first research question, strong evidence of the governance arrangements that would be expected from the place-based leadership literature. New and re-invigorated place-based horizontal governance arrangements were widely encountered and form the place-based partnerships of stakeholders considered necessary to deliver significant change.

Stakeholders who are members of place-based leadership structures are anticipated to have been drawn from agencies and networks over a wide geographical area in an unbounded territory to devise and implement strategies to achieve place-based development goals (Bentley et al.,2017). This was also found to be the case with most of

the place-based partnerships which comprised a wide range of public and private stakeholders. As would be expected; their primary role was that of being one of overseeing the delivery of the place-based strategies. The pattern of 'horizontal' governance, referring to a constellation of sub-national actors (Bentley et al.,2017), was prevalent in all the case studies and underpinned the place-based partnerships encountered. There was also clear evidence of a significant acknowledgement in the place-based strategies for the need to work vertically, with central government -to deliver place-based change.

Whilst these national–local intergovernmental relations ('vertical' governance from Bentley et al.,2017) were not the primary focus of the research, most of the strategies were clear as to the constraints on place-based leadership of sub-national bodies. How government is arranged, and power distributed, was found to have a significant impact in creating an environment in which leadership either thrives or is limited (Beer and Clower, 2014). In the UK, at least with respect to net zero, the power distribution from the centre to the cities investigated is modest and a strong central control over fiscal and legislative matters remains. This raises questions around the utility of city strategies in isolation as effective means of tackling the net zero challenge. Action at all scales from National, sub-national/Devolved nation, city, town, and neighbour will be necessary.

The literature notes that it is still unclear as to how collective place-based leadership can be reproduced in widely varying institutional systems across different territories (Vallance et al.,2019, p1). It is considered that: -

“Some systems of government, national and regional cultures, economic structures and patterns of urban settlement are more likely to result in robust place leadership when compared with others. The limited volume of work to compare locations or even nations lend support to this hypothesis” (Beer et al.,2019, p174).

This research looked specifically at place-based leadership in cities operating under four different territories or systems of government (England, Wales, Scotland, and Northern Ireland). It suggests that there is an element of uniformity, whereby despite the clear differences in national and regional cultures, the use of strategies by place leaders is broadly similar. There may be an element of 'group think' in operation between case studies examined, or the vertical governance and role of the devolved administrations may genuinely not be sufficiently different to lead to a differentiated response given that all case studies are within the UK. Any “group think” underway may well be evidence of multi-level or poly-centric climate governance; it is certainly the case that the UK Core

Cities are starting to work together to share knowledge and leadership on the net zero issue

Vallance, Tewdwr-Jones, and Kempton (2019, p1723) show how *“actors can mobilize interpretive and network forms of power outside formal governance structures to encourage long-term thinking and broker innovative cross-organizational projects”*. Place-based leadership is about such mobilisation of key resources, competencies, and powers (Sotarauta and Beer, 2021). The data indicates that in about half the case studies, the place-based governance arrangements perform more than an oversight role and instead form a key part in distributing power and thus ownership over the actions necessary amongst city stakeholders. This would be expected if the place-based leadership processes noted above were underway. Developing capacities for transformative climate governance (Holscher et al.,2019a) such as new structural governance conditions were encountered in the case studies as key to ‘getting the right people in the room’.

Overall, this thesis links research into place-based leadership processes with that of climate change governance in a way that has not been undertaken previously. It highlights the common processes and practice present discourses in both, despite sometimes the use of differing terminology. The two academic communities have much to learn from each other.

7.4 Implications for policy and practice

All the UK Core Cities which formed part of this investigation have declared a climate emergency and most are on their way to establishing both place policies for net zero and new climate change governance structures. Cities and urban areas are increasingly recognized as strategic arenas for climate change action (Castan Broto,2017).

In most cases the lead local authority has developed an evidence-based strategy to respond to the climate emergency; however often its geographic or sectoral scope does not fully reflect the city and its impacts. Better definitions of what constitutes the geographic extent of the place would assist, and the strategies would benefit from a more honest consideration of the effective city boundaries for carbon emissions. The focus on the administrative boundary may well be because of the lead authorities feeling they need to demonstrate what they are doing (in competition with other UK Core Cities) and an unwillingness to get involved politically, or at a professional level, with neighbouring authorities.

Local authorities are making every effort to sort their own immediate emissions, but the data suggests that local authority emissions are only about 20% of those within a city. Strategies should be developed city-wide and include all place-based emission generators. The analysis undertaken of the challenge posed by the full scope of carbon emissions suggests that some cities have yet to grasp the full scale of the transformation needed and their part in it. There is little serious consideration of 'Scope 3' Consumption based emissions which typically arise outside of city boundaries and raise serious questions around the legitimacy of the term net zero emissions.

Some strategies contain significant action plans, but most cities have yet to identify very specific actions and/or organisations to carry out said actions. Whilst it would not be appropriate to name individuals in action plans, a greater emphasis on more specific organisations and roles within them might assist. Some plans have a very extensive set of actions, and it could well be argued that there are too many to be effective. Most appear unfunded.

It has been recognised that a net zero strategy should not be a means unto itself. Most cities acknowledge that some form of transformational change needs to happen not just to establish new governance arrangements but also, in the actions to be taken by the multitude of organisations forming part of the new setup. There appears to be a seductive attraction to the production of extensive strategy documents, albeit the process itself development said documents may well be enabling in terms of relationship building. There is less on what comes next for city authorities and on implementing the strategies i.e., how the strategies gain material weight and enable the delivery outcomes, especially in wider place-based policy is less clear.

In some cities the academic community has taken the lead in working with city stakeholders. In others, specific bodies have been formed. It is not clear as to which model of place-based governance is likely to be most successful. Diffuse distribution of actions to a multitude of city stakeholders in the case of cities such as Manchester, a middle ground with a place-based network like Belfast or Leeds or a single strong local authority like Glasgow and Nottingham may well be the most effective way to deliver long term transformational place-based change.

Cities generally conclude that innovative climate change governance needs to be open and transparent, and that it should also include as far as possible those with a direct influence over carbon emissions. However, the reality is often different. Many cities revert

to the usual suspects, i.e., consultants, Non-Government Organisations, civil society, and academic institutions to form their new governance bodies. Industry, aviation, retail, construction, and many other sectors with large carbon footprints and or influence over technology changes are often missing. Citizens are often not explicitly involved even though significant behaviour change is needed.

Studies undertaken by the UK Core Cities suggest that in the UK 30-50% of the control of city emissions are not place-based i.e., not within the realm of place-based organisations to affect. This may be a function of a lack of substantive devolution in the UK in respect of some key sectors and available policy mechanisms e.g., heat supply and strategic transport. Effective climate change governance must include not only those directly within the place, but also those with influence over the emissions in the place. Awareness of the limited levers available is growing; with the most recent strategies starting to identify significant regulatory and fiscal asks of central government.

As has been discussed, the growing recognition of the importance of the devolved administrations and the UK Government in carbon emission mitigation, especially in relation to powers and funding, raises significant questions around the efficacy of the place-based approach if it equates to just cities. The city approach and the content of city strategies and action plans needs to be bounded in the art of the possible, so that they may, in part, manage expectations amongst stakeholders and citizens. The most recent (end of 2021) publications by the UK Government such as its *Net Zero Strategy: Build Back Greener* (HM Government, 2021) suggest a strong place-based role at the nation level. As this thesis concludes the place-based narrative in net zero does seem to be getting wider traction i.e., *“accelerating net zero delivery -New research analyses the economic and social benefits to be gained by taking a place-based approach to climate action in UK city-regions”* (UKRI, 2022). This new research found that place-based carbon reduction measures led by UK cities and towns would produce far better environmental, economic, and social results at lower cost, than a national "one size fits all" approach (PCAN, 2022). The research studied the costs and benefits of adopting differing mixes of low carbon measures in six city regions across the UK: Belfast, Cambridgeshire and Peterborough, Glasgow, Greater Manchester, Liverpool, and Swansea Bay (*Ibid.*).

In summary for practitioners in net zero city strategies are the following recommendations. First, there is a need to establish clear place leadership (not necessarily exclusively by the local authority) and yes, develop collectively a net zero

strategy for the place. Secondly, and most importantly, there is a need to “get the right people in the room”. By this it is meant that getting leadership representatives of those place-based organisations that have influence over the carbon emissions within the place (something that does not seem to be well known or the current starting place for stakeholder selection). Typically, this would suggest a wider group of actors than is currently anticipated, to both encompass emission scope and emission geography. It also means bringing in representatives of place-less organisations and vertical governance bodies at the regional and national level. This is given the influence that these have over carbon emissions and the financial and powers necessary to deliver place-based transformational change. Thirdly, it would seem logical and most effective to distribute as widely as possible ownership and accountability for the carbon mitigation necessary via good climate change governance. This would recognise the city as a system with many interlinked actors, organisations, and dependencies. It would require significant collaboration and cross organisational and cross silo working, in other words, it needs good climate governance. This *“has emerged as an important prerequisite to achieving transformative climate action. Cities are recognising the importance change. Cities are evolving their local governance systems, structures and strategic planning processes with the goal transforming towards climate resilient carbon neutral futures”*, (C40, 2020b, p45.)

Lastly, and perhaps the most important currently, there is clearly a need to provide sufficient time and resources to lead, influence, and support. Reaching out to get the ‘right people in the room’ and to empower and enable them to deliver change needs not just data and targets. To reiterate: -

“Good [place] leadership depends on having sufficient uncommitted resources, and especially high-quality individuals – human resources – to devote to questions of strategic significance. These resources may come ...local business leaders, senior government officers, community activists, etc. – or professional economic development staff, local government officers or personnel of other agencies who have sufficient time to consider long-term issues” (Beer and Clower, 2014, p11).

With the advent of Covid-19 – this has never been more challenging to achieve.

7.5 Limitations

The limitations to this research are considered broadly by overall research design, data gathering, and data analysis. Limitations are of course noted within the macro-observation that this is a PhD thesis not a multi-centred research project like those encountered within the literature.

When investigating place-based leadership challenges include ensuring that the ontology, the research design, its time period, the spatial scale, the research instruments, the data collection, and the analysis is right (Sotarauta and Beer, 2021, p16). Several principles have been established by previous researchers (Beer et al., 2019, pp. 172, 180). These are that methodological innovation in the analysis of the leadership of places calls for

- the exploration of new techniques with the potential to produce robust, reproducible, and generalizable outcomes
- scholarship that must advance beyond a collection of one off and single-case studies towards replicable comparative research and a reliable cumulative body of knowledge about place leadership in different contexts
- the need to continue to build transferable insights and seek ways to link with broader debates in regional research.

In respect of the challenges above, within the research design (having established the research questions, the unit of analysis and the specific aspects of place-based leadership to investigate), the choice of case studies and number of case studies was always an area of debate. Some of the issues around the case study selection were explored further in Chapter 3. This research, as noted previously, specifically approached the case study selection with a view to responding to these methodological challenges. There is always more to debate and challenge, however. Given the broad research findings that scale of place matters, questions may remain around why medium scale cities were chosen. Towns, or larger cities could also have been considered. The omission of London is a prime example. London, by virtue of its membership of extensive global networks of cities tackling climate change might have brought additional insights. However, it could conversely be argued that this scale of city is one that has already attracted much research interest, particularly amongst the consultant community (C40 2018, C40 2019, C40 2019a, C40 2019b). Towns may well merit a full consideration of the issue of place-based leadership as compared to place-less power, this is with towns in the UK having even less devolved powers than those members of the UK Core city network.

If context and governance matter, then an international selection of places might also have yielded additional insights, though such an approach would also have raised considerable practical difficulties such as case study selection, access to (and translation of) sufficient published strategies and contact and communication with appropriate place-based leaders and institutions.

A final challenge is over the choice of a specific pre-existing network of cities. The UK Core City network is quite a uniform set of cases (despite their different political and governmental contexts) and their place-based representatives do meet several times a year. This raises questions around how distinctive the case studies are i.e., are they all sharing the same model due to knowledge sharing and learning – or has the pattern evolved in isolation. A mixed set of UK cities, from both within and outside the Core Cities Network, might well have generated further differences in approach to place-based leadership and net zero strategy production.

Notwithstanding the comments outlined with respect to the overall research design, there were also limitations to the data gathered for this thesis. The most obvious relates to issues of time. The response of places to the net zero challenge is a contemporary and a dynamic one, with a particular spurt of activity pre-COP26 in Nov 2021. Any PhD research investigation is, by necessity, time-bound and the empirical research was undertaken over an 18th month ‘window’ into the changing position of many UK cities and their work on strategy production. As noted in Chapter 3, data gathered tended to be at the initial stages of strategy development and publication, and at the formulative period of the development of place-based climate governance.

One of the more significant limitations might well be argued to be the nature of the data gathered. Typically, many studies into place-based leadership, and leadership in general, rely in part on qualitative data gained from interviews with leaders. If the unit of analysis was specifically what the leader as an actor did, and why, then the lack of interviews might well be seen as a limitation. This thesis, as noted and justified in Chapter 3 however, aimed to look objectively at how the published strategies and governance arrangements produced by the place-based leaders work to deliver place-based transformational change. A document analysis approach was therefore considered justified in this case.

Within the choice to focus on extensive published data there were sub-limitations. First, the strategies might not have been produced or published directly by the lead local or municipal authority. They might instead at this stage still be consultant or academic studies, i.e., they might not have been fully representative of the client or endorsing organisation. Some of the strategies were also at the draft stage for consultation rather than being finalised, raising the prospect of minor changes in the final published versions. The strategies produced have been used by the cities to issue a statement of intent and ambition as to their net zero ambitions. There is therefore a degree of competition or ‘one

upmanship' in their production in terms of individual authorities wishing to be a leading player in this space nationally and in some cases, internationally. As a result, the rhetoric, and the reality of the various cities' intents for place-based transformational change may be different.

The most significant limitation relates to the content of the strategies. They contain much about the institutional intent of the place-based lead organisation. In addition, they contain important evidence in respect of what the place-based leadership in the given city hopes to achieve and material on how it is envisaged that place-based organisations will work together. Reference to other source material such as committee reports gave more context on the role of individuals in the lead position, as did web material and press articles. The strategies however do not contain that rich a source of material in respect of individual agency. There is little direct identification of the place-based leaders in the strategies, nor what interactions they have or how they have directly carried out strategy preparation. Most crucially there is little available directly on how the place-based leaders interact with place-based climate governance arrangements. Some minutes of meetings are available for some of the latter, but these only give a limited sense of the roles undertaken by individuals.

Within the data analysis, a principal limitation is likely to relate to the risk of researcher bias within the material selected for coding, analysis, and reproduction within the main thesis text. Establishing from the outset a clear academic discourse and literature to situate this research in, together with an innate interest and enthusiasm for place-based leadership as a concept, brought modest risk in respect of approaching the analysis with insufficient questioning of the core concepts i.e., seeking confirmation in the positive of the presence of place-based leadership and its facets and terminology. In this case findings could have been influenced by the issues raised in Chapter 3. Namely the extensive experience (~30 years) and expertise of the author (professional sustainability and planning professional in an organisation that works more widely on net zero consultancy). This brings risks of bias and a desire perhaps of wishing to substantiate long held views. These dangers were explicitly recognised from the outset in developing the research, in embedding the research questions firmly in the literature, and in using published material as objectively and transparently as possible. The work has confirmed some suspicions held by the author in the case studies around both the lack of efficacy of some of the net zero strategy approaches and the governance arrangements of some cities being limited in their inclusivity. The findings in respect of the more theoretical

aspects of the work have surprised the author; primarily the strong evidence supporting the use of place-based leadership and policy concepts within the practical world of net zero strategies giving the concept further real-world applications.

7.6 Areas for Further Research

The additional research ideas are focused around the three research questions developed from the literature for this PhD, as well as wider gaps in understanding that relate to the conceptual framework developed in Chapter 2.

7.6.1 Additional research around question 1 – People

Additional insights could be gained by undertaking interviews with the place-based leaders identified by this work (and those which would need further investigation to identify). Such an expansion would seek to understand more about their roles (and confirm the degree to which they identify as place-based leaders). It would also allow greater consideration of the personal techniques they use to develop the published strategies and win hearts and minds. This would provide additional understanding of the characteristics of place-based leadership in this context. Further insight could also be gleaned on the intrinsic factors inherent within place-based leadership effectiveness by examining the institutional context further – specifically via interviews with those around the leaders, such as line managers or chief executives. This would assist in considering more the enabling environment from which place-based leadership emerges. From this could also be gained further understanding of why in some places it is not the public sector from which the leader arises, but rather academic or civic society. It appears that in some cities lack of trust in the council as the lead delivery organisation has led to the emergence of other cross city independent organisations (e.g., Manchester, Bristol, Belfast) but this assertion would benefit from a stronger evidence base. The specific role undertaken by universities would play into the emerging narrative of the civic university (Goddard and Vallance 2011 and others). Expanding the investigation of the city system around the place-based leaders identified to seek out the potential influence and role of political and business leaders and those from civic society would assist in gaining a wider understanding of the influence of these on the managerial leaders studied.

More widely there would be merit in applying the same approach as this thesis to similar types of place-based strategies to understand any potential synergies and how transferable the insights gained are. As has been identified in a recent (January 2022)

funded PhD proposal⁷⁸, opportunity exists to review city-scale decarbonisation plans and literature to identify common issues and best practices in co-production, planning, delivery, and monitoring.

7.6.2 Additional research around question 2 – Place

Some of the most fundamental questions around place and the thematic issue relate more to distinctly separate research projects. One would be to understand more about the optimum geographic boundary(s) for the carbon emissions associated with a city/place. A second would be linked to this issue would involve evaluating if any place-based strategies are effective in reducing carbon emissions.

In relation to place as it pertains to place-based leadership there are more fundamental, almost philosophical questions raised by this research around definitions and scale. A starting point would be to undertake a much more systematic review on the use of the term place in literature and by practitioners. This would be with a view to understanding what it means to them and if place is always synonymous with ‘local’ or ‘regional’. By expanding the investigation to look at place-based leaders and their strategies in a wider sample, say more UK cities not part of core city network, or at a smaller scale – say UK towns, might lead to additional understanding. The new question arising from this thesis, namely can place-based leaders be National Leaders, would also be worthy of further exploration. This could take a similar approach to this work, with a detailed review of the strategies and language produced by the UK Devolved Administrations and UK Government. However, given the human interaction part of place-based leadership, it is suspected that the most fertile ground for further insight would be the Devolved Administrations where senior civil servants and elected politicians are closer to the places they serve.

7.6.3 Additional research around question 3 - Powers

Linking questions around place to governance represents a promising area for further research. From this research it would seem the concept of governance can be interpreted in two subtly different ways; with place-based leadership and climate change in cities research communities approaching the issue slightly differently. To some, governance represents the macro context to the operating conditions within a place, whilst to others

⁷⁸<https://www.findaphd.com/phds/project/accelerating-city-level-climate-action-co-producing-plans-that-can-be-delivered-and-monitored/?p139760> Accessed Jan 2022

it refers to the arrangements established *in* the place to connect actors and oversee change.

In respect of the wider enablers of place-based leadership, there is a clear need to further consider the degree to which devolution of powers to regions and places facilitates place-based leadership. This has been undertaken in respect of Local Enterprise Partnerships in the UK (Bentley et al.,2017) but not, to the author's knowledge, in the net zero thematic area. A more comprehensive analysis in the latter might allow some useful comparisons. Such work would further examine and expand on the thinking presented in this thesis regarding vertical governance and place-less power.

Horizontal place-based 'governance' arrangements established to drive net zero and to respond more widely to climate change provide areas for further research which are more closely aligned to this thesis and its aims. First, it should be possible to pay greater consideration to the inclusivity and completeness of the governance arrangements via a systematic examination of terms of reference, membership, and attendance at the meetings established. Such research could be undertaken in respect of the existing case studies considered and/or expanded to other UK cities and towns. The issue of membership could be considered both in terms of city systems and/social constituent completeness, and whether net zero/climate lends itself to inclusivity when compared to say economic or innovation-based place governance arrangements. Observing the meetings and looking in more detail at correspondence might give a much greater sense of participation and leadership by different parties. This might also generate insights that would both improve governance and provide a greater understanding of the actions of individual actors as considered under research question one. Recent non peer reviewed research has found "*a worrying lack of diversity in climate change decision making, policy experts have warned, after a study found the voices of people of colour make up just 3 per cent of discussions on the issue*" (Venn and Dietzel, 2022). More can clearly be discovered in this space.

As this thesis has also raised, the relationship between governance attendance and carbon emission sector/institution emittance would also be worthy of further study. It is suspected that many sectors and actors responsible for significant place-based influence over emissions will not be present with the climate governance arrangements proposed or established. There are likely to be place-based differences in which sectors and actors

are important too, reflecting, for example, the presence or absence of certain transportation or industrial sectors such as aviation.

The additional avenues of research suggested in this chapter may well provide additional understanding of how place-based leadership and governance interact. This, in turn, might lead to a greater comprehension of what works best but practitioners would benefit from a more explicit study of how governance links to place-based transformation, in this case towards a net zero future. Exactly how this would be constructed would be for others to decide but would require a longitudinal element, mostly likely over many years. It would also undoubtedly be complex, as distinguishing between the impact of effective governance compared to many other factors, such as the nature of action planning, on any reduction in place-based carbon emissions would be challenging. Correlation is not causation. So other methods could be employed to consider what constitutes effectiveness, including how leaders and actors in the city system perceive the governance arrangements to be working for them. This thesis suggests this is a fertile area for future research. Place-based approaches to leadership and policy matter.

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