CLIMATE COMMISSIONS AS A STIMULUS FOR PLACE-BASED ACTION

AN EVIDENCE SYNTHESIS FROM EXISTING UK CASE STUDIES



Acknowledgements

The work presented in this report was funded by the Place-Based Climate Action Network (PCAN) project, and was facilitated by the University of Edinburgh's Centre for Carbon Innovation (ECCI). Any errors or omissions are the sole responsibility of the authors (below).

Contents

Table of Figures	2
Executive Summary	3
Introduction	5
Defining Commissions; a review of existing literature	7
Place-Based archetypes in the UK	11
Independent	11
Expert-led	15
Local Authority	19
Third sector	22
Climate governance beyond the city	25
Strengths and Weaknesses; reflecting on the five archetypes	27
Funding and independence	27
Engaging with the private sector	28
Engagement across the city	30
Scale and focus	31
Maintaining momentum	32
Turning Words Into Actions; strategies for maximising Commission impact	34
Deference Liet	25

Table of figures

Table 1: list of projects identified	,
Figure 1: case study: Manchester Climate Agency	2
Figure 2: visualisation of the Manchester Climate Agency	4
Figure 3: case study: London Climate Change Partnership	6
Figure 4: visualisation of the London Climate Change Partnership 18	8
Figure 5: case study: Lancaster Climate Change Cabinet Liaison Group 2	0
Figure 6: visualisation of the Lancaster Climate Change Cabinet Liaison Group 2	:1
Figure 7: case study: Derby Climate Coalition 2	!3
Figure 8: visualisation of the Derby Climate Coalition	:4

Executive Summary

The following report examines the evidence from a desk-based review of existing place-based climate governance strategies across the UK. This research has been stimulated by the creation of three Climate Commissions in Leeds, Edinburgh and Belfast. These Commissions are part of a UK government- funded project called the Place-Based Climate Action Network (PCAN). PCAN aims to build a replicable, local model of climate change governance that brings together decision makers in the public, private and third sectors and the research community. As climate change becomes an unavoidable truth for policy-makers across all sectors of society, Climate Commissions offer an important opportunity to exercise cross-sector collaboration for place-based action. With urban areas producing a significant volume of the world's greenhouse gas emissions, the significance of place is key to a strategy which recognises the important role cities play in mitigating the impacts of climate change. Fostering city-based, collaborative action therefore holds great potential in effectively addressing what is an increasingly apparent global issue. With this in mind, the aim of this research was to identify and evaluate existing collaborative climate change strategies currently or previously undertaken within UK cities. Driven by both the aspirations of the PCAN project, the research has synthesised the available evidence from a series of key case studies across the United Kingdom. In doing so it hopes to inform future iterations of commission formation across additional cities, as well as offer a platform for critical reflection by those with an already established framework.

The primary outcome of this desk-based study was the identification of five key archetypes which go some way in representing the range of collaborative climate governance strategies currently or previously undertaken across UK cities and regions:

Independent

These are organisations which most closely reflect the aims and governance structure of Climate Commissions. Acting as independent voices on climate change in the city, they bring together a diverse range of organisations and actors from across the city in order to inspire and inform place-based climate action.

Expert-led

Expert-led groups are often created by local or national governments in order to advise decision-making surrounding climate change within the public-sector. Their work is therefore closely tied to these bodies both in terms of funding and in the focus for their research. These organisations are made up of a small number of individuals from different sectors who have expert knowledge and experience in a particular area.

Local Authority

Organisations within this archetype are, by definition, closely tied to city councils. While expert-led groups include only a few select individuals, a primary goal of organisations within the 'Local Authority' archetype is to create open groups of external actors, including members of the public, to advise on local authority planning.

• Third Sector

Networks of third sector organisations operate within many UK cities. Bringing together a diverse range of environmental groups, these networks help to facilitate action at a local, regional and national scale, often raising funds through donations and fundraising events.

• Climate Governance Beyond the City

Climate governance beyond the city acknowledges the work of regional and national climate partnerships and their relevance to climate action within urban spaces. This archetype also draws on the work of private sector organisations as well as more recent agendas which seek to engage businesses and industrial sectors in place-based change.

Despite the emergence of place-based climate governance, as a broad conceptual transition, there is little empirical evidence on existing strategies from which to inform future modes of governance. By identifying and evaluating ongoing collaborative exemplars in cities across the UK, this report not only synthesises the existing evidence but, in doing so, lays the foundation for future empirical engagement with Climate Commission operations in Leeds, Belfast, and Edinburgh as part of the PCAN agenda. The evaluation of existing projects, combined with a review of the broader academic literature on place-based governance, will therefore form the basis for a series of key recommendations. Acknowledging the complex and challenging process of creating an independent and diverse coalition of organisations and actors, these recommendations (summarised below) focus on potential strategies for turning words into action. Collectively, these recommendations speak to a need to set clear but flexible aspirations. In particular, it is crucial to remain open-minded regarding the tangibility of the impacts new institutional arrangements in place-based governance can (and should seek to) induce across the short, medium, and long term.

Key Recommendations

Utilise existing networks to maximise engagement

The integrity of future Climate Commissions rests on ensuring representative and meaningful cross-sector engagement with the issue of climate change. Recognising the existing work being done by groups, organisations and networks within the city will help future Commissions to create effective objectives that engage with and build on existing action.

A secure financial plan

Financial independence is a key issue for Climate Commissions which aspire to be an independent voice advocating for climate change action within the city. A diversity of funding streams will not only help to maintain a greater degree of independence but also make future Commissions more financially resilient. Secure and meaningful funding will help to drive engagement and create employment opportunities.

Engagement beyond the physical

Engaging with the city beyond the bodies present on boards and in meetings is important for creating a representative and effective Commission. Constructing online engagement platforms alongside social media streams will help to generate fresh ideas, empower individuals and ensure more representative and relevant decision-making.

• A clear focus and governance structure

Bringing together a representative coalition of actors is challenging, particularly when each may have different ideas about the type and scale of action that is needed as well as the methods for realising this action. The creation of a small, representative governing body would help to maintain the focus of the broader group.

Introduction

Home to over half of the planet's population, urban areas are responsible for a significant proportion of global greenhouse gas emissions. This means that cities and towns are becoming key sites of innovation in efforts to address climate change. Recognition of the power and importance of cities in climate governance is reflected in a new £3.5 million project to inform and stimulate action at a local level. Founded in the wake of the latest IPCC report, the Place-Based Climate Action Network (PCAN) aims to build a replicable, local model of climate change governance that brings together decision makers in the public, private and third sectors with the research community. Hosted by the London School of Economics and Political Science, the University of Leeds, the University of Edinburgh and Queen's University Belfast, PCAN will seek to increase engagement between University researchers and those tackling climate change across different sectors.

Supported for an initial five years by the Economic and Social Research Council (ESRC), the project is made up of five platforms aimed at facilitating two-way, multilevel engagement between researchers and stakeholders. These platforms consist of three city-based 'Climate Commissions' in Edinburgh, Belfast and Leeds and two 'theme-based' platforms on finance and business. The creation of these future Climate Commissions will be the focus of the following report which shall synthesise evidence on existing collaborative climate governance practices in the UK. Through breaking climate governance practices into five rough archetypes the report shall reflect on key case studies and use these to offer tentative recommendations to cities considering setting up their own Climate Commission.

A core idea of Climate Commissions is that the cities in which they are located will act as 'hubs' for low carbon technologies, climate mitigation and adaptation measures, sharing best practice with each other and creating local-level solutions that are able to be scaled up or replicated.

Hosted by academic institutions, the Commissions will act as independent voices in coordinating local climate action between groups from across sectors and help to attract low-carbon investment to support regional climate strategies. The ESRC are investing £3.5 million in PCAN including a flexible fund' of £400,000 over 5 years which aims to award 20-30 grants, with an average grant size of £20,000. The fund is open to the UK research and climate change community with applications invited from practitioners (policy makers, businesses, NGOs) and academics.

The Commissions

In September 2017 the first of the three Commissions was launched in Leeds. The Leeds Climate Commission has been influenced by the UK Committee on Climate Change, and seeks "to be an independent voice in the city, providing authoritative advice on steps towards a low carbon, climate resilient future so as to inform policies and shape the actions of local stakeholders and decision makers" (Leeds Climate Commission). Acting as a pilot before the creation of bodies in Edinburgh and Belfast, the intervening years have seen the Leeds Climate Commission develop a network which brings together over forty organisations from across the third, public and private sectors. In addition to the expanding network of formal partnerships, the Commission also has a growing grassroots presence through coordinating with groups such as Our Future Leeds and holding open meetings through the Leeds Climate Forum. The Commission's activities are guided by a strategy group which is supported by three working groups focusing on low carbon development, climate resilience, public engagement and communications.

The current model set out by Leeds helps not only to facilitate cross-sector partnership, but to create a collaborative forum which is able to monitor progress, assess risks, set meaningful objectives and make measurable contributions towards meeting the city's climate targets. In short, the Leeds Climate Commission acts in four different ways:

- It monitors the city's progress in meeting its carbon reduction targets, recommends actions to help keep it on track and advises on climate-related risks and adaptation opportunities.
- It fosters collaboration on projects that result in measurable contributions towards meeting the city's climate reduction targets.
- It acts as a forum where organisations and individuals are able to share ideas, get support and advice on best practice.
- Finally, the Commission produces an annual report that will help to inform council decisionmaking.

PCAN was officially announced in January 2019 and both Edinburgh and Belfast remain in the preliminary stages of setting up their respective Commissions with the first cross sector meetings scheduled for October 2019. Guided by the University of Edinburgh and Queens University Belfast, academics have welcomed the challenge emphasising the opportunity to address not only environmental issues but the networks potential to deliver a range of other social and economic benefits.

The information contained within this report is based on a desk-based web review of existing evidence on UK city Climate Commissions. In the first instance, this information was collated into a database containing key information for Climate Commission activities across the UK. This was subsequently analysed in order to identify shared aims and ambitions across the different case studies. This allowed for a series of archetypes to be identified around which the various citybased activities can be assimilated. In the following section of the report, these archetypes are presented and exemplar case studies used to illustrate the key characteristics of each and to map out the relationships between various stakeholders. Following this the archetypes are assessed for their strengths and weaknesses as transferable models for learning, before a series of tentative recommendations are presented by bringing the experiences of the cities described into conversation with the ambitions of the PCAN project.

Table 1 below presents all of the identified examples of climate commission and commission-like initiatives taking place at either the city level, or across place-based spaces at the sub-national level, and which have taken the step to enact climate driven changes in their communities.

Independent

Leeds Climate Commission Manchester (Climate 'Agency') Reading Can Climate Action Network Sheffield City Partnership Swansea Environmental Forum

Expert-led

Bristol Advisory Committee on Climate Change London (LCCP) Haringey Zero by 2050 Commission

Local Authority

Oxford (Citizens Advisory Council)
Lancaster (Climate Change Cabinet Liaison Group)
Liverpool (Spatial Development Strategy (SDS)
Cool Wirral Partnership
Bradford District Environmental Partnership
Doncaster Climate Commission
Glasgow Climate Emergency Working Group

Birmingham Climate Taskforce Newcastle Climate Change Partnership Southend Climate Change Partnership

Third Sector

Portsmouth (Climate Action Network)
Derby (Climate Coalition)
Sheffield Climate Alliance
Winchester Action on Climate Change

Climate Governance Beyond the City

Fit For the Future
The Climate Coalition
The Climate Change Commission for Wales
Suffolk Climate Change Partnership
Sustainability West Midlands
Lancashire Climate Change Partnership
Devon Net-zero Task force
Climate East Midlands
Table 1

Defining Commissions; a review of existing literature

The purpose of the brief review of academic literature below is to set the scene for the desk-based research to be presented in what follows and which comprises the central remit of this report. The PCAN project offers a platform for new forms of understanding and knowledge generation across themes such as Urban Governance, Climate Change policy, and the Sustainability Transition, while its emphasis on place-based practices of governance presents a unique opportunity to both study, and reflect upon, the associated challenges. One of the reasons why PCAN is so timely is because of the fact that very little work has been carried out to date in this conceptual space and it is hoped that an innovative portfolio of research will be stimulated by the project and by the establishment of climate commissions in the cities of Leeds, Belfast, and Edinburgh. While the research presented in this report is therefore primarily based on existing grey literature pertaining to the various city climate commissions and initiatives taking place across the UK, the following themes have been identified from within the academic literature as offering a theoretical basis upon which to identify future contributions. In this short intervention, a number of recent special issues, and scholarly 'calls to action' are identified as powerful stimulants for PCAN's nascent research agenda.

Framing the Climate-Research Agenda

Recent interventions by Bulkeley (2019a; 2019b) have sought to put the question of social science research – and particularly human geography's – engagement with climate change on a firmer footing regarding the role to be played by critical social enquiry. In the first of her articles she concludes that (ibid.3):

"...our understanding of climate change needs to shift from that of a problem that needs specific responses to a condition that is constituted through specific forms of socio-spatial relation and in turn constitutes the politics, ethics and meaning of particular socio-spatial orderings, from the citizen to the city, the community to the corporation."

Within urban transitions to low carbon futures, there is a need for research and practice to evolve side by side and in close coordination. Climate change therefore presents an opportunity to create a dialogue between different sectors and the chance to integrate an interdisciplinary approach to transitions. Acknowledging that there are 'multiple, diverse, complex and often contested ways of becoming and being climate changed communities, corporations, cities and so forth', Bulkeley highlights the need to firmly

integrate diverse perspectives from social science into our climate change response. Urging us to consider society and environment together, she appeals to human geographers to consider what new knowledges will be generated through integrating climate change into the vernacular of a diverse range of disciplines.

While a growing consensus on the need for interdisciplinary collaboration in re-thinking the challenge posed by the question of climate governance is to be welcomed, there remains little empirical evidence on best practices. This shortfall is identified by Köhler et al. who observe that while 'the literature is growing rapidly, (...) research on transitions in practice and everyday life is still limited' (2019:1). Central to the problem, they argue, is the very fact that sustainability transitions have several characteristics that make them a distinct and demanding topic involving multi-actor processes and forms of co-evolution which challenge stability and stimulate change. This means that while an inter-disciplinary and expanded conversation about how to research and conceptually frame climate governance is timely, an equally innovative and dynamic approach to governance itself is required.

As da Cruz et al. (2019) observe, such realisations have 'inspired moves toward "social investments" that promote further democratization, participation, and cooperation between government, voluntary sector, and the business community' (2018:1). While there is limited empirical work on the role of commissions as a method of climate governance, in practice they could offer an opportunity to promote cross sector collaboration on climate change. With this in mind, the PCAN project will be uniquely placed, in its partnerships of academics, policymakers, civil society and private sector actors, to facilitate, explore, and circulate 'new knowledges' in urban climate governance (Bulkeley 2019).

The Role of Commissions in Governance

Maggetti (2015) describes how, within contemporary public policy literature, the term 'governance' has come to refer to a 'de-centred process of governing, which is based on the interdependence between organisations in the public, private and voluntary sectors, and relies on self-organising networks' (2015: 252). Borne out of wider research engagement with the the various institutional arrangements which make up the European project, Maggetti's analysis of 'Hard and Soft Governance' speaks to the need for thinking across multiple scales, from the international and regional - as in the case of the European Commission - to the local, and the urban. By drawing further upon literatures that problematise this notion of 'governance beyond the state', here, we want to think through some of the challenges associated with empowering responsibility on the part of both communities and the private sector, and in doing so explore the role that city climate commissions could play within the matrix of urban governance.

With the climate crisis becoming increasingly existential with every passing year, it has become an issue so pressing and multifaceted as to demand a closer look at these more collaborative and autonomous forms of governance. However, while the idea of more representative and autonomous forms of governance are often framed by notions of empowerment and effective decision-making

(Catney et al., 2014), as Rhodes (2007) has implied, the practice of governance beyond the state is often contentious and complex. While, on the one hand, decentralised governance practices can be positioned within a discourse of community empowerment, this can also be seen as a form of 'delegating responsibility' (Holstead et al., 2018:4) thus reflecting wider trends of austerity and neoliberal agenda setting as local authorities become further squeezed in their mandate to deliver public services. Devolving responsibility for issues such as climate change to the level of the community ties into the concept of 'responsibilisation' described by Howell as 'a mode of neoliberal governmentality that seeks to shift responsibility from the state to the subject by responbilising them for their own self-help in dealing with increasing uncertainties and potentially traumatic events' (2015: 68). This discourse has become more common in recent years, a trend observed by Walker and Cooper (2011) who note the increased prevalence of narrative around 'community resilience' and 'empowerment' within UK policy since the global economic crash of 2008.

Although the devolution of power to communities is often seen as problematic, conversely, as Howell points out, this argument often 'betrays a nostalgia for the welfare state' (2015:68). This nostalgia, elaborates Howell, is one that may not be shared by those communities which have complicated and vexed relationships with the state. Here, Howell speaks to an important point on the direction of contemporary policymaking which raises questions about who the beneficiaries of the system might be. Investigations into the power of capital to influence and steer state policy in urban environments by writers such as David Harvey (1985) provide an insight into some of the answers to these questions. Harvey proposes that not only are cities run as businesses but that the urban environment is increasingly structured to attract more capital investment. As Kaika and Swyngedouw note '"sustainable development" evolves into a market logic that

opens up new avenues for capital accumulation' (2011:100). As a result, write Cook and Swyngedouw, 'economic and, to a lesser extent, the environmental imperatives nearly always take priority over the inherently political issues of social justice and cohesion, which are at best an afterthought, at worst ignored' (2012:10). Solutions to issues such as climate change, therefore, often revolve around techno-managerial fixes, with the market seen as an idealised delivery mechanism for the sustainable city. However, critics argue that reducing climate change to a problem that can be resolved through quantifiable techno-managerial solutions results in a form of 'depoliticized ecourbanism' (Karaliotas and Bettini 2016:79). The silencing of the political and social aspects of the city/nature nexus devolves urban environmental policymaking to the management of experts thus risking a process of de-democratisation within cities (Davidson and Iveson2014).

An Emphasis on 'Place' in Governance

As conversations around the institutional make-up of governance and the role of innovative partnerships in delivering impactful regimes proliferates, attention will likely turn to the scales across which such partnerships and experimental arrangements are most easily facilitated, and most successfully enacted. The urban has been described as a 'strategic' site, where experiments with private, public and civil society stakeholders can disrupt the existing socio-material configurations, allowing decarbonisation to 'take root' (Stipple and Bulkeley, 2019). One example from the city of Malmö is the development of a demonstration apartment building by Eon, which has become an important mediator, carrying ideals of the low carbon home and family across the city (ibid.). Carbon governance in cities encompasses a complex array of sites and practices from infrastructure to the conduct of citizens, (Moloney et al. 2010; Paterson and Stripple 2010; McGuirk, Bulkeley, and Dowling 2014), necessitating new partnerships, and going beyond the pre-established hegemony to find new ways of working. In order to achieve this, it is essential to maintain awareness of place: the sociomateriality of the time-space contexts in which these new partnerships and

projects will be enacted (McGuirk et al. 2016). Bulkeley et al. (2018) have also highlighted the need for cities to have 'enhanced autonomy' to improve their environmental and social potential, exploring the ways in which cities can incentivise autonomy through an overt consideration of place which challenges the existing socio-economic positions of the city's different actors.

The establishment of independent climate commissions offer the chance, at least in theory, to move beyond what Romero-Lankao et al. (2018) describe as 'narrow, technocentric' approach to urban governance and stimulate bold, integrated action' for addressing the multi-faceted dimensions of the climate crisis. The potential access to new streams of capital and impassioned stakeholders, has the potential for enabling a power that exists within urban communities, while the model of collaborative governance upon which it rests offers a more balanced and representative approach. Despite considerable potential for a different form of urban governance however, both research and practice in the establishment of city climate commissions must take heed of the arguments made by Davidson and Iveson (2014) and Karaliotas and Bettini (2016) regarding the fine balance between resisting and further facilitating urban dedemocratisation. Indeed, in his famous (2006) work State of Exception, political philosopher Giorgio Agamben (2006) predicted that a key trait of future cities would be:

"... a shift from the model of the polis founded on a centre, that is, a public centre or agora, to a new metropolitan spatialisation that is certainly invested in a process of de-politicisation, which results in a strange zone where it is impossible to decide what is private and what is public" (cited in Swyngedouw 2009, p.601)

In seeking to avoid this eventuality, it will be vital that future governance bodies are given the opportunity to be truly representative and publicly accountable, thus creating spaces of democratic collaboration and change which offer viable alternatives to current practices.

Stimulating Action in the Sustainability Transition

Da Cruz et al. (2019) in their recent overview of emerging trajectories in urban governance research describe a need to "bridge the gap" between the "scholarly research focus and the perceptions and requirements of city administrators" by drawing on experimental methodological approaches. The P-CAN project is in a unique position to take on this mandate as it seeks to bridge (indeed re-orientate) the divide between research and practice and provide a platform to both facilitate, and subsequently analyse place based climate partnerships as they develop within and across the various geographies of the city. Furthermore, the different cities within the PCAN network permit an innovative approach to comparison, predicated on facilitating learning and feedback from and between cities at different stages of climate commission enactment.

Sustainability is a highly contested concept, and it is inevitable that there will be contestation and disagreement with transition pathways likely to disrupt existing business models and economic systems (Köhler et al 2019). However, the importance of scaling up innovations and experimentation cannot be avoided, and there have been calls to research how Urban Living Laboratories (ULLs) and urban experimentation can be increased and re-focussed in order to influence wider institutional change and shape transitions (Kohler et al; Bulkeley et al. 2019). With public policy cited as having an important role in shaping transitions and stimulating action, climate commissions can bring influential actor into the conversation around urban decarbonisation. Meanwhile, it is important to recognise the challenges associated with setting up independent climate commissions to oversee the transition within cities as itself a challenging and overtly innovative idea. It is therefore one, which - while setting ambitions goals - must see its initial establishment as being an impactful step towards facilitating place-based governance. It is with this in mind that the report will turn to the question of the existing evidence base for city climate commissions within the UK.

Place-Based Archetypes in the UK

Action plans to address climate change have become pervasive in policies across the UK. However, the governance of this issue operates through a multitude of different bodies at different scales, with a variety of partnerships and outcomes. For the purposes of this research, these inconsistencies in governance practices have led to the identification of five broad archetypes. In categorising climate action, these archetype allow for a clearer understanding of the different collaborative governance practices across the UK and therefore a clearer path to lesson drawing.

Independent

Independent bodies are those which most closely resemble the structure and goals of the PCAN's Climate Commissions. These bodies have been formed at a city level through partnerships between different organisations with the aim of promoting cross sector collaboration, guiding climate policy in the city and initiating new projects and funding bids. These partnerships provide an independent voice on climate change within their cities. Climate change policy at a city level will be directly impacted by the work of these organisations which also have the capacity to engage citizens and create partnerships between local groups. Funding for bodies within this archetype comes from a range of public and private sources and they hold a leading role in guiding action on climate change in their cities.

While partnerships within other archetypes may be 'independent' in some ways (such as where external 'experts' monitor progress and provide independent advice to statutory bodies) key additional features of organisations within this archetype are: (i) the open nature of partnership to organisations and actors across the city; (ii) funding which does not rely on local government; and (iii) the aim to advise, monitor and include the whole city in decision-making rather than directing recommendations solely at local or national government. The Manchester Climate Agency (see figures 1 and 2) and Reading Climate Action Network provide two examples of independent, place-based action on climate change.

The Reading Climate Action Network (RCAN) is a network of people and organisations working to combat climate change within the town. This group fits into the broad category of 'independent'

as it is a collaborative partnership which operates separately from an existing statutory body in its funding and focus. As stated on its website "The Reading Climate Action Network is a network of people and organisations that are actively trying to improve our town's response to climate change, and the challenges this brings" (Reading Climate Action Network). Guided by four key objectives (below), the network owns several solar panels which generate a source of funding through feed-in tariffs.

- To build a sustainable, low carbon economy in Reading, focused on meeting local needs.
- To develop strategies that reduce carbon footprints, and support action towards resilience and adaptation through enabling behaviour change, education and collaboration.
- To bring about changes to organisational attitudes, policy and practice, supporting climate change mitigation and adaptation actions across all sectors.
- To provide a leadership role in relation to climate change.

Formed in 2009, the network is governed by the Reading Climate Change Partnership (RCCP) who launched the Reading Climate Change Strategy in autumn 2013. The RCCP is a board of eleven individuals from private, public and third sector organisations as well as two representatives from the community which oversees the work of the RCAN and helps set a strategic direction for the town.

The Swansea Environmental Forum was set up in 1985 and is 'an association of organisations and individuals working together to initiate, develop and co-ordinate environmental action in Swansea' (Swansea Environmental Forum). Since 2004 the group has been the lead partner for all aspects of the natural and built environment for Swansea's community plan- One Swanseawithin which 'environment' is a key theme and sustainability cuts across all aspects. The forum is a fully constituted voluntary group whose membership is open to any individual or organisation. The Forums core aims are:

- influencing policy and action
- driving behaviour change
- encouraging and supporting partnership working
- developing and supporting environmental projects and innovation
- providing expertise, collating evidence and highlighting priority areas for action.

The SEF also manages or supports several thematic partnerships and sub-groups such as Swansea Environmental Education Forum (SEEF) and the Swansea Built Heritage Group. It is also a member of the Swansea Public Services Board and leads the Healthy Urban Environment Group for the Swansea Healthy City programme (Swansea Environmental Forum).

Figures 1 and 2 draw out the key features of the Manchester Climate Agency, a collaborative body which represents a key example of an existing independent, place-based climate partnership.

Case Study: Manchester Climate Agency

HISTORY AND STRUCTURE

In 2010 the Manchester: A Certain Future Steering Group was tasked with the responsibility of overseeing and championing the delivery of Manchester's first ever climate change strategy, for the period of 2010 to 2017. In 2015 this group, together with the Manchester-based architectural and engineering company BDP and Manchester City Council, helped to establish the Manchester Climate Agency.

The work of the Agency is overseen by The Manchester Climate Change Board which has taken over responsibility for championing climate change in the city from the 2010 steering group. Established in 2018, the board meets roughly 3-4 times a year and is made up of a Chair, Previous 'Manchester a Certain Future Steering Group' members, Manchester City Council, co-opted members and members of the public. There is also a Manchester Climate Change Youth Board.

AIMS

The Agency is an enabling organisation whose priorities are focused on adding value to existing climate change activities in the city. Action is structure around three key objectives:

Objective 1 – Create a Strong and Unified Movement for Action on Climate Change Based on a Shared Understanding of Its Importance and the Need to Act

Objective 2 - Monitor and Report the City's Progress on Climate Change

Objective 3 – Initiate New Projects and Funding Bids

Action on these core objectives is reflected in the 2019 annual review which also goes some way in highlighting the independent operation of the Agency. As the extract below indicates, while the City Council is one of a number of key partners involved in the Climate Agency, the body remains an independent coalition whose collective research is used to guide policy and decision making within the city:

"At our annual conference in July 2018 the Manchester Climate Change Board and Agency proposed to the city that we should adopt science-based targets on climate change. With the support of key partners' these targets were adopted, on behalf of the city, by Manchester City Council in November 2018. In February 2019 we published a draft 'Zero Carbon Framework' to begin to set out how these targets could be met, again underpinned by support and commitments from key partners, and which was endorsed by the City Council the following month". (Zero Carbon Manchester Annual Review 19).

PARTNERSHIPS

The opportunity to collaborate with the Manchester Climate Agency is open to anyone in the city and the Agency had developed a broad network of partnerships since its conception in 2015. In terms of driving forward progress in the city there are 13 groups from a range of sectors which hold key roles in the organisation and help in the publication of regular updates and progress reports. Many of these groups are themselves coalitions and originate from across a variety of sectors such as The Green and Healthy Manchester Partnership and Manchester Arts Sustainability Team (see figure 2).

FUNDING

The Agency's funding comes from three main sources:

Manchester City Council: recognising the ongoing cuts to the City Council's budget, the aim is for this funding to reduce over time

Private sector sponsors: from organisations that recognise the importance of action on climate change and the role the Agency can play, the aim is for this funding to increase over time.

Project grants: grant funding from organisations that aim to support action on climate change and other related subjects, the aim is for this funding to increase over time.

It has a staff resource of 2.8 full-time-equivalents and is a registered not-for-profit Community Interest Company.

OUTCOMES

Member Groups work with other organisations and individuals from across all sectors on projects. The Climate Agency helps to facilitate these partnerships, monitor and report on progress at a city level and identify new funding streams for organisations within the city.

Figure 1

Visualisation of the Manchester Climate Change Agency



Figure 2

Expert-led

Expert-led groups operate at various geographical scales from guiding action at a city level to advising and monitoring national policy. As the name suggests these bodies are led by a selected group of individuals or organisations from across different sectors with specialist knowledge in a particular area. Common goals of expert-led partnerships are to monitor progress, advise local and national governments and identify opportunities on the scale at which they govern. Many groups also publish regular reports and updates. These groups are often funded by local or national public bodies and work with different sectors to advise on action and policy.

While these groups are independent bodies, their funding and recommendations are often inherently tied to the local authority. A key feature of groups within this archetype therefore is their utilisation of specific expertise from the private, public and third sectors to directly advise local or national governments. In the London borough of Haringey for example, the Haringey Zero by 2050 Commission has proposed a set of ambitious recommendations which would make it London's first zero carbon borough. This "independent commission brings together leading experts in sustainable regeneration and climate change" (Haringey Council) to advise the council on the best ways to address climate change and become 'zero by 2050'. This ambition fits in line with a broader city-level target of net zero emissions by 2050.

Similarly, the **Dublin Climate Change Advisory Council** is a body which also reflects the broad features of this archetype. Created in 2016 as an independent advisory group to the government, the body is tasked with assessing and advising on how Ireland can achieve the transition to a low carbon, climate resilient and environmentally sustainable economy. The eleven senior public sector executives and academics who make up the main body are aided in the publication of regular reports by a satellite committee (the Adaptation Committee) which is also comprised of eleven experts from academic and public sectors. The extract below is from the Council's 2018 annual

review and highlights the Council's role in monitoring and advising the Irish government on national climate change targets:

"The observed and projected increase in agricultural emissions, and ongoing carbon losses from land use (including from peat extraction), undermine our ability to achieve the national transition objective and our EU targets for 2020 and 2030. This is of great concern to the Council.

While Ireland can comply with EU policy and regulation for 2020 and 2030 by purchasing emissions allowances, this use of public funds - with no environmental benefit - would leave Ireland with a bigger and more expensive task to meet its future targets to 2030 and beyond. In contrast, measures to improve land-use management could help Ireland to comply with its 2030 targets and have potential environmental benefits.

Ireland is not on a pathway to achieve a low-carbon, climate-resilient and sustainable economy and society by 2050. Major new initiatives are required if Ireland is to meet its objectives on climate change" (Dublin Climate Change Advisory Council Annual Review 2018).

One city with an established record for this sort of climate change action is Bristol, where the local authority was one of the first to declare a climate emergency. Building on its history of environmental action, in 2019 the City Council published its first ever **One City Plan** which sets out the challenges faced by Bristol and advocates action to bring the city together around its common causes. This One City Approach 'brings together a huge range of public, private, voluntary and third sector partners within Bristol. They share an aim to make Bristol a fair, healthy and sustainable city. A city of hope and aspiration, where everyone can share in its success' (Bristol One City 2019).

In Bristol, six thematic city boards will drive action and deliver the goals set out in the plan. The boards bring together themes of the economy, health and wellbeing, homes and communities,

connectivity, and learning and skills, as well as an Environmental Sustainability Board, set up in June 2019. Local authority facilities will provide a convening space for One City action and the City Council will be the primary source of funding, with additional support from the European Commission and grants attained through City Funds. An upcoming 'Bristol Advisory Committee on Climate Change' will form an important part of the Environmental Sustainability Board. This Committee will provide all of the One City boards with relevant technical expertise to accelerate progress towards a carbon neutral, climate-adapted city. The Chair and co-Chair of this committee will be drawn from the city's two universities with 15 other expert members being drawn from across academic, public, private or civil society sectors.

Finally, in Liverpool a Spatial Development Strategy for the city is being created through partnership between the Liverpool Combined Authority, The Universities of Liverpool and Manchester and the Royal Institute for Town Planning. This expertise is being used to create a climate resilience policy for the city which will be incorporated in the city region's emerging Spatial Development Strategy (SDS). It will have legal weight and will join up housing, transport, green space and other planning policies across the region to mitigate the effects of climate change.

Case Study: The London Climate Change Partnership

HISTORY AND STRUCTURE

Created in 2001, The London Climate Change Partnership (LCCP) is the centre for expertise on climate change adaptation and resilience to extreme weather in London. Since 2011 authority for the Partnership has been handed back to the Greater London Authority (GLA).

The partnership takes a 'sector-based approach' meaning that it focuses on sectors such as transport, health, buildings, and the natural environment in order to understand the risks and opportunities that climate change will bring and to develop robust responses.

AIMS

The LCCP is an expert-led organisation that brings together key London stakeholders that have responsibility for and information on preparing London for the impacts of extreme weather and the changing climate. The role of the LCCP is to identify the strategic issues for London, particularly London-specific vulnerabilities and opportunities and to develop best practice adaptation examples with leading organisations in each sector.

The LCCP supports the Greater London Authority in discharging its statutory duty to assess the consequences of climate change for London and develop policies and proposals for London to adapt to climate change. The core aims of the Partnership are:

- To promote access to the best weather and scientific data and climate projections
- To facilitate peer learning and knowledge exchange across sectors
- To work with particular sectors to provide relevant guidance and advice on adaptation to extreme weather.

PARTNERSHIPS

The LCCP is comprised of a core group of twenty-one public, private and third sector organisations that have a role to play in preparing London for extreme weather today and climate change in the future. This core group of partners who work together on projects from across a range of sectors with funding from the GLA.

Funded by the GLA, the organisation's partners "consist of experts in the fields of environment, finance, health and social care, development, housing, government, utility, communications, transport and retail sectors." As the LCCP website goes on to state: "Our Partners have a shared interest in ensuring that London is a well-adapted and resilient city to extreme weather and future climate change. Our Partners help to shape our work programme, share knowledge, carry out research, develop solutions and influence policy in London" (LCCP website).

FUNDING

The GLA has and allocation and expenditure of up to £62,000 per year on LCCP Partnership Manager services from its existing Environment budget.

OUTCOMES

A core group of expert partners who work together on projects with groups from across a range of sectors including DEFRA, health groups, the Met Office and the Joseph Rowntee Foundation, with the aim of preparing the city for the impacts of severe weather.

Figure 3

Visualisation of the London Climate Change Partnership



Figure 4

Local authority

Local authority-led partnerships are one of the more common forms of urban climate governance in the UK. While each body is different, their inputs and outputs on the whole follow a similar model, with a primary goal being to create open groups of external actors to advise on local authority planning. It is common practice for local authorities to form regular partnerships with private, third and other public sector organisations in order to achieve targets on a variety of policies. Action to address climate change in many councils follows this pattern with targets being achieved and advised on through collaboration with a range of different organisations and actors. A key point of difference between 'expert-led' and 'Local Authority' is that while organisations in both archetypes advise government policy-making, advisory groups in the 'Local Authority' are open to any organisation or individual to join. In most UK cities responsibility for local climate change policy rests with the local authority which negotiates partnerships and contracts in order to achieve its own policy aims.

In Oxford the City Council has plans to set up the UKs first Citizen's Assembly on Climate Change in

order to "set out recommendations for how to move the city towards net zero carbon emissions" (Oxford City Council 2019). The Assembly will be held "over two full weekends during which participants will learn about climate change and explore different options to cut carbon emissions through a combination of presentations from experts and facilitated workshops". The Overall aim of the Assembly is to "consider measures to reduce Oxford's carbon emissions to net zero and, as part of this, measures that reduce Oxford City Council's own carbon footprint to net zero by 2030". In preparation the City Council has established an independent advisory group, made up of a representative from each of the political parties, local environment and democracy experts and representatives from local industry in order to provide governance and oversee in the creation and direction of the Citizen's Assembly.

The Bradford District Environmental Partnership was created by Bradford City Council in 2008 and ran until 2011 when it was disbanded due to a lack of resources. The role of the Partnership was to develop and share good practice and to act as a critical friend to other partnerships. In 2010 the BEP tasked a small sub-group to work with Council officers on developing a climate change framework for action for the District. This group met regularly to look at what climate change means for the Bradford District and what actions might be taken to reduce the negative impacts of climate change.

Another city which has made - very recent - steps to bridge political divides and see the city as a space and a place across which to steer a cohesive message and action plan for combatting climate change, is Glasgow. Named the 'Climate Emergency Working Group', this was created in February 2019 and brings together people from all four political groups at the council, citizen activist groups and the Glasgow Chamber of Commerce. The working group has delivered a report to the City with over sixty recommendations for achieving carbon neutrality by 2030. Glasgow City Council's involvement in convening the group alongside the direction of the recommendations towards the local authority and the involvement of activists from the local community have all contributed to this organisations position within the 'local authority' archetype. Similarly, the 'Cool Wirral Partnership', created and run by Wirral Council, is an open group currently made up of thirteen organisations from different sectors which meet three times a year (Wirral Climate Change Strategy 2014-2019). The Partnership has created resources for organisations and individuals within the community on how to address climate change and get involved in local action. While the Council plays a key role in this group and will benefit from the recommendations it makes, the development of connections between member organisations and the provision of support and resources to the community as a whole are also key goals of this organisation.

One further organisation that fits into this broad archetype is **the Cool Wirral Partnership**. Created and run by Wirral Council the Cool Wirral Partnership is an open group currently made up of thirteen organisations from different sectors which meet three times a year. Slightly different to groups such as that in Lancaster, the Cool Wirral Partnership aims to "encourage and coordinate climate change-related action and investment by people and organisations with an interest in Wirral" (Wirral Climate Change Strategy 2014-2019). The Cool Wirral Partnership has created resources for organisations and

individuals within the community on how to address climate change and get involved in local action. While the Council plays a key role in this group and will benefit from the recommendations it makes, the development of connections between member organisations and the provision of support and resources to the community as a whole are also key goals of this organisation.

Case Study: Lancaster Climate Change Cabinet Liaison Group

HISTORY AND STRUCTURE

Formed in January 2019 after Lancaster City Council declared a climate change emergency. The group comprises councillors, representatives of Lancaster University and members of the public who meet every two months to develop ideas for implementing targets agreed by councillors. As laid out in the group's first meeting, a key goal of the body is "To advise the Cabinet member and Cabinet on how to achieve 100% clean energy across the council's full range of functions by 2030, in a way that complements our other aims and objectives, is ambitious and cost effective" (Committee terms of reference). The group will also seek expert testimony from those in specialist fields such as transport to develop the action plan, which will guide all areas of the council's activities.

AIMS

- To advise the Cabinet member and Cabinet on how to achieve 100% clean energy across the council's full range of functions by 2030, in a way that complements other aims and objectives, is ambitious and cost effective
- To assist the Cabinet member and Cabinet to best work in partnership with residents, and stakeholders to deliver against this commitment.
- To assist the Cabinet member and Cabinet to develop a plan by 2021 that sets out how the Council will practically achieve this ambition.
- To invite and consider external presentations and examples of best practice.
- To assist with consultation with business, public and other stakeholders and to advise the Cabinet Member of outcomes.
- To gather existing information on the District and City Council to identify the priority areas and to establish a baseline to monitor progress.
- To meet every two months.

PARTNERSHIPS

The group itself is a coalition of different people- councillors, representatives of Lancaster University and concerned members of the public- who have come together in order to advise Council decision making on climate change. Part of the group's role is to also engage with the issue of participation and advise the Council on the best way to work in partnership with residents and stakeholders.

FUNDING

Lancaster City Council

OUTCOMES

The creation of a coalition of people to advise Lancaster City Council on the best way to achieve 100% clean energy production across all departments by 2030.

Visualisation of the Lancaster Climate Change Cabinet Liaison Group

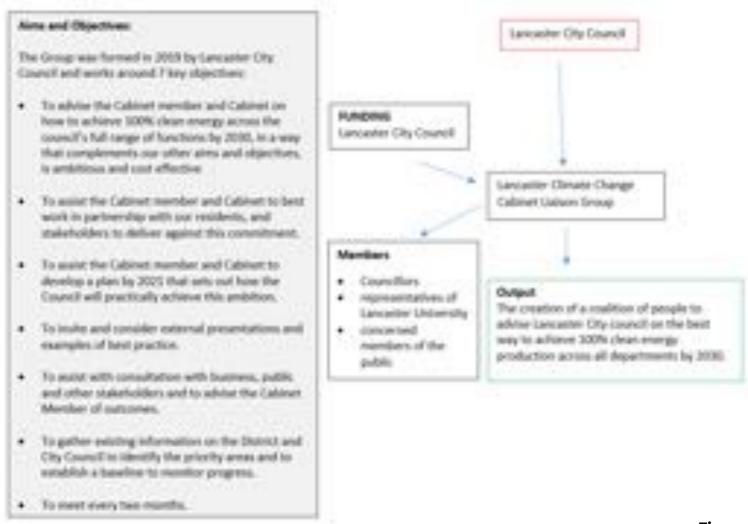


Figure 6

Third sector

Networks of third sector organisations that exist within cities are often part of larger national groups such as the Climate Change Action Network, the Transition Movement or the Climate Coalition. Operating within cities these bodies are often composed of third sector organisations, individuals and occasionally members of political parties such as the Green Party. The different geographies at which the members of these partnerships operate- national networks and local groups- can lead to a range of campaigns that target various scales, from supporting national and international movements to lobbying local governments for climate action. These groups are often run by volunteers which can mean that action and website updates can be inconsistent.

Formed in 2016, the Portsmouth Climate Action
Network (PCAN) is a network of people who are
calling for urgent action to reduce climate change
in the Portsmouth area. The group aims to raise
awareness of climate issues and support events and
actions taken by partner groups. The Network is
made up of over twenty local third sector
organisations who take place in monthly meetings
to plan campaigns and events. The Network
structures activity around four key objectives:

- Creation and ongoing measurement of a carbon footprint for Portsmouth.
- Increased awareness of the issues and effective action in Portsmouth.
- Portsmouth City Council effectively implementing its climate change strategy.
- Portsmouth City Council leading a publicity campaign on both carbon reduction (mitigation) and climate change adaptation in the City.

The main focus of the group is on local action, however as the website states "Although our main focus is local we believe that our voice needs to be heard at a national level, not least because of Portsmouth's particular vulnerability to the effects of climate change" (Portsmouth Climate Action Network website). At a national level the group is part of the Climate Coalition.

The Sheffield Climate Alliance is a network "of local organisations and individuals who are pressing for fair and effective action to tackle climate change" (Sheffield Climate Alliance website). The network is funded by donations and fundraising and hosted by Sheffield Campaign against Climate Change. At its core the group is made up of four key partners: Sheffield Campaign Against Climate Change, Regather Co-operative, Sheffield Friends of the Earth, and Transition Sheffield. The group is very active with a website which is updated regularly with a regular guest blog, resources, recent news and information about upcoming events and meetings from the group's monthly meetings. The structure and aims of this group reflect many within this archetype including Portsmouth and Derby (see figures 7 and 8)

Within many cities there are also individual charities that are not directly associated with broader local or national networks. The action taken by these groups is often more concentrated at a local level with campaigns focused on community engagement, local governance issues and service provision. Charities such as Winchester Action on Climate Change, which employs three staff members, offers consultancy services, organises campaigns and action groups and works in partnership with the local government to engage communities and advise policy.

Case Study: Derby Climate Coalition

HISTORY AND STRUCTURE

Derby Climate Coalition began in 2005 with the aim of facilitating a network of organisations focused on issues of climate change. A statement on the group's website reads: "although Derby is well served by environmental groups, we thought that we needed both a network and a group which focused entirely upon climate change" (Derby Climate Coalition). Focused on influencing government decision-making at both a local and regional scale, the group holds occasional general meetings with a steering group meeting on a monthly basis. Despite being run by volunteers the coalition has a wide reach, sending out regular emails to a mailing list of over 400 people.

AIMS

The Coalition's mission statement: "The Derby Climate Change Coalition is a campaigning group that brings together a wide range of organisations and individuals, who support and want to take part in activities that inform, influence and raise awareness about the effects of global warming. It believes that it is only through the efforts and actions of the largest numbers of people will governments take the measures needed to address climate change."

Action is focused predominantly at the City Council to which the group presented a petition asking for:

- an agreement that climate change is the major challenge facing all of us
- recognition that it is necessary to implement a programme of carbon reductions as soon as possible
- a strong cross-party commitment
- recognition that there will be problems in implementing a radical programme, some of the solutions will have pitfalls and that mistakes will be made.

PARTNERSHIPS

The Coalition is made up of six key partnerships with organisations from across the public and third sector. These organisations range from local action groups and the city council to global charities such as Oxfam and Friends of the Earth:

- Transition Derby
- Derby City Council
- Derby Carbon Initiative
- Oxfam
- Alliance for Jobs and Climate
- Stop Climate Change Coalition
- Friends of the Earth

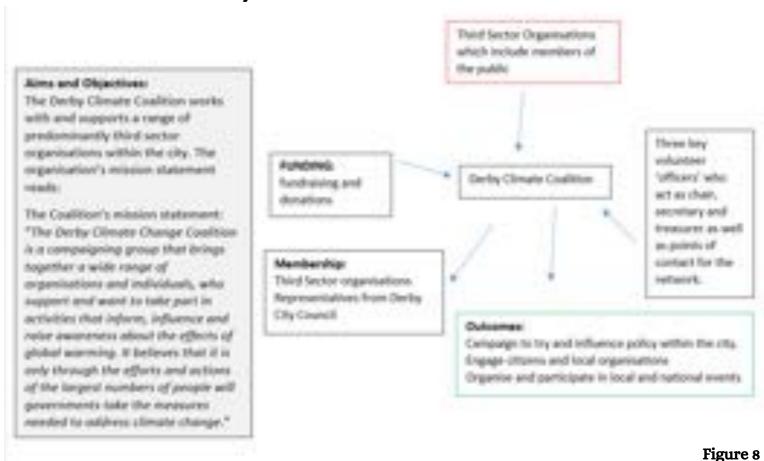
FUNDING

Voluntary organisation-fundraising and donations

OUTCOMES

The group organises events and publishes updates and news on their website. There have been no posts since March 2018.

Visualisation of the Derby Climate Coalition



Climate governance beyond the city

The declaration of a climate emergency which has precipitated so much action within cities (particularly within the public sector) also forces organisations and individuals to look at events beyond the city. While place-based action on climate change is vital in addressing local emissions, strengthening broader partnerships may help to generate large-scale change. With this in mind, it is important to acknowledge that there are a number of environmental networks which operate on a scale beyond the city. County and national partnerships are important features of climate governance in the UK and while these groups operate at a broader level, working with these bodies to align goals and strategies could bring additional support and improve the effectiveness of action.

Both the Suffolk Climate Change Partnership and Sustainability West Midlands are collaborative bodies that operate at the level of their respective counties. In each a core body of individuals or groups from different sectors work with members to identify funding streams and support organisations through creating partnerships and identifying opportunities. In Suffolk for example "the Suffolk Climate Change Partnership (SCCP) consists of Suffolk's local authorities and the Environment Agency, working together locally with a number of other organisations including Groundwork Suffolk and the University of Suffolk." (Suffolk Climate Change Partnership website). These bodies either create aims and objectives for the county or work to achieve pre-established goals.

Independent, collaborative climate governance on a national scale takes a number of forms. As mentioned previously there are groups which coordinate a network of smaller, place-based organisations. These are often run by third sector organisations such as the Climate Change Action Network, the Transition Movement or the Climate Coalition. There are also bodies such as **Fit for the Future** which act as "environmental dating agencies" (FFtF website) through facilitating

contact between members at a national level, providing training and resources, and identifying opportunities for change. Other organisations like the Committee on Climate Change exist to guide policy making at a national level, ensuring that the UK government remains focused on the long-term objectives of mitigating against and preparing for climate change as well as using its network to support grassroots action across the UK.

Also operating on a national scale, the **Climate** Change Commission for Wales ran between June 2012 and March 2016. The organisation "brought together key sectors and organisations to build agreement on the action needed to tackle the challenges of climate change in Wales" (Sustain Wales 2015). The Commission met four times a year with its work primarily focused on sharing ideas and learning from different organisations within Wales and across the EU. Recommendations made by the Commission have been central in shaping the Welsh Government's work on climate change. Members of the Commission "represented a wide range of political, business, local authority, academic institutions, third sector and other delivery agencies". Although no longer active, reflection on the work of the Commission would provide useful learning points for similar organisations based within UK cities.

Lastly, an important part of the broader PCAN project is to examine issues of finance and business in relation to climate change action. While businesses within the private sector are making steps to address the issue of climate change, action is often dictated by the wider financial market rather than taking the form of meaningful placebased change. However, within the private sector there is a growing acknowledgement of the importance of climate change, a development which could prove useful to future Climate Commissions. Beyond the declarations of climate emergency made by local Councils for example, several professions have also declared a climate

emergency. UK-based architects, academics, construction and engineers are just some of the **professional bodies** which have added their voices to the growing movement in support of climate action. This has taken the form of signatures on a pledge of eleven key commitments (Declare UK) aimed at reducing emissions across different sectors. This is highly relevant to PCAN as many of these professional bodies are part of private sector businesses based within cities. Engaging with these proactive and climate-conscious organisations could therefore provide a fruitful contact for the work of future city Climate Commissions.

In addition to the work of professional bodies, there are several business networks which bring together groups and actors from different industries in order to facilitate the transition towards a low-carbon economy. Many of these networks operate at a national level. The organisations Bright Green Business and Corporate Responsibility and Sustainability **Network** are two groups which facilitate the collaboration of industries within Scotland. These groups host regular networking events and share information about news, upcoming events and produce online resources. Bright Green Business for example is a business which offers "a unique range of services to help improve sustainable practices in businesses across Scotland" (Bright Green Business website). Being a business itself, client members of this organisation pay for "a highly practical tailored package from our portfolio of services". In Contrast, the Corporate Responsibility and Sustainability Network which is hosted by University of Edinburgh Business School Sustainable Business Initiative is more open, organising a mix of private and public events in collaboration with its members across Scotland. The network operates a closed LinkedIn group which any business can join to hear more about recent news and upcoming events.

Strengths and Weaknesses; reflecting on the five archetypes

The five archetypes identified by this research highlight the variety of different climate governance structures currently in place in cities and regions across the UK. While categorising these strategies is a key feature of this paper, it is important to acknowledge the broad nature of these archetypes and recognise that each of the individual bodies they accommodate varies according to members, objectives, structure and scale. With this in mind, the following section will identify and discuss common issues that impact organisations across the archetypes and highlight lessons to draw on for future projects.

Funding and independence

Issues of funding are key in determining the direction any project is able to take. In both the archetypes of 'expert-led' and 'local authority' as well as in the examples featured in 'climate governance beyond the city', funding is predominantly sourced from governments at either a local or national level. Attaining funding from public bodies means a relatively reliable source of finance and focus thus ensuring that organisations are able to function effectively and maintain a consistent momentum. For many organisations within these archetypes the work they do compliments the objectives of public bodies such as local authorities.

While local authority funding can provide stability, for partnerships that operate independently the acceptance of significant amounts of funding from local public bodies may compromise the separation which is key to achieving their overall objectives. Organisations functioning within the archetype of 'independent' have cause to diversify principle funding streams away from local government in order to remain a separate entity with an independent voice on climate change within the city. The Manchester Climate Agency for example is decreasing its reliance on the City Council, instead turning to project grants and the private sector to support its activities. While the Council remains a key partner - providing access to networks and knowledge as well as financial support for individual projects- by reducing the Agency's reliance on local authority funding there is less strain on the City's budget. As Manchester City Council and Climate Agency recognise, with "the ongoing cuts to the City Council's budget, the aim is for this funding to reduce over time" (Manchester City Council Report for Information

2019). Thus far the Agency has worked with partners to source funding for projects from organisations such as The European Regional Development Fund and The European Commission alongside a range of other local grants and partner organisations.

In a different vein, Reading Climate Action Network remains financially independent through feed-in tariffs from its solar panels.

Funding is often a key issue for third sector networks which, in many cases, remain the mos independent through public fundraising campaigns and donations. While this often means financial uncertainty, sourcing money from outside the private and public sectors ensures a greater degree of independence.

Lessons to be learned

For Climate Commissions which seek to be an independent voice on climate change within the city, a certain degree of separation from local authorities is important in creating an equal space for collaborative decision-making. The separation of government and governance allows Commissions to monitor progress impartially and identify opportunities for action. Independence gives Commissions the scope to look beyond political decision-making and engage with organisations and actors from across the city, giving all sectors an equal opportunity to be represented. However, while independence is important, we must also acknowledge that local authorities are key partners to collaborate with on both the core aims of the Commission and through individual projects. They are able to provide a wealth of knowledge and have access to key networks within the city. Local

Authorities are also vital to the city's day to day functioning and in guiding future developments so a positive and collaborative working relationship with them is vital for the success of any future Commission.

Funding is a key area through which to establish independence within the city and is an important element within the broader PCAN project which has set up a research platform at LSE focusing on issues of finance. With this in mind, in Leeds, where a pilot Commission has been underway since 2017, funding is largely sourced from the ESRC which is investing £3.5 million in PCAN over the next five years. This includes a 'flexible fund' of £400,000 which aims to award 20-30 grants in total, with an average grant size of £20,000. Additionally, the Commission has been able to draw funding from a range of other sources such as the Department of Culture, Media and Sport and through working with local partners such as Citu and the Council to support specific projects. In Leeds, for now, the national government is an important source of core funding. While still a public body, national government departments are more removed from local political decision making. This funding therefore helps to maintain the Commissions momentum and independence within the city and allows the local authority to be a key partner without putting pressure on its already stretched budget.

Decreasing reliance on already stretched local authority budgets is a key lesson to be learned in the case of the Bradford District Environmental Partnership which, alongside a number of other formal partnerships across the district, was "rationalised to take account of both the changing legislative environment and the difficulties in continuing to resource what is a wide and sometimes complex structure" (Bradford Environment Forum 2011). The Partnership was ultimately disbanded in 2011 just a year after it had commissioned a group to create a climate change framework for the city. Diversifying funding away from public bodies entirely, such as in the case of the Reading Climate Action Network whose solar feed-in tariffs provide income, could therefore ensure a higher level of financial resilience and autonomy.

Engaging with the private sector

Engaging with a diverse and representative range of organisations is a challenge faced by partnerships across the archetypes. While both local authority and third sectors are a relatively consistent feature of many partnerships, meaningful engagement with the private sector is often more challenging. Often private sector interests align with broader issues of the economy rather than place-based action. As a result, while there are networks of companies looking to create more sustainable businesses focus is often on profiting from and facilitating the creation of a green economy, rather than tangible, place-based action. This has been identified as a key issue for the PCAN project which has set up a research platform in Leeds to focus specifically on questions around business and climate change.

Organisations from both the 'independent' and 'expert-led' archetypes are often more likely to engage with the private sector on an equal footing. The London Climate Change Partnership and the Manchester Climate Agency for example actively collaborate with private sector firms such as construction companies and independent sustainability consultants on projects within their respective cities. However, while these partnerships are showcased on the respective climate change organisation's website, there is often little evidence of the collaboration on the public face of the private sector partner. This is also true of other bodies for whom climate change is not a priority such as the NHS which is held up as a key partner on many climate Agency/ Partnership/ Commission websites however the projects are not obvious on NHS publications. Engagement that means as much to the partner organisation as to the Climate Commission is a challenge for many collaborative bodies.

Organisations with features that align most closely with the 'third sector' archetype are in general less likely to collaborate with the private sector as equal partners. However, this is slightly different in more established and organised groups such as Winchester Action on Climate Change where there is a focus on both campaigns and education/ service provision. Rescources on

the charity's website such as "Top Ten Tips for Sustainable Business" and events promoting advice on how businesses can reduce their impacts while staying competitive highlight the steps taken by the organisation to engage with private sector groups. In cases such as these, organisations in the private sector are more likely to engage in order to receive training or advice with regard to reducing emissions on a local level. While tailoring sustainability to attract a wider audience is both positive and necessary, one danger in this service-provision model is that engagement with issues of climate change becomes a box ticking exercise for the recipients rather than something collaborative that precipitates meaningful change.

Lessons to be learned

Facilitating and attracting a representative range of sectors from across the city is important in building a relevant and collaborative body. The creation of a diverse network will also help to gather different experiences and perspectives of the city alongside opening doors to new partnerships and funding opportunities for members. With this in mind, inviting a range of sectors to be involved at a core level of the partnership will help to maintain meaningful engagement.

While climate change poses a significant threat to local, national and global economies, it also opens up new opportunities for businesses. Active and meaningful engagement with the growing number of business sustainability networks would provide an important route into the private sector for Climate Commissions. Groups such as the Bright Green Business Network and the Corporate Responsibility and Sustainability Network open up access to a network proactive organisations and actors looking to build more sustainable businesses. Furthermore, the urgency of the climate crisis has pushed many professional bodies such as Architects and Engineers to join local Councils and national governments in declaring a climate emergency. This declaration has taken the form of a public pledge signed by businesses. This is significant for Climate Commissions as the signatories of

this pledge have businesses often located within cities and so initiating a dialogue and partnership with them could be an important method of place-based private sector involvement.

As previously identified, while local authority and third sector organisations are common features of many partnerships, meaningful engagement with the private sector is often more elusive. In Manchester the local architectural and engineering company BDP was one of the founding members of the Agency alongside Manchester: A Certain Future Steering Group and Manchester City Council. The foundational involvement of a private firm has helped to create a more representative body and attract further private sector involvement. This inclusion ties private sector interests and experiences into the core of the organisation alongside those of public and third sectors.

The incorporation of a representative cross-sector group of actors at the core of a climate partnership is a feature of several successful bodies. The board of the Reading Climate Action Network for example brings together eleven individuals from organisations such as the NHS, a local shopping centre and technology firm, the University of Reading, third sector organisations and councillors as well as two community representatives. This cross-sector group of individuals work to advise and direct the wider organisation which engages more broadly with individuals and organisations within Reading.

Similarly, Winchester Action on Climate Change's board is made up of individuals with experience in range of sectors including actors from the sustainable business network and local Councillors. This diversity within the organisation's governing body could go come way to explain its sustained engagement with the private sector. While day to day engagement with the private sector may be through service provision, the integration of individuals with a background in business is important in shaping core policies and direction.

Engagement across the city

Although including a diversity of sectors is key in building a representative and independent body, ensuring that there is a diversity of individuals is also important. Having representation from a range of ages, cultures, beliefs, classes, ethnicities, abilities and genders will be important in ensuring the relevance and representative nature of decision-making. A lack of diversity is a particular issue in groups which are not open to the public such as those under the archetype of 'expert-led' as they are often smaller and more exclusive.

Groups that are open to the public such as those under the archetypes of 'independent' and 'public' are often more diverse with people from across the city able to participate in decision-making. Even within these groups however, meaningful and representative engagement from some communities is often not realised. In order to ensure diversity, there is a need for active engagement with marginalised groups to raise awareness and support participation. This could mean closer working relationships with third sector organisations who support particular groups of people, more accessible methods of engagement, subsidised travel to meetings and awareness raising about the work of the organisation.

Organisations across the different archetypes utilise social media platforms such as Twitter and Facebook to share news and notify the wider community about upcoming events or opportunities to get involved.

Lessons to be learned

Engaging with the city as a whole should be a key aim of any future Commission. This engagement should reach beyond the third, public and private sectors and extend to individuals from communities across the city. For many organisations in each archetype diversity at the level of the individual on boards and committees as well as at public meetings is not promoted as a key priority. Yet encouraging and supporting the involvement of individuals with a range of experiences will only serve to enrich the work of the Commission and build trust in its actions.

Utilising existing networks is an important step in raising awareness of the Commission in communities across the city. Within all cities there already exist organisations which engage with the issue of climate change, these groups provide important allies in raising awareness and support for the Commission. Beyond this however, engaging with non environmental third and public sector organisations which work with marginalised communities will help to increase diversity of participants and may go some way in empowering individuals to feel more connected to and engaged with the places they live. In Manchester the Climate Agency works with a range of groups such as Faiths4Change, Manchester Cultural Partnership, Central Manchester Hospital and local schools, which have access to broad networks of people from across the city who may otherwise not be aware of the Climate Agency's work.

It is important to acknowledge that public engagement extends beyond those present at meetings and as members of boards and steering groups. The majority of city residents are unable or unwilling to commit their time to regular meetings and so, implementing a more accessible platform for participation could be an important way of hearing from a wider range of people. In Leeds, for example, public engagement campaigns and online surveys have helped to shape the direction of the Commission by giving those on the board a better idea of what residents want and need with more every-day engagement and updates are shared via social media.

There is the opportunity however to develop further, past sporadic surveys and towards a more sustained form of public engagement. While not a Climate Commission, the city of Reykjavik in Iceland has created an online platform for crowd sourcing of solutions to urban challenges. Launched after the financial crash of 2008 the platform, named 'Better Reykjavik', was created to "connect citizens to the city administration, to increase participation and awareness amongst citizens on municipal issues and to lessen the gap between on the one hand elected officials and administrative staff and the general public on the other hand" (Observatory of Public Sector Innovation, 2010). Engagement with this collaborative platform has increased year on year

in the city where citizens have made a tangible impact on the physical, social and economic fabrics of their neighbourhoods. In fact, out of a population of 120,000, over 70,000 people have participated to some degree in the process with 27,000 registered users submitting over 8,900 ideas and 19,000 points for and against.

Looking to models of direct democracy such as that in place in Reykjavik could provide inspiration for future UK Climate Commissions on how to engage with the city. Platforms such as this not only give voters a direct influence over decision making but it also allows decisionmakers to gain a clearer idea of what its citizens want and need thus leading to more efficient and appropriate policy decisions.

Scale and focus

Focusing a partnership's efforts on one scale of influence, with clear objectives and targets will inevitably produce the strongest results. This is most evident for partnerships with a clear focus to influence local or national government policy - such as those within 'expert' and 'local authority' archetypes. This clear direction, shaped by factors such as participants and funding, means that these partnerships are able to reach a consensus on the scale of their influence. Groups in the independent' archetype may not have the clarity provided by localised funding streams or the focus provided by the objectives of a local authority. For independent partnerships a clear set of objectives and smaller steering groups are important to maintain relevance to the city.

For groups involved in third sector networks maintaining focus on a specific scale and setting clear objectives can be challenging. This is evident in local networks of third sector organisations that are often part national umbrella bodies, and which incorporate organisations working at a range of different scales. In Sheffield for example the Sheffield Climate Alliance is a group with ties to national campaigns but at a local level is made up of city-based activists. As a result, the Alliance campaigns on climate issues at various scales as highlighted by this extract from their website: "We are currently campaigning to stop more extraction of fossil fuels and instead switch

investment to making our homes and city more energy-saving – bringing thousands of useful jobs. We know that people in Sheffield have stories of how climate change is affecting communities around the globe, and we want to hear and publicize your stories (...)We can even help you to write to your MP and let them know it's 'Time to Act!'" (Sheffield Climate Alliance). Here, while operating within the city of Sheffield, the group makes reference to issues of climate change at both a national and international level.

Lessons to be learned

Bringing together different organisations and actors with their own priorities and perceptions to agree on a core set of objectives is one of the most challenging and important aspects of collaborative working. While 'expert-led' and 'local authority' groups often have a clear brief and structure as they work to advise the needs of an established public body, independent bodies collaborate with a range of different organisations to agree on their own objectives and governance structure.

In Manchester the Agency builds on the work of the Manchester: A Certain Future Steering Group 2010-2017. This smaller group helped to lay the foundations and set the direction for the evolution of the current Climate Agency.

Members of this original steering group sit on the Manchester Climate Change Board alongside representatives from Manchester City Council and members of the public. This board helps to oversee and guide the direction of the broader organisation.

Similarly, in Leeds work on the seven aims of the Commission is overseen by a strategy group which meets four times a year. This group is comprised of a Chairperson from the University of Leeds, a Vice-Chair from Leeds City Council and representatives from key organisations or sectors, including at least one person from each Working Group. These Working Groups on low carbon development, climate resilience and public engagement and communications also provide important advice and guidance to the broader Commission.

In short, while maintaining an open and collaborative group is key to the work of Climate Commissions, maintaining direction through small representative steering groups is vital. These groups can provide advice and support to the wider network and ensure that its activities align with broader objectives. A preliminary steering group to gather evidence and set out initial goals such as in the case of Manchester can be useful in providing a solid foundation on which the larger group is able to build.

In terms of scale, while maintaining focus on a local level will serve to maximise the impact of future Climate Commissions, it is important to acknowledge the work of organisations which operate beyond the 'local'. A good example of this is in the borough of Haringey in London whose climate strategy has been designed to align with that of the city as a whole. As the strategy states: "The new Mayor of London has stated his ambition for London to be zero carbon by 2050. Haringey is clear in its determination to take a lead among London boroughs in delivering that vision" (Haringey Council 2017). It is clear therefore that beyond the city or borough, wider partnerships are important features of climate governance in the UK. While these groups operate at a broader level, for future Climate Commissions, working with these bodies to align goals and strategies could bring additional support and improve the effectiveness of action across all geographical scales.

Maintaining momentum

The declaration of a climate emergency by public, private and third sector bodies has spurred action across society and has been the catalyst behind the creation of groups such as the Oxford Citizen's Assembly on Climate Change and the Lancaster Climate Change Cabinet Liaison Group. Maintaining the momentum created by this collective commitment to address climate change and ensuring tangible action is taken is a challenge now faced by many organisations.

As realised in the cases of Bradford and Derby, funding is key in maintaining action. In Derby and across many third sector networks, fundraising through events and donations takes considerable energy and is often done by unpaid volunteers. Although this method of funding ensures independence and perhaps a greater degree of public accountability, it is often unreliable and time-consuming.

In Bradford, a lack of public resources meant the disbanding of the local climate change partnership. While a strong connection to a public body can provide security and a clear focus, it is important to also acknowledge the financial pressure faced by these organisations meaning. Cuts to Council budgets could therefore be an issue faced by public sector groups such as those in Oxford, Lancaster

and the Wirral.

For professional bodies that have pledged to takes steps to address climate change in their practice, creating a framework for action beyond declaring a climate emergency is the next challenge. For many private sector groups, commitments to addressing climate change often take the form of either individual action at a site level, such as reducing electricity consumption and recycling waste, or more abstract engagement with issues through public pledges and networking events. Action is often guided by the economy and the issues of maintaining profit with many resources and articles written on "being green and profitable" (Business.com 2019). A challenge facing private sector bodies therefore is in creating meaningful, place-based partnerships in order to address climate change and influence broader policymaking.

Lessons to be learned

The growing cross-sector consensus for action on climate change is undoubtedly a positive thing. The challenge now however lies in maintaining this momentum and translating words and pledges into tangible action.

As previously identified, funding is an important factor in ensuring that meaningful action is taken. Not only important in attracting membership and facilitating action, sufficient funding to employ staff members makes a significant difference to the impact of an organisation. Comparing third sector organisations such as Derby Climate Coalition

and Winchester Action on Climate Change, the difference that permanent employees make to the success of the group is stark. Whereas in Derby the network is run by a handful of volunteers responsible for coordinating action, chairing and organising meetings, sending newsletters and updating the website, in Winchester three fulltime, paid employees, supported by a board of trustees, are responsible for the day to day running of the organisation. This means that staff have the time as well as the responsibility to ensure the effectiveness of the organisation which is very active within the local community. In terms of the work of the organisation, the power to employ staff also results in the inclusion of people with the appropriate skills and expertise which would ultimately benefit the action taken.

Generating fresh ideas through a diversity of partnerships is one further way of maintaining momentum as including individuals and organisations from across the city ensures a consistent flow of ideas. Engaging with the public through online campaigns to generate ideas serves to both highlight new opportunities for action and give individuals the power to make a tangible difference to communities thus encouraging further engagement. This is clear in existing public engagement campaigns such as the one in Reykjavik where engagement has grown year on year following the realisation of ideas suggested by members of the public. The tangible realisation of suggestions, be it from individuals or organisations, will increase confidence in the partnership and help to maintain engagement and momentum.

Turning Words Into Actions: strategies for maximising Commission impact

This research has sought to identify and evaluate some of the key collaborative place-based climate strategies that exist within the UK. Identifying broad archetypes has allowed us to draw out some lessons that may offer a useful evidence base for future cities intent on setting up Climate Commissions. While this is a useful first step, further work is needed to look in more detail at the nascent functionality of emerging Commissions across the UK.

Bringing organisations and individuals together from across different sectors to agree on common objectives is a challenge in itself, and translating these collaborative goals into tangible action can be a key issue for many groups. In order to manage expectations and develop a clear path to impact, it is vital to recognise that the process of setting up and establishing place-based forms of multi-institutional governance, is itself both an innovative and ambitious target. With this in mind, this final section attempts to distil the lessons drawn upon the previous section and identify strategies for turning words into action.

Utilise existing networks to maximise engagement

Ensuring consistent and meaningful cross-sector engagement with any future Climate Commission is an ongoing challenge. Utilising existing networks of third, public and private sector bodies is a clear way of accessing organisations and actors engaged in climate change action. Recognition of the work that is already being done within a city will help future Commissions to create effective objectives that engage with and build on existing action. During the initial stages of a Commission, creating a database of existing local action will help to identify potential partnerships and ensure that the network engages with a diversity of different actors.

A secure financial plan

For future Climate Commissions which aspire to be an independent voice for engaging with climate change within the city, establishing an organisation with financial and governmental autonomy, is key. Funding is an important aspect of this with a dependence on any single source of finance potentially compromising the Commission's focus as well as putting pressure on the funding body. Ensuring a diversity of funding sources makes the Commission more resilient to economic changes and helps to maintain tangible action on projects within the city. A secure level of finance also means that there is the opportunity to employ staff which helps to drive effective action and maintain a clear organisational structure.

Engagement beyond the physical

Ensuring the equal representation of different sectors at the core of an organisation helps to maintain cross-sector engagement. It is important however, to engage with the city beyond the physical bodies present on boards or in meetings. Creating platforms for online participation as well as utilising social media channels would help to empower individuals and communities to engage with and influence decision-making within the city. Accessible engagement platforms allow organisations to gather a truer diversity of opinions and take more representative and effective action.

A clear focus and governance structure

Bringing together a coalition of actors is challenging, particularly when each may have different ideas about the type and scale of action that is needed as well as the methods for realising this action. In this instance, creating a small but representative governing body is important in maintaining the focus of the broader organisation. Including an equal representative of sectors within this body is important for ensuring the Commission's independence from any one sector or body and create more effective and relevant objectives and action.

References

Agamben, G. (2006) State of Exception. Chicago: The University of Chicago Press, In *Metropoli/Moltitudine Seminario nomade in tre atti*.

Architects Declare

https://www.architectsdeclare.com/

Bradford Environment Forum

http://bradfordenvironment.org.uk/node/880

Bright Green Business

https://www.brightgreenbusiness.org.uk/network

Bristol One City

https://www.bristolonecity.com/

Bulkeley, H., Luque-Ayala, A., McFarlane, C., MacLeod, G. (2018) Enhancing urban autonomy: towards a new political project for cities. Urban Studies, 55, 702-719.

Bulkeley H., (2019a) Navigating climate's human geographies: Exploring the whereabouts of climate politics, Dialogues in Human Geography, 9 (3), 3-17.

Bulkeley H., (2019b) Reflections on Navigating Climate's Human Geographies, Dialogues in Human Geography, 9, 38-42.

Bulkeley, H., Marvin, S., Palgan, Y. V., McCormick, K., Breitfuss-Loidl, M., Mai, L., von Wirth, T., Frantzeskaki, N., (2019) Urban Living Laboratories: conducting the experimental city?, European Urban and Regional Studies, 26, 317-335.

Buisness.com (2019) Expert Advice on Being Green and Profitable https://www.business.com/articles/expert-advice-on-being-green-and-profitable/

Catney, P., MacGregor, S., Dobson, A., Hall, S. M., Royston, S., Robinson, Z., Ormerod, M., Ross, S. (2014) Big society, little justice? Community renewable energy and the politics of localism, Local Environment, 19 (7), 715-730.

Collins Dictionary (2019) Definition of 'Commission', Available at:

https://www.collinsdictionary.com/dictionary/english/commission>

Corporate Responsibility and Sustainability Network

https://sbi.business-school.ed. ac.uk/industry-engagement/corporate-responsibility-and-sustainability-network/

da Cruz, N. F., Rode, P., McQuarrie, M. (2019) New urban governance: A review of current themes and future priorities, Journal of Urban Affairs, 41 (1), 1-19,

Cook, I. R. & Swyngedouw, E. (2012) Cities, social cohesion and the environment: towards a future research agenda, Urban Studies, 49 (9), 1959-1979.

Davidson, M., & Iveson, K. (2015). Recovering the politics of the city: From the 'post-political city' to a 'method of equality' for critical urban geography, Progress in Human Geography, 39(5), 543–559.

Dublin Climate Change Advisory Council (2018) Annual Review http://www.climatecouncil.ie/media/CCAC_AnnualReview2018.pdf

Fit For the Future

https://www.fftf.org.uk/services

Climate Emergency Working Group

https://glasgow.gov.uk/article/23847/Emergency-working-group-set-up-to-tackle-citys-climate-change-challenge

Haringey Council (2017) Zero by 2050 A Manifesto to Deliver Sustainable Regeneration in Haringey https://www.haringey.gov.uk/sites/haringeygovuk/files/haringey_zero_by_2050_commission_report.pdf

Holstead, K., Aiken, G., Eadson, W, Braunholtz-Speight, T. (2018) Putting community to use in environmental policy making: Emerging trends in Scotland and the UK, Geography Compass, 12 (9), 1-15.

Howell, A. (2015). Resilience as Enhancement: Governmentality and Political Economy beyond 'Responsibilisation.' Politics, 35(1), 67–71.

Kaika, M. & Swyngedouw, E. (2012). The Urbanization of Nature: Great Promises, Impasse, and New Beginnings, The New Blackwell Companion to the City, 96-107.

Köhler J, Frank W, Geels F, Kern F, Markard J, Onsongo E, Wieczorek A, Alkemade F, Avelino F, Bergek A, Boons F, Fünfschilling L, Hess D, Holtz G, Hyysalo S, Jenkins K, Kivimaa P, Martiskainen M, McMeekin A, Mühlemeier M, Nykvist B, Pel B, Raven R, Rohracher H, Sandén B, Schot J, Sovacool B, Turnheim B, Welch D, Wells P., (2019) 'An agenda for sustainability transitions research: State of the art and future directions', Environmental Innovation and Societal Transitions, (31), 1-32,

Lancaster Climate Change Cabinet Liaison Group, Terms of Reference

https://committeeadmin.lancaster.gov.uk/documents/s72380/CLIMATE%20CHANGE%20CABINET%20LIAISON%20GROUP%20TERMS%20OF%20REFERENCE.pdf

London Climate Change Partnership

http://climatelondon.org/lccp/partners/

Maggetti M. (2015) Hard and Soft Governance. In: Lynggaard K., Manners I., Löfgren K. (eds) Research Methods in European Union Studies. Palgrave Studies in European Union Politics. Palgrave Macmillan: London.

 $\label{lem:manchester Climate Agency Progress Report $$ $$ https://secure.manchester.gov.uk/download/meetings/id/23261/6_manchester_climate_change_agency_progress_report_2015-17$

Manchester Climate Agency (2019) ZERO CARBON MANCHESTER ANNUAL REVIEW 19 http://manchesterclimate.com/sites/default/files/ZeroCarbon_AR_19_1.pdf

McGuirk, P., Dowling, R., Bulkeley, H. (2014) Repositioning urban governments? Energy efficiency and Australia's changing climate and energy governance regimes, Urban Studies, 51 (13), 2717-2734.

McGuirk, P.M., Bulkeley, H., Dowling, R. (2016) Configuring urban carbon governance: insights from Sydney, Australia, Annals of the American Association of Geographers, 106,145-166.

Observatory of Public Information (2010) Better Reykjavik https://oecd-opsi.org/innovations/better-reykjavik/

Paterson, M., Stripple, J. (2010) My Space: Governing Individuals' Carbon Emissions, Env. & Plan. D: Society & Space, 28(2), 341-362.

Portsmouth Climate Action Network

https://www.portsmouthcan.co.uk/what-we-do

Rhodes, R. A. W. (2007) Understanding Governance: Ten Years On, Organization Studies, 28(8), 1243-1264

Romero-Lankao, P., Bulkeley, H., Pelling, M., Burch, S., Gordon, D., Gupta, J., Johnson, C., Kurian, P., Lecavalier, E., Simon, D., Tozer, L., Ziervogel, G. & Munshi, D. (2018) Urban transformative potential in a changing climate, Nature Climate Change,8,754-756.

Sheffield Climate Alliance

https://www.sheffieldclimatealliance.net/about-us/

Stripple, J. & Bulkeley, H. (2019) Towards a material politics of socio-technical transitions: Navigating decarbonisation pathways in Malmö, Political Geography,72,52-63

Suffolk Climate Change Partnership

http://www.greensuffolk.org/about/suffolk-climate-change-partnership/

Sustain Wales

https://www.cynnalcymru.com/project/the-climate-change-commission-for-wales/

Swansea Environmental Forum

swanseaenvironmentalforum.net/about/

Swyngedouw, E. (2009), The Antinomies of the Postpolitical City: In Search of a Democratic Politics of Environmental Production. International Journal of Urban and Regional Research, 33: 601-620.

Walker, J., & Cooper, M. (2011). Genealogies of resilience: From systems ecology to the political economy of crisis adaptation, Security Dialogue, 42(2), 143–160.

Image references

Cover Images

https://images.ed.ac.uk/

ECCI

https://edinburghcentre.org/

University of Edinburgh

https://www.wiki.ed.ac.uk/display/commandmktg/Download+Corporate+University+logos