Developing a Theory of Local Environmental Policy Capacity: The Case of Sustainable Homes in England

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Abstract

Processes of ecological modernisation – where ecological protection becomes increasingly viable and attractive, whether through market forces or by state intervention and regulation – have received considerable attention within the academic literature. However, extant theory in this respect has focused almost wholly on the nation state level and has yet to account for the role played by local governments.

This thesis seeks to address that deficiency by developing conceptual tools to study local government behaviour in order to understand why local governments contribute differently from one another to processes of ecological modernisation. A model of local environmental policy capacity is proposed (using insights from new theories of institutionalism, policy entrepreneurship and policy networks) and is applied to the 'zero-carbon homes' policy agenda of England in the period 2006 to 2015. This agenda is chosen because it both illustrates ecological modernisation and centres on a key field of responsibility for local government – local planning.

Two local governments are chosen for in-depth study to assess the value of the model. Oxford City Council, on the one hand, which showed reluctance in contributing to the agenda, and Cambridge City Council, on the other, which has been more proactive. The research provides useful insights on reasons for the differences between the two cities, these reflecting, above all, the dialectical relationship between policy entrepreneurship and institutions. Empowered entrepreneurs operating within an institutional context conducive to both change, and with a focus on sustainability, are important conditions for action.

The key contribution of the thesis lies in its revelations about the processes of ecological modernisation at a local level, and the argument that, if ecological modernisation theory is to be useful in explaining the processes of change in this regard – as it claims to be – then it needs also to take account of local government's contributions.

'Many years ago the great British explorer Edward Mallory, who was to die on Mount Everest, was asked **why did he wanted climb it**.

He said, '**because it is there**''

- *John. F. Kennedy, 1962.*

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List of Abbreviations

AAP	Area Action Plan
ACE	Association for the Conservation of Energy
BRE	Building Research Establishment
CPRE	Campaign to Protect Rural England
CSH	The Code for Sustainable Homes
DER	Dwelling Emission Rate
DPD	Development Plan Documents
EM	Ecological Modernisation
EMT	Ecological Modernisation Theory
HCA	Homes and Communities Agency
HI	Historical Institutionalism
HIPs	Home Information Packs
LDF	Local Development Framework
LEP	Local Enterprise Partnership
NPPF	National Planning Policy Framework
NRIA	Natural Resource Impact Assessment
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
RPG	Regional Planning Guidance
RPG6	Regional Planning Guidance Number Six for East Anglia
RSS	Regional Spatial Strategy
S106	Section 106
SAP	Standard Assessment Protocol
SCDC	South Cambridgeshire District Council
SEP	South East Plan
SHMA	Strategic Housing Market Assessment
SHDPD	Sites and Housing Policies Development Plan Document
SPD	Supplementary Planning Document
SPD	Supplementary Planning Guidance
QUANGO	Quasi-autonomous Non-governmental Organisation
RDA	Regional Development Agency
VWHDC	Vale of White Horse District Council

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Chapter One:

Introduction

States around the world have begun to initiate legislative programs designed to mitigate and minimise the effects of climate change. Typically these seek to mandate or encourage the private sector to embrace new technological and design solutions in order to 'green' production and consumption. We can point to financial incentives for domestic renewable energy production and incentives for the purchase of electric cars for example, or the creation of new environmental ministries or emergence of new discourses of sustainable development. Contemporary discourses of environmental governance have used this transition to greener modes of production and consumption to stress a new, ecological phase of modernisation where we can have it both ways; continued economic growth can be accompanied by a concurrent reduction in emissions and negative environmental externalities. The only route out of modernity's environmental problem, ecological modernisation theorists argue, is further modernisation.

This thesis questions the way that local government has been theorised within our existing accounts of how that process occurs and suggests that greater appreciation is needed for the role they play as contributors in their own right.

For much of the time between today and the earliest discussions on climate science, spearheaded by the likes of Rachel Carson with her book *The Silent Spring* (Carson 2000), James Lovelock with his *Gaia* hypothesis (Lovelock 2000) and The Club of Rome's *Limits to Growth* (Meadows and Club of Rome 1972) report, capitalism, industrialisation and growth were understood as the cause of the environmental problem, not its solution. The only way to mitigate the problem was said to be through de-industrialisation, an argument most forcefully presented in such works as Barry Commoner's *The Closing Circle* (Commoner 1971) and Herman Daly's *Towards a Steady State Economy* (Daly 1973)*.* However, a number of countries –including the US, Scandinavia, Germany and Japan – had experienced an increase in output, but a relative (or in some cases an absolute) decrease in emissions (Janicke, Monch, Ranneberg, *et al.* 1989, Janicke, Monch, Ranneburg, *et al.* 1989, Mol 2000, p. 45, Murphy 2000, p. 2). Economic growth had in these cases been *de-coupled* from ecological degradation.

It was thus becoming more contentious to argue that the link between modernity and environmental degradation was as clear cut as the de-industrialists would say; actual institutional transformations were taking place that were redefining the relationship between industrial society and the

environment that could 'no longer be interpreted as mere window-dressing, as they were in the 1970s' (Mol 1996, p. 303). Early ecological modernisation theorists began to question what this meant for our assumptions about the link between growth and environmental degradation. Institutions and actors were showing willingness to reform production processes in a way that allowed them to situate economic growth and the minimisation of negative environmental externalities in a positive sum relationship. Rather than an intrinsic flaw of modernity, ecological modernisation theorists argued that environmental degradation resulted instead from a design flaw in the institutional set up associated with contemporary modes of production and consumption (Mol and Janicke 2009). The implication was that environmental problems could be designed out, stimulating an ecological 'switchover'. We could, in other words, have it all.

Thus the normative 'face' of ecological modernisation theory (EMT) emerged. This idea that economies could grow in a way that led to a reduction in negative environmental externalities justified a new form of environmental politics that could sit within a neoliberal political-economy rather than threaten it, as prior normative thinking from de-industrialists had. Early advocates didn't argue for unbridled economic growth and capitalist expansion, instead merely challenging the dominant understandings to give hope to the idea that environmental protection could be achieved alongside modernisation, rather than at the expense of it.

Alongside this normative dimension though emerged an analytical face to EMT that sought to provide an empirical skeleton for normative discussions. Whilst the de-coupling of growth from emissions was – and still is – by no means universal, it did raise the question of why it was occurring. An analytical theory of EM[1] emerged out of attempts at answering this question. By studying extant examples of this decoupling process scholars started to offer prescriptions for how, why and when EM emerged as a trajectory. It is towards this face of the EM literature that this thesis is directed.

Our understanding of the behaviour of national governments in stimulating or managing processes of ecological modernisation is rich (Weale 1992, Janicke 1997, Janicke and Weidner 1997) but thus far EMT has failed to consider the role that local governments play. We know from elsewhere that local governments are playing an important role in localized responses to climate change (Bulkeley 2013) but extant attempts from with ecological modernisation theory (EMT) to explain the way that society is undergoing this transition fails to adequately consider the role of local authorities in broader, national climate change strategies.

This thesis responds to this lack of attention by investigating how can we account for variation in the extent to which local authorities contribute to processes of sustainable development. Chapter two discusses the literature on ecological modernisation to highlight this gap more vividly. Here ecological

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[1] Throughout this thesis EM theory is used to refer specifically to EM as an analytical framework rather than a normative-political agenda. It will be made clear where it is being used in this latter sense.

modernisation as a normative device and ecological modernisation theory as an analytical device are introduced in more detail. This thesis talks to the latter conceptualization of EM, but makes clear that the links between the two are strong and the success EM as a normative goal – a normative goal that has become a dominant discourse of environmental governance, no less – is contingent upon our analytical understanding of it. Understanding how governments legislate to minimize the impact of climate change and mitigate against its impact is important if we are to have confidence in the environmental legislation we put in place in the future.

It is that observation that spurs the research; if EMT is able to account for the ecological development of industrial society, as it claims to, we need a theory of local government behaviour within in. Chapter two makes the case for why this is important, introducing literature from urban climate governance to show that in England and around the world local governments show ambition and willingness to take meaningful steps to contribute to processes of EM. It proceeds to argue that within ecological modernisation theory there has been an assumption that the implementation of policies and strategies directed towards EM by central government is a problem-free process. Within a highly centralized system such as the UK it is often down to local authorities to implement national strategies, so it is worthwhile broadening out the focus not only to the national policy design stage but to include local contributions. Ecological modernisation theory often has a tendency of black-boxing the state, downplaying the still crucial role it plays even as the market plays a

more hands on role in the provision of environmental goods and services. Local government is seldom discussed when analysing extant EM processes.

The chapter therefore sets up the two overall aims and contributions of theses. The central aim and contribution of this thesis is to develop an analytical model that, on the basis of the findings of this and further studies, can be refined going forward to provide us with tools to explain the behaviour of local governments in processes of ecological modernisation. It does so through an in-depth study of the ecological modernisation of the English residential housing sector that was spearheaded by central government's 'zero-carbon homes agenda' between 2006 and 2015. The ZCH agenda was an ambitious national level programme to increase the sustainability of residential buildings in England (Scotland, Wales and Northern Ireland have different planning systems, so are not the focus of this thesis) that was launched in 2006 but abolished in 2015 after a change in government. It was chosen as a site for analysis because it has undergone a process of ecological modernisation and covers an area of which local authorities typically have considerable influence – planning.

This sets up the central research questions of this thesis:

1. What is the nature of the contributions that English local authorities make in pursuit of ecological protection and sustainability in the residential housing sector?

1.a. How, if at all, has the nature of these contributions changed over time?

1.b. How widespread have the contributions of local authorities been in this regard?

1. c. How much commonality and variance has there been in such contributions?

2. How can we account for any differences in the contributions that local government make?

The analytical model – a model of local environmental policy capacity – that is developed within this thesis to account for local government contributions is discussed in chapter four. This provides the conceptual toolkit from which empirical investigation proceeds and is developed using insight from previous attempts to study national policy preparedness amongst national governments in the context of ecological modernisation, but heavily bolstered with literature from new theories of institutionalism, theories of network governance and theories of policy entrepreneurship. It is designed to provide the tools not just to understand the variation in outcomes within the case of residential housing (thus answering research question number two) but also as a first step in the on-going process of theoretical work to develop a tool that can study outcomes across cases. In so doing the thesis thus responds to a key deficiency in ecological modernisation theory on the behaviour of local governments.

At the heart of the theoretical discussion underpinning the model is the idea that policy entrepreneurs underpin the emergence or demise of particular policies or strategies and that their behaviour is constrained or enabled by institutional factors. As a result the thesis draws heavily on the new theories of institutionalism – particularly its rational choice, historical and sociological institutionalist strands – to situate actors and institutions in a dialectical relationship, where actors are both constrained and enabled by extant institutional architectures and are also capable of influencing – but not guaranteed to do so – that institutional architecture by engaging in processes of institutional (re)design.

Their ability to do this is influenced by more than institutional context alone; the ability of agents to act as institutional designers or reformers is constrained and enabled by the extent to which they are able to navigate existing policy networks and how much they are able to influence outcomes that emerge from the interaction of their members (which would include private bodies, public officials, political parties and civil society actors). As a result, the model draws influence from the literature on policy networks – particularly that which discusses the resourcefulness so of network actors and the way that those resources influence their relative power. As such, the relationship between institutions and agents should not just be understood as dialectic but also one that is mediated through policy networks. It is therefore important to study all three.

However, we must remain sensitive to the economic conditions that prevail locally. We will see from discussions in chapter two on ecological modernisation at the national level and in the private sector that a baseline of economic performance is needed in order for economic costs and ecological savings to be reconciled. Within the model then this baseline economic performance is situated as a necessary though potentially insufficient condition. Precisely how economics influences outcomes is likely to vary on a case by case basis (and indeed towards the end of the thesis we see that in this case it has a Janus-face, serving as both a help and a hindrance under different circumstances).

The completed model provides a useful tool to identify and map the complexity of local government policy making – especially in a system as centralized as that in England – and relate key individuals to their surroundings in order to explain how an outcome occurred. The hope is that the model developed in this work can be useful in the future to account for local contributions to state-led processes of ecological modernisation, especially where they are co-opted into the process on a voluntary basis (i.e. where local government has greater autonomy over whether to engage with national-level strategies). Recent developments in England have seen powers being devolved to local governments in a range of policy areas, where groups of local governments 'bid' for packages of devolved powers (Lowndes and Gardner 2016). It is pertinent therefore to have a better understanding of the

factors that affect the voluntary aspects of local environmental climate governance.

The development of the model of local environmental policy capacity forms the basis of the theoretical contribution, but alongside this though is an empirical contribution: to explain and account for the role that local authorities have played in the zero-carbon homes (ZCH) agenda. The focus then in the thesis is on both the development and application of the model of local environmental policy capacity in order to address the gaps outlined in chapter two.

As we will see in chapter three, the ZCH agenda is an attempt at the ecological modernisation of the residential housing sector directed primarily by state action. It sought to mandate (through Building Regulations) and encourage (through the a quasi-voluntary Code for Sustainable Homes (CSH)) behavioural changes amongst house builders and landowners to adopt new technologies and design principles in pursuit of a more sustainable outcome. However, it does so with a keen eye to economic concerns.

As chapter three also shows, planning is a policy area that has traditionally had a high degree of involvement from local authorities, who are tasked with drawing up local plans that outline the location, type and some technical aspects of housing to meet local needs. The chapter concludes with three observations: that residential housing has undergone a process of ecological

modernisation, that it is state led and that there appears to be high levels of local government involvement. On the basis of this it is argued that focusing on this policy area would be useful if the gaps in the literature on EMT when it comes to local government are to be addressed.

Questions of the significance and originality of a piece of research are always important to consider. By the end of chapter four the argument will be clear that this thesis contributes in two ways. First, by providing the first steps towards a theoretical account for local contributions to processes of EM directed by central government. Second, by addressing the gaps in the emerging literature on the zero-carbon homes agenda, which, as we will see in chapters three and six, has yet to explore the behaviour of local government. Both are important in their own right, but the theoretical contribution will have more lasting effects on the discipline, given the model's potential to be deployed (and refined) elsewhere in future research. In some respect then this thesis is the first (but still important) step in a longer agenda to account for the full range of local contributions.

The fifth chapter discussed the methodological approach adopted in this thesis. In this respect, a mixed-methodology is used. First, statistical analysis is conducted, paving the way for two comparative case studies of local behaviour. A dataset was constructed in order to categorise local legislation on sustainable construction – thus addressing research question number one – but this dataset was exploited further in order to undertake a preliminary

regression analysis analysing the influence of those aspects of the model of local environmental policy capacity that lent themselves to quantification. In reality this meant that the influence of economic framework conditions[2] was measured through a binomial regression analysis in order to analyse the influence of these factors on the contributions of local authorities, ceteris paribus. Contrary to findings from the national level and private sectors, economics plays only a small role in accounting for differences in outcomes. Interestingly, though, wording of national legislation that devolves sustainable housing powers to local government does stress the importance of the viability of policy, stressing that it should have a minimum impact upon the supply of housing. This presents a paradox, whereby on the one hand ecological modernisation promises the mutual inter-relationship of economic growth and environmental protection, but – as is implied in this case – only those with a baseline of strong economic performance are permitted to take that leap. As we will discuss at length in sections 2.1. and 2.2.1, this seems to undermine central aspects of EMT's claims of the positive sum relationship between growth and environmental protection.

This study focuses on the behaviour of two local authorities that have shown differences in the way they have interacted with the zero-carbon homes agenda. Oxford and Cambridge City Councils were chosen because Cambridge had high levels of engagement with the agenda. Oxford on the other hand had early successes but had otherwise failed to keep sustainable

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[2] Defined in this case in terms of housing market strength, for reasons discussed in chapter five.

homes on the agenda. In many other respects though they are broadly similar; they both have buoyant housing markets, similar sizes, similar high-growth knowledge intensive industries and have a long history of comparison elsewhere. Given the centrality of economic concerns to planning in general and the zero carbon homes agenda in particular this kind of economic parity is important.

Chapter five also discusses the ontological and epistemological assumptions that run through this thesis and which inform that nature of the analysis and contribution. The author approaches the study through a realist perspective, where a world 'out there' exists independently of our knowledge of it but our best hope as social scientists is to offer interpretations of that world, thus avoiding claims of universal truth. The 'answers' presented in this work are therefore interpretations, relying upon a robustly constructed analytical framework in order to clarify a complex social world. In terms of theory development, the study deploys an adaptive technique, whereby a number of orienting concepts to guide the first stages of research – especially useful when researching such complexity – but can be refined as new data emerges. The conceptual breadth of the model of environmental policy capacity made it useful in this regard. Whilst not claiming to appeal to rigorous hypothesis testing it nevertheless presents an informed interpretation of the process, traced using interviews, online documents and first hand statistical datasets.

Before any effort can be made to explain variations in the contributions made by local government in the zero-carbon homes agenda (the 'why' element of the thesis), the 'who' and 'what' aspects need addressing. Chapter six covers these, asking what the nature of the contributions are, how they have changed, how many local authorities embraced them and thus how much variation there was between local authorities (and thus answering research question number one). This chapter thus marks the empirical section of the thesis *proper*, building upon the background and contextual discussion in chapter three.

What we find is that local authorities contributed in pursuit of ecological protection in the residential housing sector by supplementing national level Building Regulations. Between 2007 and 2015 they had powers to mandate specific CSH standards that, in effect, superseded those contained in national Building Regulations (but powers which became more difficult to adopt as growth dependent planning became more entrenched and, with it, the focus on the viability of development *vis à vis* regulatory standards). These are referred to as supplementary standard setting powers*.* We see towards the end of chapter six that roughly fifty-per cent of local authorities embraced these powers. A theme running through this chapter is that this supplementary standard setting power is one that has not previously been recognized within the literature on urban and local climate governance, where local government is often understood to regulate within strict boundaries prescribed by local government and not go beyond them.

Turning to the case studies, chapters seven and eight deploy the model in the cases of Cambridge and Oxford City Councils respectively. The various elements of the model and the inter-linkages between them are designed to cut through the complexity of the policy process. Using process tracing techniques, where the researcher seeks to build up a historical time-line of significant events and factors, these chapters build up an account of why they took the decisions they did. Oxford was an early innovator, but more recently has lost much of its original ambition. Cambridge on the other hand became progressively more innovative and ambitious as time went on. Key questions are asked in both cases: what are the dominant economic conditions; what rule changes have there been in recent years; what are the informal institutional practices within each council and how have these changed; who are the main network actors and what is their level of resourcefulness; who are the key policy entrepreneurs and how have they managed (or failed) to instigate change?

These comparative differences are discussed in more detail in chapter nine, which strips away the contextually specific detail of each case and relates it more clearly to the various elements of environmental policy capacity. In so doing it offers both an assessment of the usefulness of the model and an answer to research question number two.

The thesis concludes in chapter ten, where the focus is on outlining the main findings, which are broadly that yes, local authorities do contribute to

processes of ecological modernisation, they do so in large numbers and the extent to which and way in which they do so can be explained with reference to their local environmental policy capacities and thus the way that entrepreneurs navigate institutional landscapes through policy networks. The complexity of local government and the explanation for the outcomes witnessed in each of the case studies in this thesis were captured by an analytical model that could adequately cope, it is argued. Further application in future research can help to refine the model and iron out issues that may derive from case selection or this particular case study. For example, we are focusing here on one type of contribution to the EM process. Future research would need to explore (perhaps quantitatively) a broader range of contributions that they have played as contributors to EM in a range of contexts. Yet this study has run the model through a rigorous process and by doing so in an adaptive way has been able to accommodate the interdependency between its various components. The conclusion ends with suggestions for future research, the limitations of the study, implications for EM theory and implications for EM theory as a governing strategy.

It is hoped that four things in particular will become clearer as this thesis develops, beyond simply answers to the research questions above. The first is that ambition exists amongst many local authorities. We should not forget this, for often they are well placed to respond to local economic circumstances in pursuit of ecological goals and as a result can be more adaptive than one-size-fits-all strategies at the national level. If we want to offer up the kinds of

solutions needed in pursuit of ecological modernisation a devolution of powers may be a significant way forward. The second though is that it is not enough to assume that because a policy has been devolved it will sit well within all local authorities and if there is a degree of voluntarism in the uptake (as is the case in this thesis) then many will not be in a position to be able to embrace it, even if the political will is there. The third is that focus on local environmental policy capacity within this study raises questions about central claims of EMT, particularly those that situate economic growth and ecological protection in a positive-sum relationship. We will see that local contributions in this case are contingent upon an extant level of economic performance, thus limiting the extent to which this central claim is applicable. Despite claims that environmental protection can be an aid to economic growth, findings here suggest that economic growth is a precursor to environmental protection in the first place. This would seem to undermine what, as we will see in Section 2.1. is a central claim of EMT. Only further research can elucidate the extent to which this is a pitfall of local contributions to EM, national state-led processes of EM or indeed specific only to this empirical area. Directions for this research are discussed length in the concluding sections of this work. The fourth is that model such as the one developed here can be taken, applied and refined to provide much greater insight into how local governments respond in these cases. This thesis has done considerable work to highlight a gap in the literature on ecological modernisation, develop a model that is sympathetic to ecological modernisation theory and apply it to a particular

case in order to both say something about that case but test the suitability of the model. Further work will take this as a springboard.

Chapter Two:

Local Government and Ecological Modernisation: Towards A New Theory?

The links between the normative and analytical dimensions of EMT are close. EM as a normative agenda is only as successful as its analytical counterpart, so interrogating existing theories of EM is a worthwhile endeavour. In this chapter, which does just that, it will become clear that there is a great deal of work still to be done. The importance of such work is clear; the more confidence we have in our analytical accounts for processes of environmental reform directed at EM the greater nuance we can add to our normative prescriptions and thus the greater confidence we can have of making meaningful change.

This chapter outlines this analytical face (and, in doing so, discuses its normative cousin). The central argument there – and indeed the point from which this thesis is launched and the area to which it aims to contribute – is that the way the state is approached within extant discussion on the contributing factors to processes of EM is lacking, given that it says little about the role that local government plays as both implementers *of* and also contributors *to* processes of EM. If EMT claims to study the ecological development of contemporary society it ought to offer some insight here. It is

said within these discussions that EM is accompanied by a 'hands-off' state, one that 'steers' more than it 'rows' (Mol 1996) in order to incentivise behavioural changes amongst market or societal actors. The greater the extent to which markets are characterised by failure, it is said, the greater the balance will be tipped towards the latter (a point which, in itself, is also often downplayed in these discussions). Little concern is given though for sub-national implementation or policy-making, which we know from the literature on urban climate governance (see in particular Bulkeley 2013) plays an important role. This thesis seeks to address that concern by theorizing the dynamics of local involvement in processes of EM and the purpose of this chapter is to show why that is a worthwhile endeavour.

2.1. Ecological Modernisation Theory

The literature on EM is a challenging one to summarize as a result of its large number of strands and subdivisions (Revell 2005, p. 345). Before unpacking these dimensions it is worth exploring their commonalities. At their root all these perspectives share two key assumptions.

The first is that although environmental problems stem from the modernisation of contemporary society they represent challenges for societies rather than irreconcilable problems. Seen in this light environmental problems can be solved from within the machinery of capitalism and industrialisation through the conscious and unconscious restructuring and redesigning of production

processes (Revell 2007, p. 115). A core claim of EMT is thus that 'the solution to environmental problems lies in the promotion of *more* and *better* modernisation, not in radically altering or rejecting modernisation' (Revell 2007, p. 115 emphasis added).

The second, and most significant for contemporary discussions on environmental political and sociology, is related to the first. EM theorists suggest that the links between environmental protection and economic growth are positive-sum; that is, environmental protection and economic growth can exist co-currently and can be mutually supportive. Economic growth can enable forms of environmental protection whereby negative externalities previously associated with growth (emissions, pollution, etc) can be de-coupled from the growth process itself, wherein that environmental protection can itself stimulate further economic growth.

A central prescription of EM theory is that the restructuring processes of production around ecologically inspired principles is a long term condition for economic growth (Revell 2005, Weale 1992). The logic is simple: 'advocates argue that environmental protection is a potential source of future growth for the economy as ti can stimulate innovation, provide new market opportunities for environmental products and services and lower clean-up costs' (Revell 2005, p. 346).

This is reflected in a growing perception by policy makers and industry actors that the two are no longer irreconcilable. As Revell (2005, p. 346) argues, 'there is a growing perception within business, public and political spheres that there is no necessary opposition between economic growth and environmental protection, that in fact environmental and economic goals are a positive-sum game'. Indeed, these assumptions underpinned the thinking of the New Labour Government that administered environmental policy for much of the time-period considered in this study. Given its emphasis on modernisation in general this is perhaps little surprise, but nevertheless, there was a central belief that, 'the environment is a business opportunity…[that] there are economic benefits in reducing waste, avoiding pollution and using resources more efficiently…[and that] reducing pollution through better technology will almost always lower costs or raise product value/differentiation' (DTI 2000, p. 7).

It is worth bearing this point in mind because, as we will see towards the latter stages of this study, local interactions with processes of ecological modernisation seem to undermine the extent to which this co-concurrent relationship is feasible in practice in this context. What we will see is that local contributions to processes of ecological modernisation in this context are contingent upon a base-line level of local economic performance; contributions to EM may contribute to economic growth, but paradoxically it would seem that here a particular level of economic strength must prevail for that to be a possibility.

Nevertheless, beyond these two assumptions, EMT exhibits two 'faces': first, as a normative political agenda (advocating both reformed industrial and political behaviour) and second, as an analytical theory.

2.1.1. Ecological Modernisation As A Normative Agenda

The first face advocates a market led approach to the decoupling of growth from emissions (with state intervention where appropriate, as discussed below) using a variety of tools to economize the ecology and ecologize the economy . This has justified a normative-political agenda that has proved popular, given the ease with which a continued focus on industrialisation can be seemingly reconciled with growing calls for an environmental response. Where governments have endorsed the normative ideals of EM we can talk of the emergence of a new, dominant discourse of environmental governance. Across much of the developed world this emergence is taking hold, not least in the UK (Hajer 1995, Revell 2005).

2.1.2. Ecological Modernisation as an Analytical Framework

The second, analytical face of EMT provides a way of 'dealing with the evidence that suggests that advanced industrial countries have made progress in dealing with some environmental problems' (Murphy 2000, p. 4). Ecological modernisation studies then 'reflect on how various institutions and

social actors attempt to integrate environmental concerns into their everyday functioning' in order to understand and explain environmental reform (Mol et al, 2013). As examples of the decoupling of growth from emissions that we discussed in the introduction became more prevalent, environmental sociology and environmental politics became more focused not just on the normative possibility of EM but on explaining EM (Mol 1996, p. 303) in order 'to analyse those changes to the central institutions in modern society deemed necessary to solve the ecological crisis' (Gibbs 2000, p. 12).

There are strong links between the two in so much as the latter informs the former[3]. Mol talks of an 'intense exchange of ideas between the normative programme of ecological modernization, which is in turn nurtured by the political programme of ecological modernisation…and its analytical theory' (Mol 1996, p. 50). Similarly, Mol et al (2013) argue that 'ecological modernization scholarship's challenge is to provide the conceptual and change-oriented frameworks, and empirical examples and evidence from around the world, to enable scholars, policymakers, and citizens to understand, design and implement institutional and social arrangements that address those environmental challenges' (p. 26).

So how does it explain these changes? Broadly:

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[3] This distinction is important and is an inherent characteristic of social theories, where it is not uncommon for them to have a 'dual' nature in so much as 'on the one hand, they provide a conceptual framework for a descriptive analysis of social processes evolving in society [and] on the other hand…have normative overtones in pointing at the direction society…should be developing' (Mol 1995, p. 48).

(i) capitalism is changing constantly and one of the main triggers are environmental concerns and interests, (ii) significant environmental improvements in production and consumption are possible under different 'relations of production', and (iii) all major, fundamental alternatives to the present economic order have proved unfeasible according to various (economic, environmental and social) criteria.

(Source: Mol & Spaargaren, 2002, 38)

Huber, amongst the earliest proponents (Huber 1985, 2004), saw these empirical changes as indicative of a new form of industrial development, in which technological innovations and industrial entrepreneurialism are being deployed. Ecological degradation stems from the colonization of nature and society by technology as modernity progresses through two stages, the first being the industrial revolution and the rise of the engine and electrification, and the second being the age of mass transportation and consumerism driven by rapid technological development and deployment. He argues that we are witnessing a third phase of super-industrialisation, in which the colonization of nature by technology is being overcome 'through the introduction of new, and more intelligent technologies' (Huber 1985, p. 174 in Mol, 1996, 38). Technologies for environmental protection in the 1960s and 1970s provided 'end-of-pipe' fixes that attempted to clean up polluting industrial production *post-hoc*. In processes of EM though these first-generation technologies are being replaced by more resource efficient technologies directed at 'clean' production and 'green' products that had emerged through rapid innovation in nano-technology, computerised design and production and new materials. It was these new resource efficient technologies, Huber argued, that made the decoupling witnessed by Jänicke (1989, 1989) possible and which are 'the

key component of any viable response to ecological challenges' (Huber 2004, p. 6).

Jänicke shares this technological optimism in his conceptualization of EM as a form of environmentally friendly technological innovation (Janicke, M. 1988 in Christoff 1996, p. 182). The decolonization of nature occurs as firms and industrial actors realise the economic potential of material efficiency and technological deployment in response to new consumer demand, profit threats (whether resulting from regulatory burden or economic shocks), resource scarcities and price fluctuations (Christoff 2006, p. 183). This shift from first wave – curative – to second wave – preventative – technologies brings 'a more ecologically rational material and energy input and output in the economic sphere' (*ibid,* p. 39).

In this conceptualization, ecological modernisation emerges on the basis of economically inspired technological development, rather than any overt ecologically inspired normative objective. This rapid technological development and deployment overcomes the colonization of nature because it serves to achieve an 'ecologization of the economy'; 'that is, a more technologically rational material and energy input and output in the economic sphere and the possibility of monitoring these material and energy flows' (Mol 1995, p. 39).

There are some that argue that this is little more than 'greenwashing', or simply dressing up a cost-saving measure (such as more energy efficient machinery) as an ecological measure (Christoff 2006). Mol, (1996), the most prolific theorist in mainstream EMT, counters this by saying that Huber doesn't offer a sufficiently robust account for why these technological shifts occurred, calling for a move away from looking at 'technological innovations as the (only) causal factor determining socio-economic change' (Mol 1995, p. 40). Underpinning these transformations are new ways of thinking about and acting within the environment that have begun emerging, such that decisions become increasingly made on the basis of ecological criteria as well as economic, political or social criteria (Mol 1995). Speaking more technically, the ecology becomes economized as economic concepts and behaviours directed at environmental protection permit a value to be placed upon the environment, thus giving 'nature its rightful place in the economic game' (Mol 1995, p. 39). This manifests itself, he argues, in three key institutional transformations that accompany EM:

1. Modern science and technology plays a pivotal role in these ecology induced transformations, which are no longer limited to the introduction of add-on technologies or process-integrated adaptations, but include changes in product chains, technical systems and economic sectors/clusters:
2. Private economic actors and economic and market mechanisms play an increasingly important role in processes of ecological restructuring, while the role of state agencies changes from bureaucratic, top-down dirigisme to 'negotiated rulemaking' and the creation of favourable conditions for such transformation processes;
3. Environmental NGOs change their ideology, and expand their traditional strategy of keeping the environment on the public and political agendas toward participation in direct negotiations with economic agents and state representatives close to the centre of the decision-making process, and the development of concrete proposals for environmental reform

(Mol 1995, p. 58)

A number of empirical examinations of processes of EM have emerged in recent years that draw upon this core EM framework. This begun with a focus on the experiences of developed Western political-economies, particularly the Netherlands and Germany but also the United Kingdom and Scandinavia (Weale 1992, Hajer 1995, Mol 1995, Buttel 2000, Cohen 2000, Lundqvist 2000). In response to criticisms that 'EM is a Northern (Western) oriented discourse rooted in a particular stage of economic development' (Toke 2001, p. 289) empiricists cast a wider net, resulting in a number of studies into EM in a variety of national contexts outside of the traditional EM heartland including: the China and South East Asia (Frijns *et al.* 2000, Sonnonfeld 2000, Sonnenfeld and Mol 2006, Zhang *et al.* 2007); post-Soviet states (Gille 2000); and other Western developed nations (Janicke and Weidner 1997, Weidner and Jänicke 2002a). A similar range of empirical applications has been made to a variety of industrial sectors and processes within particular nation states (most notably: Mol 1995, Spaargaren 1997, Pellow *et al.* 2000, Spaargaren and Van Vliet 2000, Scheinberg 2003, Revell 2007, Goodchild and Walshaw 2011, Toke 2011a, 2011b). Within these cases EM exists as either an identifiable policy strategy or a process of industrial reform.

There are broad normative concerns over whether EM itself is achievable or even desirable, but whether we have confidence in the outcomes of this agenda or not we must remain open to discussion on how EM emerged as a political or industrial strategy and the factors that govern its evolution. The propensity with which it has been embraced worldwide is enough to require us

to pay closer attention to the conditions that lead to its success, in spite of whether or not the ultimate end-goal of EM is sub-optimal. EM may be imperfect and may lead to sub optimal outcomes, but the take home message from these empirical analyses is that 'ecological modernization is ultimately likely to prove neither completely correct nor completely incorrect; instead, the ultimate verdict is likely to be, "it depends"' (Fisher and Freudenburg 2001, p. 706).

2.1.3. Mainstream and Radical Analytical Accounts of Ecological Modernisation

The analytical approach discussed thus far constitutes the 'mainstream' approach to EM, so called for the attention is gives to the rational basis of agential and institutional decision making and the resonance the approach has with the mainstream of environmental sociology and environmental politics, where behaviouralist approaches can tend to dominate.

However, a radical account has also emerged (Toke 2011a). Marteen Hajer, a proponent of this radical approach, investigates the implications of new dominant discourses of environmental governance. Rather than approach EM as a series of institutional changes underpinned by institutional reflexivity it is understood as a discourse of environmental governance that serves to legitimize particular institutional forms (Hajer 1995).

The differences between the 'mainstream' and 'radical' approaches to EM of Mol and Hajer respectively are largely ontological: Mol rests upon a foundationalist ontology that privileges the existence a social world independent of our knowledge of it that can have direct causal influence on behaviour. Hajer rests upon an anti-foundationalist ontological position that privileges the social construction of knowledge and the way that interpretations of the world structure outcomes[4]. Thus they can be considered complementary rather than competing explanations for the institutional transformations they seek to explain.[5] To illustrate this difference consider the central claims of both positions; whereas for Mol EM emerges out of the reflexivity of four key institutions for Hajer it is but one of a number of competing ecological discourses that supplanted more radical forms that existed prior to the 1980s (that advocated de-modernisation, limits to growth as part of a broader critique of capitalism). In this sense,

> 'ecological problems do not pose institutional problems by themselves, but only to the extent that they are constructed as such. Problems can be conceptualized in such a way that they pose an institutional challenge, they can be scaled down so as to become institutionally manageable incidents, or they can be seen as a process of structural change that are beyond human intervention' (Hajer 1995, pp. 40–41)

The EM discourse thus legitimizes institutional reform and has an enabling quality. Environmental discourse is intrinsically fragmented, and storylines compete for dominance and are adopted by competing discourse coalitions: 'a

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[4] A more profound difference can be found between Hajer and Mol on the extent to which they symapthise with this politic, but this falls beyond the remit of this thesis. On a normative level Hajer is more critical than Mol, Janicke, Huber and other forefathers of EM theory over the extent to which EM can achieve sustainable outcomes, remaining sceptical of the extent to which they 'take the wind out of the sails of 'real' environmentalists' and whether it is 'any more than the confident and feasible answer to what is basically another example of inefficiency and market failure' (Hajer 1995, p. 34).
[5] Although they critique mainstream EM, radical EM scholars remain committed to the principles of ecological modernisation.

new policy discourse as comprehensive as ecological modernization is not conceptualized as one united set of ideas but only gradually emerges after years of institutional debate' (Hajer 1995, p. 29). He argues that EM became dominant for four reasons; it presented an opportunity to rectify the failures in environmental governance that marked the 1970s and 80s; its assertion of a positive sum relationship between growth and ecology could placate the demands of both the green and business lobbies by suggesting that being green doesn't represent a threat to economic prosperity; it requires little in the way of radical structural change; and it resonated strongly with the trend emerging in the 1980s towards deregulation and small state solutions characteristic of neo-liberalism (Hajer 1995, pp. 32–33).

A further distinction can be made between 'weak and 'strong' forms of EM (Christoff 2006). On the one hand, weak EM is characterised by reforms driven by and justified in terms of economistic concerns, which rely primarily on technological solutions rather than behavioural change and which are driven more by top-down prescription from technocratic elites 'working in relative quiet' than bottom-up pressures for change (Hajer 1995, p. 281, Christoff 2006, Toke 2011a). In these cases sustainability is pursued as a 'business case' (Christoff 2006). On the other hand, strong EM is characterised by more ecologically justified reform driven by behavioural change on the demand side as a route to the deployment of technologies. Here change is driven bottom-up, through civil society led action (Lovell 2004, Christoff 2006, Toke 2011a). These stronger forms are encouraged in large

part by more deliberative, discursive practices (Hajer 1995, Dryzek and Schlosberg 2005). For example, Dryzek (2002, p. 143) talks of framing the relationship between state, market and civil society along more deliberative lines to incorporate a bottom-up reorganisation of the basis of liberal democratic society in order to circumvent its tendency towards technocracy and inefficiency. Hajer argues along similar lines for 'the mobilization of independent opinions versus the respected powers of authorities' (1995, p. 281) through the mass mobilization by grassroots social movements groups. There is an inherent scepticism of the extent to which technologies can be relied upon to solve the environmental problem – Hannigan (2006, p. 26) talks of mainstream EM being 'hobbled by an unflappable sense of technological optimism' – and in these more radical variants emphasis instead is placed upon altering consumption patterns and fostering bottom-up forms of EM that challenge conventional elite discourses through civil society deliberation.

Similarly, Greenwood (2012, 2015) talks of the challenges of policy coordination that come with 'weak' approaches to EM, whereby the government necessarily has to coordinate between a range of competing interests (inside and outside the machinery of the state) in a way that can both appease powerful opponents whilst at the same time staying true to the principle of EM.

2.2. The Role of the State in Ecological Modernisation

If it indeed is the case that EM ''depends' on various things', as Fisher and Freudenburg suggest, then given the strong links between the analytical dimensions and normative political programme of EM, 'it would be highly beneficial to devote a significantly larger fraction of our effort to studying the more specific factors upon which it depends' (2001, p. 706).

The analytical dimension of EMT has certainly made significant inroads here, but one factor that requires further study is the role played by local government in responding to and contributing to national legislative programs directed at EM. In order to outline where a discussion on local government should be situated, our attention needs to turn briefly to an understanding of how EMT conceptualizes the role of the state. There is a tendency within EMT to imply an essentialism in terms of emergent discourses or institutional shifts and the emergence of a new sphere of ecological rationality. Often there is a sense then that EM is un-falsifiable, in so much as it rests too strongly on its structural-functionalist roots to imply an inevitability in the transition towards ecological modernization[6]. Greater focus is needed on the internal workings of the state in particular – especially away from best practice cases – in order to overcome this essentialism.

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[6] McLaughlin (2012), for example, is skeptical of what he sees as an inherent determinism in this line of thinking, arguing that it implies 'a providentialist subtext within EMT that suggests that despite obstacles and interfering forces, the path of social change privileged by EMT will win out in the long run' (McLaughlin 2012, p. 181). This stems from a tendency within EMT to discount or 'explain away' deviation from the expected trajectory and a tendency to select cases on the dependent variable in a way that favors the cutting edge, 'best practice' cases. EM is open about its tendency towards selecting 'cutting edge' innovations to highlight best practice and emergent trends in industrial production but critics argue that the focus on the 'EM successes heralded by Mol and his colleagues may simply represent a 'creaming' of a programme of ecological incorporation into production practices'' (Hannigan 2006, p. 28).

2.2.1. Existing Conceptualization of the State in EM.

As it stands, the role of the state as it has thus far been conceptualized in EMT is as an incubator for the development of new technologies and scientific practice and to intervene in the market in order to create the 'favourable conditions for the transformation of private enterprise and scientific and technological communities' that Mol mentions (1995, p. 58) and to use environmental protection as a means to foster economic growth, which as we saw in Section 2.1., is a central tenet of EMT. Because of the state's inability 'to monitor and control the billions of material and energy transformations taking place each day' a bureaucratic, command-and-control style regulatory approaches to environmental governance will prove ineffective and are likely to be inefficient, inflexible and 'a brake rather than a motor of technological innovation' (Mol 1996, p. 46).

As a result, EM is often accompanied by a shift in policy from 'curative and reactive to preventative, from 'closed' policy making to participative policymaking, from centralised to decentralised, and from *dirigisme* to contextual 'steering'' (Mol 1996, p. 141) such that the boundaries between state and market become redrawn. As Revell says;

> 'The state in ecologically modernizing nations plays a key role in encouraging the 'greening of industry' and the integration of environmental and economic goals. Arising out of the deregulation and privatization trends of the 1980s, the ecological modernization of policy-making…involves a transfer of responsibilities for environmental reform from the state to the market. There is an increasing emphasis on stakeholder participation and partnership in policy formulation, especially between the state and industry. The popularity of command-and-control regulatory approaches recedes in favour of policies that attempt to 'steer' industry towards environmental reform. These include

market-based instruments such as environmental taxes and voluntary agreements' (Revell 2005, p. 346).

Hajer talks of the shift from the 'classic bureaucratic' (1995, p. 27) state, marked by 'predominantly 'react-and-cure' formulae for regulation' (1995, p. 26) towards a more diffuse, regulatory state characterized by 'more innovative 'anticipate-and-prevent' type policies (1995, p. 26). Seen in these ways the transformations in the market, civil society and state are directed towards mainstreaming technological innovations and it is the state that acts as the catalyst for institutional change. Civil society has had a historically important role to play in this process. Beginning in the 1980s, they began to sympathise to a much greater extent with the normative vision of EM, partly in response to a frustration at a lack of involvement in decision making processes (Mol 2000). They had to find a way to respond to new forms of environmental crises without going beyond the dominant terms of the debate. It was subsequently pressuring government for change in a language they could understand, who then in turn introduced regulatory, economic or exhortative policies where appropriate, leading to a further institutionalization of ecological concern in a reflexive, on-going process.

2.3. Problematizing Existing Conceptualizations of the State in Ecological Modernisation Theory

An issue with early conceptualizations of the role of the state within EMT is that they offered little discussion of the kinds of factors that affect the

propensity with which the state could begin legislative programs directed at EM when confronted with environmental problems, challenges or crises. The work of Martin Jänicke and Helmut Weidnar did emerge to fill this gap, but left a lot to be desired in terms of how strategies that were designed were actually implemented in practice. They argued that the extent to which this shift occurs is dependent upon the extent to which it has undergone a process of 'political modernisation' (Janicke 1988, Janicke 1997, Leroy and van Tatenhove 2000, van Tatenhove and Leroy 2003), a process which entails the policy capacity of the state to be built to allow greater state-market interaction.

Policy capacity, defined as 'the institutionalisation and internalisation of new stages of problem-solving capacities in reaction to (or anticipation of) societal challenges and crises' (1997, p. 3) is built in processes of ecological modernisation as ecological concern becomes more greatly institutionalised in response to civil society pressures and changing external circumstances (manifest in legislative programmes, institutional structures and new formal and informal rules and practices).

In some senses then political modernisation is a precursor to widespread ecological modernisation, in so much as it entails the 'renovation and reinvention of state environmental policies and politics' in response to new pressures and challenges (Mol *et al.* 2014, p. 266) and connects the ideas of environmentally oriented governance to environmental outcomes in an explicit way by suggesting that the state adopts a new capacity to respond to latent

demands from emerging EM-inspired advocacy coalitions and innovative, pro-environment market actors (for example, those in the renewables industry).

However, although political modernisation entails a shift to governance, often when we talk about a shift from government to governance there is a tendency to downplay the still crucial role played by the state and to downplay the internal political mechanisms that underlie the state's involvement within governance processes (Peters and Pierre 2006). This is certainly the case in the context of EM; discussion of a shift towards a more 'hand-off' approach to governing has often been shorthand for a pro-market orientation in empirical studies that risks shifting focus away from internal state dynamics. Because of this, the state in EMT is often seen as a junior partner. Peters and Pierre argue that 'the most important thing about state institutions for the governance process is that they provide an agreed upon mechanism for establishing priorities, and for making choices among competing processes' (p. 215), and in EM this is no different. Whilst those decisions will be made in negotiation with a range of non-state actors, the state remains central to those negotiations and decisions. Policy choices need to be a) made and b) legitimized.

Specifically, 'little is said about the social and political barriers that are likely to be faced in trying to implement these strategies' (Hannigan 2006, p. 26). The emergence of policy directed at EM (clean technology investment, the creation of environmental standards or eco-taxes for example) is underexplored in the literature. The internal politics of policy capacity are as

important to understand as the effect of capacity on state-market interaction.

One particularly interesting dynamic in this internal political context is the role played by local government. The role assigned 'to the sub-national scale and the local state is circumscribed' within EMT and, more importantly, 'any analysis [of ecologically modern policy] is confined to the nation state' (Gibbs 2000, p. 13). Analysis of factors underpinning processes of ecological modernisation (and thus, given the linkages between the two, the quality of EM's normative prescriptions) have remained focus on the national level (see in particular: Weale 1992, Hajer 1995, Mol 1995, Janicke 1997, Gille 2000, Lundqvist 2000, Sonnonfeld 2000, Revell 2005, 2007).

The literature on local and urban climate governance hints at the growing importance of urban and (to a lesser although still important extent) rural environments in both causing and responding to environmental degradation as important incubators for change (Betsill and Bulkeley 2007).

2.4. Bringing Local Government into Ecological Modernisation Theory

Broadly, we can talk of two stages in local level responses to climate change. Municipal voluntarism saw cities engaged in voluntary activities as a means to increase their ability to respond to climate change, whether through joining transnational networks such as *Energie Citiés* or the *ICLEI,* declaring intentions to reduce 'in-house' emissions or through the publication of

emissions reduction strategies. A new wave of strategic urbanism has emerged, which sees cities take a more direct, political approach that brings together a range of actors within a more integrated strategic framework (Bulkeley 2013, pp. 74–82).

This latter phase of local level responses manifests itself in four types of urban governance programme. First, they can self-govern, for example by committing to reducing emissions on their own estate, or to increase the fuel efficiency of their own fleet. Second, they can also ensure the provision *of a* low-carbon or resilient infrastructure*.* Third, they can enable new forms of governance that see new forms of partnership open up between civil society and private actors that attempt to incentivise behavioural change outside of a binding regulatory framework. These can include education campaigns to encourage public-transport use or awareness campaigns to reduce food-miles. Fourth, they can instigate regulatory frameworks intended to influence behaviours and outcome, including taxes, subsidies, land zoning, congestion charges and land-use planning. (Bulkeley 2013, pp. 93–97, Bulkeley and Kern 2006). Given that local government already does contribute to EM in these different ways, there is a clear need for EM literature to consider their role within its framework.

It is this regulatory role that is interesting in the context of EMT. In England, where power is highly centralised, this regulatory role is 'enabled' by national level decision makers, who specify the conditions and boundaries within which local governments can act such that local government may, in effect, be

tasked with implementing policy agendas that sit within the ecological modernisation agenda that are designed elsewhere (McEvoy *et al.* 1998, Allman *et al.* 2004, Evans *et al.* 2004, Joas *et al.* 2004, Bulkeley and Betsill 2005, Wilson and Game 2006, Loring 2007, Goodchild 2010, Goodchild and Walshaw 2011, Argyriou *et al.* 2012a).

However, there is an implicit assumption within EMT that implementing policies and devolving powers and policy to lower levels of government is a problem free process (Gibbs 2000, p. 14). The same is broadly true of the literature on urban and local climate governance, where little consideration is given to how local and national levels interact in processes of multi-level governance, nor how local government responds to and enacts policies design elsewhere. Here too, implementation is implicitly understood as being problem-free.

The reality though is likely to be quite different: devolving powers to local authorities does not automatically lead to the adoption of those powers, as within such a multi-level system there is an inevitably a contest between local political processes that affects the extent to which different levels of government can join together. This is an important point to reiterate: where this study differs from existing policy analysis within the literature on urban climate governance is way that it focuses on the interaction and interplay between local and national legislative agendas whilst still remaining sensitive to internal local political processes.

2.5. Overarching Aim of the Study

So there is a deficit within EMT; where the state *is* talked about attention remains focused largely on the influence of and contribution made by national government. If EMT is to provide an account for the emergence of an ecological switchover and the role that the state plays within that switchover (as it claims to be able to do) then it needs to have more tools at its disposal to explain the role that local governments play in legislating EM themselves.

Mol (et al 2013) list four trends within existing EM scholarship which, 'taken as a whole…represent the distinct approach, coherent perspective and active research program of ecological modernisation theory' (p. 20). The latest of these four waves is characterized by the 'internationalization of ecological modernization research' in response to 'cross-border problems and…growing international efforts and coordination for solving environmental problems' (p. 20). Be that as it may, we should not lose focus of internal politics inherent to processes of political and ecological modernisation. A fifth trend of EM research is therefore proposed and deployed to justify this thesis, *one that focuses on how, why or whether local authorities contribute to processes of ecological modernisation.* This calls for a focus on the implementation of regulatory strategies in processes of EM and how local governments are tasked with implementing and contributing to such strategies.

Given these shortcomings and in the spirit of this new wave of EM research, the aim of this thesis is therefore to theorize the dynamics of these local

contributions to state-led processes of EM (political modernisation, to use Jänicke's terminology). Much like Jänicke & Weidnar have theorised the factors that can explain variation in national environmental policy responses in the context of EM through the lens of policy capacity – as we saw above – the aim here is for a similar modelling of local government. Since EM does not theorise the role of local government in EM processes, the overarching aim of this thesis is to explore explore how such a theoretical framework can be built.

The empirical case of sustainable construction is used as a means to do so. To reiterate the point made towards the end of the introductory chapter, although the primary motivation and contribution of the thesis is to develop theory in this way there is an additional contribution to be achieved by looking more specifically at the case of sustainable construction. Empirically it will address the gap within the existing literature on sustainable homes about the factors that account for local engagement and variation in the design and implementation of sustainable construction policy. Theoretically though it marks the first step in a broader process of theory generation that engages with the objective outlined above; a study of the variation in uptake of supplementary sustainability standards in the context of the ecological modernisation of residential housing will allow for the construction of a heuristic model that can be deployed elsewhere in the future.

Chapter Three:

The Ecological Modernization of Residential Housing

3.1. Introduction

This chapter will show that the residential housing sector in England has undergone a transition towards ecological modernization that has been heavily influenced by exhortative and binding changes to planning and construction regulation. In doing so it argues that it is a fruitful site for analysis.

As we saw in the introduction, in 2006 the UK government introduced a zero-carbon homes agenda in order to reduce the emissions associated with the construction and use of homes through the introduction of changes to building regulation and planning policy regimes. The purpose of this chapter is to outline what that agenda entailed in the context of ecological modernization and the role local government played. However, in order to do that a more detailed historical assessment of the nature of the planning system is needed. Here we will see a complex institutional arrangement spread across the national, regional and local level with competencies divided between them and a system that is dependent upon the private sector providing sufficient homes and thus developer profit and growth. This *growth dependent* planning

system characterizes the behaviour of actors at all spatial levels, as well as the evolution of the system in its entirety. By exploring these influences in more detail, this chapter provides the necessary context through which to more fully explore the role that local authorities have played in the EM of residential housing and deploy the model of environmental policy capacity developed in the next chapter.

The first section outlines the zero-carbon homes agenda. The second situates this in the context of EM, arguing that it is a good example of a state-led process of EM but one that is also 'weak', given its emphasis on growth dependency and economic concern. The third section details the specific role that local government plays in the planning system in order to justify the inclusion of this case as a site to explore local contributions. Here we will see they play a considerable role in detailing the type, nature and quantity of development. However, we will also see that it is a site that has undergone considerable change in recent years – particularly focusing around the entrenchment of growth dependency – that has caused the relationship between local and national governments to change.

3.2. The Zero Carbon Homes Agenda

Between 2007 and 2015 the UK government introduced an innovative 'zero-carbon homes' agenda in order to increase the sustainability of new residential buildings in England. The agenda emerged when the UK

Government published *Building A Greener Future* (DCLG 2007a)*,* in which it laid out how the planning policy regime could be used to contribute towards the country's broader climate change strategy and binding emissions reduction targets. The most important prong of this housing-led strategy was a target that by 2016 all new homes built in England would need to be 'zero-carbon', where 'the net carbon emissions from all energy use in the home would be zero' (DCLG 2007a, p. 5). This marked a step-change in the commitment of government in fostering sustainable construction.

This zero-carbon homes agenda was announced at a time when government was actively pursuing the ecological modernization agenda, which since the 1990s has been the central direction in which environmental governance in England is pointed. Weale refers to this as the 'new politics of pollution' (Weale 1992, Barry 2005, Revell 2005). The mid 2000s saw sustainable housing rise sharply on the incumbent Labour government's agenda (see Lorenzoni *et al.* 2008). Prior to this, sustainable housing policy was little more than an 'analytical or social construct' to label a heterogeneous set of policies and initiatives spread across different policy areas and departments (Pickvance 2009, p. 331). Housing was targeted as a key area in which the government could further its EM agenda and make meaningful emissions reductions, given that 27% of emissions stem from the construction and use of homes (Van Bueren and De Jong 2007, p. 544, Osmani and O'Reilly 2009, p. 1917). This followed a history of government intervention in the research and development into these technologies. The oil crises of the 1970s provided

an incentive for government to allocated R&D resources to exploring the potential of these technological solutions (Smith 2007).

As we saw in the previous chapter, the overarching objective of a state-led EM agenda is the incentivisation of the deployment of eco-technologies by industry actors. The state's role in this incentivisation process in this case has taken three forms. Pickvance (2009) talks of its three governing strategies: regulatory, exhortative and economic. Others have referred to the use of 'smart' regulation (Greenwood 2015, p. 429) – that which involves a combination of both traditional binding regulatory approaches but also more informal market-based instruments 'such as eco-taxes and tradable permits, voluntary agreements negotiated with different sectors of industry, and the setting of environmental targets' (Revell 2005, p. 116).

It is the *regulatory* agenda that has proved most influential. Central government introduced mandatory standards within national Building Regulations[7]. Underpinning the zero-carbon homes target were proposed changes to Part L of the Building Regulations (which addresses the conservation of fuel and power and takes account of heat gain and losses and building energy efficiency). Initial proposals suggested that a 25% increase in energy performance would be written into the 2010 iteration of regulations (compared to 2006 levels), a 44% reduction in 2013 and a 100% reduction in

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[7] These Building Regulations typically set mandatory minimum standards for the design and construction of buildings, covering a range of areas such as health and safety, fuel and power provision, disabled access, space and water use. Building Regulations systems make sure that any development that takes place meets minimum construction standards to ensure safe, habitable development.

2016. The purpose of this policy was both to encourage further developments in technological advancement and mandate their deployment in the market in order, over time, to economize sustainability in this context.

Exhortative policies are those that encourage behavioural change amongst actors by altering preferences, whilst economic policies incentivise change. As we saw in the introduction, the government published the Code for Sustainable Homes (CSH) alongside the step-changes to Building Regulations. The CSH was a voluntary standard that provided technical guidance on achieving standards of sustainable construction exceeding those in Building Regulations. It was designed to serve as a reference point for the future trajectory of changes to Building Regulations, highlighting as it does the practices and techniques required to meet specific standards. The CSH codified the development practices required to achieve defined levels of sustainability, measured across nine categories: energy/CO_2, water, materials, surface water run-off, waste, pollution, health and well-being, management and ecology. A number of points were gained for achieving specific levels in each category, with minimum standards needed for energy and water. A rating of between zero and six stars is achieved on the basis of a points tally, with level 6 being a zero-carbon home in which all emissions (including those involved in both the construction and use of the building) are offset on-site. A home rated at Level 6 represents an 'exemplar development in sustainability terms' (DCLG 2006, p. 6).

Because it defined sustainability across a number of categories its requirements were considerably broader than those laid out in national Building Regulations (McManus *et al.* 2010, Gibbs and O'Neill 2015). A home that is rated against the CSH has achieved a greater level of sustainability because it has met minimum standards in other areas not covered by Building Regulations, which narrowly focuses on water and energy requirements. There is a degree of overlap between Part L and the energy/CO_2 component of the CSH: the three step changes to Part L discussed above conform to levels 3, 4 and 6 of the CSH respectively. 2013 Part L requirements conform to between Levels 3 and 4 of the energy/CO_2 category. However, a home specifically built and rated to Level 3 of the CSH has more stringent sustainability standards given that the CSH is a broader standard than Part L. Indeed, the purpose of the CSH was to provide a signpost to future reforms to the energy and carbon elements of Building Regulations 'therefore offering greater regulatory certainty' (DCLG 2006, p. i).

In addition to this regulation and exhortation though there were a handful of economic incentives in place to raise the sustainability standards of residential buildings, but these are limited and centre largely on incentivising the retrofitting of existing buildings[8]. There is a comparatively smaller focus on economic incentives for new development. The 2007 Budget did introduce a relief from Stamp Duty Land-Tax – 'a transaction tax payable on the purchase

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[8] For example, schemes exist to subsidise renewable energy installations (through the Feed in Tariff or the Low Carbon Buildings programme schemes) or home energy efficiency (though the Green Deal and the Warm Front schemes) or through more general advice and publicity schemes (through the Energy Savings Trust or various demonstration programmes) (Pickvance 2009).

of land and property…payable by the buyer at a rate which depends on the value of the property' (HM Treasury 2007, p. 1) – for new zero-carbon homes valued up to £500,000 (above which a £15,000 reduction of overall Stamp Duty liability would be provided). However, this relief ended in 2012.

Overall it was the regulatory strategy that has had the greatest impact on changing behaviours through institutionalising ecological protection measures. Homes built in 2015 were achieving the equivalent of between Code levels 3 and 4 in terms of energy and CO_2 simply by meeting minimum Building Regulations standards, a roughly 33% increase in carbon emissions when compared to 2006 levels. The policy 'is widely agreed to have galvanised the building industry, encouraging the development of new technologies' (Greenwood 2012, p. 167), and 'the introduction of the 2016 target and associated regulatory changes are widely recognised to have been a significant spur to innovation across the sector' (Greenwood 2015, p. 436). The costs associated with achieving low carbon standards have decreased dramatically over recent years as innovation, expertise and supply chains have become more developed in response to this agenda[9]. This state-led, regulatory approach has thus had a positive impact on de-coupling growth

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[9] Evidence from DCLG has shown that the cost of complying with Code Level 3 energy/CO_2 requirements has come down from £4500 to £1100 in the four years from 2006 to 2010 (DCLG 2011). The cost of solar PV, a key technology used to meet standards, fell from around £4000 per kWp to roughly £1500 kWp between 2011 and 2014 alone (Zero Carbon Hub 2014, p. 17). Overall, the typical construction costs associated with zero-carbon development have halved since 2011 (Zero Carbon Hub 2014, p. 2). Although cautioning that cost-analyses necessarily lack precision, given variation in site-requirements across development, the Zero Carbon Hub suggests that 'what we can see clearly is a trend of significant cost reductions over time. In the seven years since the zero carbon policy was first announced by the Government we have seen costs fall by tens of thousands of pounds' (Zero Carbon Hub 2014, p. 3).

from emissions that has effectively (although not imperfectly) sought to economise ecological protection measures.

Nevertheless, the zero-carbon homes targets and Code for Sustainable Homes were abolished in 2016 by a Conservative government with a preference for a deregulatory approach. In spite of this, as Lemprière (2016) shows, the policy did galvanise industry and led to a marked increase in the sustainability of buildings. Various elements of the Code for Sustainable Homes will be incorporated into later iterations of national Building Regulations, without a specific zero-carbon target. The abolition of this policy is discussed at greater length in Section 6.2.2. below.

As we saw in chapter one, EM entails the institutionalisation of ecological protection measures within modes of production and consumption by state, market and civil society actors that serves to mandate, encourage and/or incentivise the use of technology by market actors in order to decouple growth from emissions. It is this kind of institutionalisation process that we can witness here. In this context the regulation discussed above has sought to decouple growth from emissions through the deployment of new technologies and design practices in a way that continues to privilege growth.

Generally the government took a hands-*on* approach to the process but, where possible, has also take a hands-*off* approach. The case of zero-carbon homes 'provides grounds for accepting that technological and industry experts

have a necessarily pivotal role in such areas of governance' (Greenwood 2015, p. 10) given the technicalities involved. There is an implicit recognition that any policy must respect the boundaries of the house-building industry and residential housing market, and a more pragmatic approach to respecting those boundaries rests in collaborative steering arrangements rather than those that forced hierarchically. Three examples help to illustrate this point.

First, decisions about the nature and pace of this legislative agenda have been highly technocratic, involving a close, restrictive policy community in which industry groups have considerable influence, with government playing a somewhat subsidiary role (Rydin 2013a, p. 4). The 'Zero Carbon Hub', formed in 2008, has been particularly important in this regard. It was responsible for the day-to-day management of the zero-carbon transition by: defining zero-carbon, undertaking research and engaging with industry to raise awareness (RSA 2012) and is made up of a mix of industry representatives. It sought to depoliticise contentious decisions over definitions, technical details and timetables by involving industry actors at arms-length from government (although government did sign off and respond to recommendations made by the Hub, with no obligation to follow them) (Zero Carbon Hub n.d.).

Second, policy shies away from the promotion of particular technological solutions. Although it effectively mandates the deployment of renewable energy, energy efficiency and waste-recovery technologies in order to meet

specific emissions reduction targets it allows developers flexibility in terms of what solutions to employ.

Third, we can point to the use of a smart regulatory approach that requires both mandatory and optional elements. We can talk then of a 'green state', without whom shifts in industrial practice would not have occurred (see Greenwood 2015).

However, the adoption of the ZCH agenda has not been problem-free . At times it has been subject to criticism and plagued by contention and gridlock. As we have seen, the Zero-Carbon Hub brings together a range of stakeholders and aims to reach key decisions implicit in the transition to ZCH in dialogue with those actors most affected. These included discussions on the timetable to achieving ZCH, the role of the CSH in national building regulation standards, the definition of zero-carbon itself and what measures would be required to meet that definition .

The latter two points were subject to considerable contention throughout the life of the ZCH agenda. The original goal, as announced at the launch of the CSH, was for all emissions reductions to be achieved through 'on-site' solutions, whereby on-site technologies and behaviours were the only factors that would count towards emissions levels. This was strongly resisted by industry (Greenwood 2015), given that the technologies required to meet this standard are often only effective on particular sites. For example, one technology that is often required to meet the 100% on-site target is a district-

heating scheme, with a combined heat and power network. These are better suited to large 'greenfield' sites (those on undeveloped land) than they are to small brownfield sites. Even then, many of those larger sites are built and sold in several phases, but the infrastructure for these networks has to be installed across the site at the earliest opportunity, meaning an initial outlay of several million pounds with a long wait for a return on that investment (Goodchild and Walshaw 2011).

Industry has called for the definition to include a provision to allow for a percentage of the energy needs to be provided off-site, through 'allowable solutions' to supplement on-site fabric efficiency and renewable energy measures. The role of allowable solutions would be to allow developers to offset those emissions that cannot be feasibly provided on-site without jeopardising the viability of the development itself. It was argued that allowable solutions would allow the developer to either pay into a green infrastructure investment fund or provide retrofitting measures to its existing housing stock as a way to offset emissions.

However, there was considerable debate over the details of these allowable solutions. The decision to drop the 100% on-site target in favour of allowable solutions, in 2009 (Greenwood 2015) was met with resistance in the Zero Carbon Hub by the WWF, who resigned in protest, but was nevertheless welcomed by stakeholders from government, industry and the technological communities. Although there was wide-agreement that off-setting was the preferred route, the level at which such off-setting schemes should be set

(including the 'price' of emissions should a green-fund be used as a means to do so) was subject to considerable disagreement amongst industry experts. Different stakeholders had differing opinions about the routes to achieving zero-carbon, which, as Greenwood (2015, p. 434) argues, is an 'example of the challenges of 'intra-policy' coordination in terms of balancing criteria such as feasibility, cost-effectiveness, and the need for innovation in building technologies and methods'.

However, beyond the divide between 'on-site' and 'off-site' advocates, there were also disagreements over whether the emphasis should lie more on technological solutions (whether on or off site) reducing demand for energy use within the home in the first instance (what would be considered a 'stronger' form of EM, see Section 2.1.3) as a means to achieving zero-carbon. As Greenwood (2015, p. 434) argues:

> Some designers and developers favoured a strong standard of building air tightness that entailed a need to install mechanical ventilation and heat recovery (MVHR) systems to provide sufficient ventilation. These stake-holders, such as the Sustainable Building Association (AECB), were strongly influenced by the approach of the German Passivhaus Institute and their proprietary international standard (an example of policy learning being enabled by non- mandatory schemes). By contrast, larger house builders highlighted what they saw as the dangers of a requirement for MVHR, arguing that the home-buying public would not adequately understand such a system. Consequently, occupants might not use the system properly and might, for example, leave windows open, which interferes with the working of MVHR and can lead to a net increase in energy use.

The CSH itself has also been criticized as an inappropriate tool to achieving zero-carbon by industry actors. A recurring critique of the standard comes down to the issue of 'who pays'. Some, particularly house-builders, question whether the potential for an uplift in house-prices built more sustainably would

materialise, fearing instead that the costs associated with building to higher levels of sustainability would have to be borne by the developers themselves. In theory, 'the additional costs associated with zero-carbon homes will largely be passed back to landowners in reduced land value uplift' (DCLG 2009, p. 46), but as Goodchild and Walshaw (2011, pp. 943) point out, 'much depends on the state of the local housing market…at times of inflation…landowners are usually assumed to absorb the additional cost…At times of depressed or declining property values, in contrasts, landowners and their advisers are likely to resist any further devaluation'. Similarly, profit-sensitive developers are hesitant to absorbing the cost (Goodchild and Walshaw 2011, p. 943). These findings were echoed by Heffernan and colleagues (2015), who found that economic factors (such as capital costs, viability, land values, perceived risk and a lack of demand) were key barriers to achieving compliance with low and zero-carbon standards.

Beyond this, developers have had concerns about the technology-led approach that underpins the ZCH, which, they say: is likely to be misunderstood by building contractors, designers and architects; will cause problems for subsequent tenants; is likely to fall short of promised reductions in emissions and energy use; and is likely to require on going maintenance (Heffernan *et al.* 2015, p. 29). Similarly, there were concerns amongst house-builders (particularly those building at volume) over how they could incorporate these new design principles into their often long and complex supply chains, whilst ensuring that knowledge and expertise could keep up.

Of course none of this was helped by the uncertainty at the national level over definitions and timetabling and the fact that key dates for achieving particular milestones in the ZCH agenda were moved.

However, this doesn't discount the potential for the ZCH in general and CSH in particular as tools to achieving zero carbon. As we saw above, it was directed at the decoupling of emissions from growth. What we witness here are 'co-ordination problems' (Greenwood 2012, 2015, 2016) and represent more of a critique of the 'weak' approach to EM that was adopted than a critique of the EM credentials of the ZCH agenda or CSH as a whole. As Greenwood argues, these concerns 'highlight how achieving even the 'weak EM' goal, of promoting 'win–win' technologies that simultaneously improve both environmental and economic efficiency, involves some significant, complex challenges for policy- makers' (Greenwood 2015, pp. 438), which, as we will see in the next sections, has come to define the ZCH agenda.

3.3. The Ecological Modernisation of Residential Housing

To what extent can ZCH agenda be said to be an example of EM? Most notably, it encourages the use of novel eco-technologies by industry actors through government regulation, whether nationally (through including various aspects of it in Part L Building Regulation changes) or locally (in the case of those who have adopted Code standards). This is a key feature of processes of EM, which, as we saw in Sections 2.1 and 2.2. above, relies upon this marriage of technology and markets, facilitated by government action.

As such, the state acts to incubate behavioural shifts among industry actors, but does so in a way that minimises command-and-control type policies. This idea of contextual 'steering' is a key component of a state-led EM strategy under conditions of market failure, as we saw in Section 2.2.1. above. The quasi-mandatory nature of the policy at the national level (i.e. the fact that various parts of the Code were included in mandatory building regulations, whilst others were voluntary) and the devolution of supplementary standard setting powers locally reflects the fact that planning is marred by market failure. In such cases the state has a necessarily interventionist role to play if outcomes are to be achieved.

Nevertheless, the emphasis remains pointed towards 'steering', rather than 'command and control'. As we saw in Section 3.2., the ZCH agenda avoids promoting particular technological solutions. Although it does effectively mandate the deployment of renewable energy, energy efficiency and other technologies in order to meet particular Code standards, it does allow developers the flexibility to choose what solutions to employ. Key details of the policy making process itself were decided upon in dialogue with industry and business through the Zero-Carbon Hub which, as we saw in Section 3.2. above, sought to depoliticize decisions over definitions, technical details and timetables at arms-length from government. In this sense, industry representatives were given a pivotal role in deciding the details of policy proposals, as we would expect in a process of EM.

We can also see clearly that the ZCH agenda aims to achieve the dual notion of continued economic growth and reduced emissions, a central component of EMT. We saw in Section 2.1. that EM involves the institutionalization of ecological protection measures within modes of production and consumption by the state, market and civil society in order to foster the adoption of eco-technologies and practices by the market in order to decouple growth from emissions. We can see this kind of decoupling at work here: continued house-building is advocated, but in a way that tries to ensure sustainability.

A number of other studies have shown the extent to which the construction sector has become framed around achieving a decoupling of growth from emissions conducive with ecological modernisation in pursuit of sustainable or zero-carbon homes (Congreve 2003, Lovell 2004, 2009, Pickvance 2009, Goodchild and Walshaw 2011, Greenwood 2012, 2015, Gibbs and O'Neill 2015)[10]. Cherry et.al. (2015, p. 308) for example argue that 'ecological modernisation is uncritically embedded within dominant media depictions of low carbon housing. Focus is placed on technological progress and economic incentives as the inevitable route to sustainability alongside a relative neglect of the cultural and social implications of this' (Cherry *et al.* 2015, p. 308). Lovell (2004, p. 49) refers to the approach to sustainable housing being underpinned by a 'smart-house' storyline, where 'householders are not

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[10] How an issue (or rather a solution) is framed discursively is crucial in complex policy situations where action is required across societal institutions (Hajer 1995; Lovell 2004), given that it 'necessarily sets parameters on the solutions which are sought' (Lovell 2004, 39).

required to modify their behaviour in order to become less resource intensive… one can live in a smart house and continue to behave as normal' because provisions are made in the design and construction of the home on the supply side using novel eco-technologies, rather than through demand-shifts in 'in-use' behaviour.

Yet this is a 'weak' approach to EM (Lemprière 2016). It is based upon technocratic, top-down prescription (as part of a smart regulatory mix), where policies are justified in terms of economics and relies upon action on the supply side (through encouraging a fabric-first approach to sustainability in which technological inputs take the place of changes in occupier behaviour). For the purposes of this study this means that sensitivity to the economic conditions accompanying processes of ecological modernisation – such as concern with housing supply, developer profits and land values – forms the basis of decisions made about sustainability and thus must form the basis of any analytical discussion. To speak more technically, in weak processes of EM economic rationality plays a comparatively greater role than in strong processes of EM. As Lemprière (2016, p. 704) argues:

> It provided little incentive for the necessary alignment of different factors: civil society was excluded over time to make way for technocratic 'insiders' and often ignored; the burden was placed almost exclusively on housebuilders to account for compliance costs; it relied heavily upon state-led solutions which caused coordination problems; it lacked technical or temporal definition; and it was underpinned by an uncertainty that undermined the economic case.

The fact that the ZCH agenda is an example of weak EM is unsurprising when one considers the growth dependent nature of contemporary planning in England. When planning is growth dependent, development is governed by

the scope for developer profit, meaning that development is only possible where it is viable[11] (Rydin 2013a) and that the planning system as a whole exists to further economic growth.

Historically the public sector has played a far greater role in regulating landowners than it does today by providing homes directly (Rydin 1998, 2011, 2013a, Cullingworth 2015)[12]. Within this era the private sector still played a central role, but the public sector played an active role as a landowner, investor and legislator. However, increased dissatisfaction with the quality of this housing provision, the financial crisis of the 1970s (and accompanying property crisis) and a shifting ideology on the role of the state as regulator and provider accompanying the rise of Thatcher and neo-liberal economic doctrine

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[11] As a result, growth dependency comes under challenge in periods of economic downturn, where the scope for profit is diminished and thus supply restricts. Since the 2008 financial crisis the calls for deregulation in the housing sector have been strong given that if developments are no longer viable they will not be provided by the market, *ceteris paribus*. A central area of concern has been the definition of 'zero-carbon', over and above a specific concern with the particular 'steps' leading up to it through progressive changes to Part L of the Building Regulations. The original definition of zero-carbon in *Building A Greener Future* implied that that 'over a year, the net carbon emissions from all energy use in the home would be zero' (DCLG 2007a, p. 5). Importantly, this would be achieved through on-site measures – meaning that all the infrastructure required to achieve zero-carbon would need to be provided by changes to the fabric of the building (the 'fabric efficiency') or through the provision of on-site renewable energy technologies. There was no scope to incorporate off-site renewables. Also significant is what is included in the definition of 'energy use' in this original policy proposal: 'we believe that emissions form *all* energy use - including from appliances and cooking - in the home should be considered' (DCLG 2007a, p. 17 emphasis added) – this is referred to as unregulated energy – rather than just those associated with heating, lighting, ventilation and hot water as previously embodied in Building Regulations – referred to as 'regulated energy'. The emissions rate to be mitigated under this proposal is therefore considerably higher than one that focuses just on regulated energy. This, coupled with the on-site requirement places considerable burden on developers that they struggled to find a way around. If this standard was to be adopted into Part L of the 2016 Building Regulations then, at the time, costs were predicted to be 25% and 50% higher compared to 2006 Regulations (DCLG 2008, p. 17). The purpose of the Zero Carbon Hub was to provide the means through which research could be undertaken and best practice could be developed to find a way to achieve this target, but it became clear that the unregulated energy component was unrealistic, citing cost concerns. The nature of growth dependent planning means that social benefits must be extracted from developer profit. For example, developers are required through development orders to pay for infrastructure requirements to accompany new development (schools, utilities, and so on) and to provide a percentage of affordable homes that are sold at 80% of market-value. The industry was concerned that a further regulatory requirement such as this would make many developments unviable, restricting supply (Interview with trade association representative, January 2015). After a successful lobbying campaign directed by the Home-Builders Federation, the main trade body for housing developments, it was announced in 2006 that the definition would be changed to include regulated energy only. The WWF called this a watering down of policy and left the Zero Carbon Hub in protest (WWF 2011).

[12] The post-war council estates are the most visual and well-known manifestation of this era.

(and the original presumption in favour of development) saw a shift that reduced the scope of regulation (Rydin 2013a, Cullingworth 2015).

The effect of this growth-dependent system is to ensure that any attempt to regulate the development industry through national planning policy – whether that be to increase sustainability, infrastructure provision, affordable homes provision, community facilities and so on – must be done in a way that remains sensitive to financial viability of development[13]. Planning economics tells us that the price that developers are willing to pay for land is affected by the regulatory burden they face: the addition of regulation that raises production costs lead the developer to value the land less highly in order to maintain its profit margin.

The addition of regulation has one or two (or both) effects. First, land owners will be more reluctant to sell land in that regulatory environment, preferring instead to hold onto it in the hope of a more favourable regime in the future. Such a regulatory framework therefore runs the risk of restricting land supply and, thus, housing provision. This leads on to a second effect. Developers will have to absorb the costs they cannot extract from land-values, jeopardising profit margins. This too leads to a decrease in supply, *ceteris paribus*. In both cases the outcome is a decrease in supply. Any proposed regulation has to be sensitive to this. This weakness, coupled with the 2008 financial crisis, the

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[13] This is also the case, as we will see later, where local authorities attempt to introduce provisions to increase the sustainability of homes. It remains a problem with such growth-dependent systems of planning, especially where growth cannot be guaranteed (Rydin 2013a)

deregulatory agenda of an incoming government and difficulties reconciling differences on definitions and timetables, led to the demise of the ZCH agenda in mid 2015 as the government prioritized supply over sustainability (Lempriere 2016).

3.4. The Role of Local Government in Planning

In England local authorities play a central role in introducing planning policies. Planning policies exist to get the right houses built in the right place at the right time:

> 'If we are to have successful communities, decisions need to be made about what is the 'right stuff' – how many houses, how much shopping, new sources of employment, key services, - where it should go, and how can it be put in place when it is needed. When we have new residential development, will the jobs and services be there to meet residents' needs without the need to travel significant distances?' (Cullingworth and Nadin 2006, p. 199).

It is these questions that local authorities answer in their local planning policies. Whereas national level building regulation policy provides a guide to *how* houses are built, planning has greater say over when, where and in what form. Local authorities have considerable autonomy over their areas, although do so within an enabling framework from central government. In this sense we can say that they act as rule takers (in so much as they are obliged to consider Building Regulations and national enabling frameworks) but also rule makers (in so much as they determine the answers to the questions posed above).

Definitions of the purpose of planning have changed over the years and differ in different parts of the world, where different development traditions prevail. A broad definition is that planning is designed to 'regulate the development and use of land in the public interest' (Cullingworth 2015, p. 7). A more nuanced definition suggests that planning can be viewed as:

> A self-conscious collective (societal) effort to imagine or reimagine a town, urban region or wider territory and to translate the result into priorities for area investment, conservation measures, new and upgraded areas of settlement, strategic infrastructure investments and principles of land regulation. It is recognized that planning is not only undertaken by professional urban and regional planners (other professions and groupings are also involved); hence, it is appropriate to refer to the 'planning system' rather than just to the tasks undertaken by planners…At the core of urban planning is a concern with space (Cullingworth 2015, p. 5)

Planning in the UK: is plan-led (in so much as overarching strategic planning documents guide the development of a local area); focused on empowering individuals and communities to have a say in their surroundings, focused on enhancing a local area; focused on driving economic growth; focused on meeting objectively assessed housing needs, taking account of market signals (including affordability and land-prices); designed to ensure a consistent and appropriate supply of developable land; focused on good, high quality design and should take into account the character of different areas (including sites of special interest and heritage sites) (see DCLG 2012a para. 17). If we were to characterize its core function we could conclude that planning is 'about the legitimate role of the public sector, acting in the avowed public interest, to intervene in the rights of private households, private companies and private landowners (Rydin 2011, p. 9).

Local planning policies therefore contain priorities and policies for development concerning infrastructure (telecoms, transport or waste management), employment growth strategies and business development (such as determining the types of development in a local high street or the site of an enterprise zone), community facilities, environmental protection (such as greenbelts, open spaces and ecology management) and, most importantly for this context, housing. Local planning policies determine where major developments will be cited, what types of developments will be granted planning permission over the cycle of any policy document (typically fifteen years), design protocols for buildings, the balance between residential and commercial development, land supply and housing allocations in the future, amongst a wealth of other things.

3.5. Institutional Levels in English Planning Policy

Prior to 2011 four distinct institutional levels were important in determining local planning policies[14] (Rydin 1998, pp. 71–89, 205–234, 2011, pp. 12–34, Cullingworth 2015, pp. 85–137). Nationally the Department for Communities and Local Government (DCLG) issued *Planning Policy Guidance* (PPG) (pre-2004) or *Planning Policy Statements* (PPS) (2004-2011), regional bodies published *Regional Planning Guidance* (RPG) (pre-2004) or *Regional Spatial Strategies* (RSS) (2004-2011) and pre-2004 county councils were responsible

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[14] A different institutional arrangement exists in London, where elements of regional planning still exist and where different arrangements exist between different institutional levels. Similarly, different planning arrangements exist between the four nations of the United Kingdom, so the focus within this thesis remains squarely on the English context.

for the publication of countywide *Structure Plans*. The purpose of regional planning guidance and regional spatial strategies is to set a development plan with a 20 year plus horizon that serves as a non-statutory strategic framework into which development plans at lower administrative levels sit. Structure plans provide a countywide 15-year plus framework.

Pre-2004, local authorities were responsible for the publication of the *Local Plan*, an authority-wide detailed planning policy and strategy document with a 10 year horizon, and *Supplement Planning Guidance*, which contained more detailed information and guidance on policies and development proposals contained within the Local Plan (but which do not in themselves introduce new policies or site allocations). Between 2004 and 2011 local authorities were tasked with publishing *Local Development Frameworks* (LDF) (2004-2011). LDFs were made up of a number of *Development Plan Documents* (DPDs), which included a mandatory *Core Strategy* (which, much like the Local Plan, provided the overarching local planning policies and strategy), site-specific allocations and proposals (which allocate land for major developments and often contain *Area Action Plans* (AAPs), which are in effect mini-core strategies that govern major development sites within the local administrative area). The LDF additionally often contained *Supplementary Planning Documents* (SPDs), which were similar in status to the SPGs that they replaced. Other documents made up the DPD, but are of only limited relevance here.

The various institutional levels in planning are summarised in FIgure 3.1. below.

INSTITUTIONAL LEVEL	BEFORE 2004	2004-2011	AFTER 2011
NATIONAL	Planning Policy Guidance	Planning Policy Statements	National Planning Policy Framework
REGIONAL	Regional Planning Guidance Structure Plans (by County Councils)	Regional Spatial Strategies	N/A
LOCAL	Local Plans Supplementary Planning Guidance	Local Development Framework (including the core strategy and spplementary planning documents)	Local Plans Supplementary planning documents

Figure 3.1: Institutional Levels in Planning in England

Source: Adapted from Cullingworth et al 2015, p. 119-120

PPG and PPS documents were intended to ensure that a consistent approach to the drafting and adoption of subsidiary planning policy documents (whether regional, county or local) and are material considerations in the drafting and implementation process. This means that subsidiary documents must remain sensitive to their contents and where they haven't they should expect opposition (whether in the plan adoption stage or where decisions are being made and implemented[15]). These documents provided strategic overview

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[15] The plan-drafting stage itself is regulated centrally. A number of stages are involved. Considerable evidence is needed to justify the inclusion of particular policies and site-allocations, as well as to understand the state of the local land and housing market in years to come. An initial outline of policies, proposals and site allocations is then issued for public consultation, often a number of times: issues and options outlines the broad local concerns and proposes a number of outline (and preferred) options for public consultation, a preferred options plan then takes these responses

over a number of areas, including the plan making process itself (PPS 12), planning for town centres (PPS 4 and 6), planning for renewable energy (PPS 22) and planning for sustainable development (PPS 1)[16]. PPS 11 set out the terms of regional planning, broadly stating that the RSS had to contain a regional vision, spatial strategy and implementation plan. The Structure Plans contained similar content, but were restricted to one local administrative area (unless specific arrangements for a joint plan had been made), whereas the RSS was able to cut across administrative borders in a way that made large-scale infrastructural planning and efficient allocation of land and housing provision more likely.

> 'Strategic planning has reflected the need to coordinate the plans of lower tier authorities and to address issues which, in terms of scale and size, transcend local boundaries, such as housing provision, transport and other major infrastructure. In the past, it has also been a vehicle for broader regional and national goals when combined with wider regional plans and policies, national policy guidance or targets – setting a framework and context for planning at a more local scale' (Boddy and Hickman 2013, p. 744)

Local Plans and LDFs then initially had to be consistent with the regional and county strategies, as well as respecting the PPG and PPS. These plans were (and still are) produced by each local planning authority[17] (so, district councils, metropolitan boroughs, city councils, unitary authorities – but not county councils), and their purpose 'is to set out priorities and policies for development in relation to housing, business, infrastructure (such as

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and forms them into a more coherent plan, the draft plan sees further consultation and the proposed submission sees the plan in its final form before submission to the secretary of state. The Planning Inspector, an arms-length body, is then called upon to hear representations on either side and to judge on whether the document has been produced in accordance with national and regional planning guidance, is evidence based and that representations have been heard. There are a number of more technical or bureaucratic processes that needed to be completed. Recently there are also additional requirements on cooperation with neighboring authorities.

[16] We will talk more about PPS1 below.

[17] We can talk of local *planning* authorities (those with responsibility for planning, including district, metropolitan and unitary councils) but in this thesis they are referred to simply as local authorities.

transport, waste, and telecoms), health, security, community facilities and services, and the environment. It should set out what are the opportunities for development in the area, and say what will and will not be permitted and where' (Newton 2012, p. 6). It sets a long-term vision and strategy for the area[18]. Policy influence therefore cascades downwards from the national to local level.

3.6. The National Planning Policy Framework: Entrenching Growth Dependency

However, the entire planning system underwent a step-change reform in 2012 (although it had been subject to various lesser revisions over past decades – particularly in the post-war period). The incoming Conservative-led coalition government sought to streamline what many had come to regard as an unduly cumbersome system. For example, the RSS process had bought with it over 1,000 pages of guidance, not discounting similar breadth embodied in the various PPSs and DPDs. Despite the Government's pledges to adopt a more generally localist agenda, including the abolition of the Regional Spatial Strategies (in which hugely unpopular house-building targets were being set) by any standards, the publication in 2012 of the National Planning Policy Framework (NPPF), represented a strong centralizing step. This replaced the PPS system, removing the need for planning documents at the county or regional level (with the except of minerals and waste plans) and involved the reformation of local planning policy arrangements, removing the portfolio of

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[18] It is worth noting that a lower administrative body exists. Parish, village, community and neighbourhood plans have a very narrow and specific focus and fall outside the remit of this thesis.

documents comprising the Local Development Framework (specifically the Development Plan Documents), replacing it with 52 page document that outlined a new national governance context and a streamlined Local Plan and Supplementary Planning Document arrangement. As a result it abolished any national or regional spatial strategies (and with that, specific housing allocation figures for different regions). The 230 documents and 7,000 pages that comprised the old system had been replaced by a 52 page document that talked in broad terms, leaving a lot of room for interpretation by both housing developers and local authorities.

A key implication of the nationalisation of regional and county-wide strategic planning was that it would ensure (or at least increase the likelihood of) sufficient provision of homes and accompanying infrastructure within and between administrative areas. In this latter respect, the NPPF contains a 'duty to cooperate', where 'local planning authorities will be expected to demonstrate evidence of having effectively cooperated to plan for issues with cross-boundary impacts when their Local Plans are submitted for examination' (DCLG 2012a, p. 43). However, the duty to cooperate provides no statutory commitment on local authorities to meet their neighbours demands, provided such behaviour can be justified when any local plans are inspected (more on this inspection process below).

At the heart of the NPPF is a 'presumption in favour of sustainable development', which 'should be seen as a golden thread running through both

plan-making and decision-taking' (DCLG 2012a, p. 4). Sustainability is defined along three dimensions: economic, social and environmental. What this presumption means is that 'development that is sustainable should go ahead, without delay' (DCLG 2012a, p. 4). Whilst this may imply that only those developments that fulfil all three criteria (and thus contribute positively to the economy, support communities and contribute to environmental protection and enhancing the natural and built environment) there is a heavy skew towards the economic element of that triad. Those local authorities that do not introduce local plans that 'boost significantly the supply of housing' through allocating a five-year supply of 'specific deliverable sites' as measured against local land and [affordable] housing needs are likely to have their plans found unsound when they are examined at an independent inspection (DCLG 2012a, p. 12). If developers could indicate that local authorities were not adequately striving towards this end they would win planning applications on the basis of this presumption and begin major development on land that was not considered in the local plan. Indeed in many ways the presumption in favour of sustainable development is a rebirth of the presumption in favour of development that existed under Thatcher, where a deregulatory agenda shifted the balance of powers away from planning authorities towards development and resulted in a decrease in powers for planners and local politicians. For housing developers it meant that they 'have the right to build homes and other local buildings provided that they conform to national environmental, architectural, economic and social standards' (The Conservative Party 2009, p. 3).

Whilst the NPPF espouses a commitment to a triadic definition of sustainable development it is in reality the case – because of the growth dependent nature of planning – that environmental and social benefits are only accruable where they do not impact upon the economic viability of development. Viability is defined as 'competitive returns to a willing land owner and willing developer to enable the development to be deliverable' (DCLG 2012, p. 41), a suitably broad definition that leaves considerable scope to developers to argue against such provision. Perversely, where the NPPF is important is that it allowed developers to resist social and environmental requirements at every planning application.

3.7. Conclusion

We have seen in this chapter that the residential housing sector in England has undergone a state-led process of weak EM driven by a zero-carbon homes agenda that, until 2015, compelled industry to embrace new technologies to reduce the emissions associated with the construction and use of homes. The extent to which local authorities play a central role in the planning process and the extent to which that behaviour is nested within regional and national bodies means it is an ideal site to deploy the model of local environmental policy capacity developed in the next chapter. This chapter has provided a detailed history of the planning process over the last twenty years, arguing that it is characterized by growth dependency. The complex institutional matrix of the planning system split across national, regional and local levels has an important influence on the behaviour of local

government, whether in terms of limiting or enabling particular behaviours or entrenching a particular normative or discursive vision of growth dependency and ecological modernization.

There is a two-pronged conclusion. It isn't just a useful empirical arena in which to discuss local environmental policy capacity, but the same study will address gaps in the emerging empirical literature on the zero-carbon homes agenda. The literature has focused on: how the agenda has been framed (Lovell 2004, Smith 2007); its implications for the social housing sector and the perceptions held by deprived communities of such interventions (Scott et al. 2014); its potential to achieve its objectives (McManus et al. 2010); perceptions of private-sector industry actors (Williams and Dair 2007, Osmani and O'Reilly 2009) and of home-buyers (Lovell 2005); the role of policy entrepreneurs in its emergence (Lovell 2009); and on-going policy challenges faced by government (Greenwood 2012, 2015). There has been only a tangential concern with the behaviour of local government.

Chapter Four:

Local Environmental Policy Capacity: An Analytical Framework

4.1. Introduction

The analytical framework deployed in case study research is important as a lens to structure and focus the discussion that emerges. In this thesis theory is defined as 'a set of analytical principles designed to structure our observation and explanations of the world' (Cairney 2012, p. 5) and the theoretical framework presented in this chapter forms the basis for the case studies outlined in 5.6. and is deployed in chapters seven and eight. The purpose of this chapter is to discuss the theoretical frames used and, thus, the analytical model deployed throughout the rest of this thesis.

The model seeks to account for the environmental policy capacity – 'the objective limits to (and necessary preconditions of) successful solutions of a given type of problem, limitations beyond which failure sets in, even in cases of good luck, skill and highly motivated actors' (Janicke 1997, p. 1) – and is designed in order to respond to the shortcoming highlighted in chapter two concerning the under-theorization of the contributions of local authorities to processes of EM. The model is underpinned primarily by concepts from new theories of institutionalism, which provide a useful set of tools to account for the regulating effect of formal and informal rules and practices on political

behaviour. Additionally the model situates policy entrepreneurs as important agents in both responding to prevailing institutional rules and practices but also in reforming them and designing new one. The model therefore relies upon a dialectical relationship between agents and institutions. This dialectical relationship is actioned through policy networks, groups of stakeholders interacting with one another in pursuit of policy goals. Therefore policy networks theory is deployed. Lastly, given the centrality of economic rationality to processes of EM, sensitivity is given to the prevailing economic conditions. The relationship between these elements is presented in figure 4.1. below.

The central premise of the model is that policy entrepreneurs negotiate existing policy networks, whose composition and strength is conditioned by prevailing and emerging institutional landscapes. These same institutional landscapes also affect the range of acceptable and permissible behaviour of those agents, but the two forces interact dialectically such that agents can create their own institutional space. Contributions to EM by local authorities are conceptualized as a process of institutional change, and actors are integral in those processes.
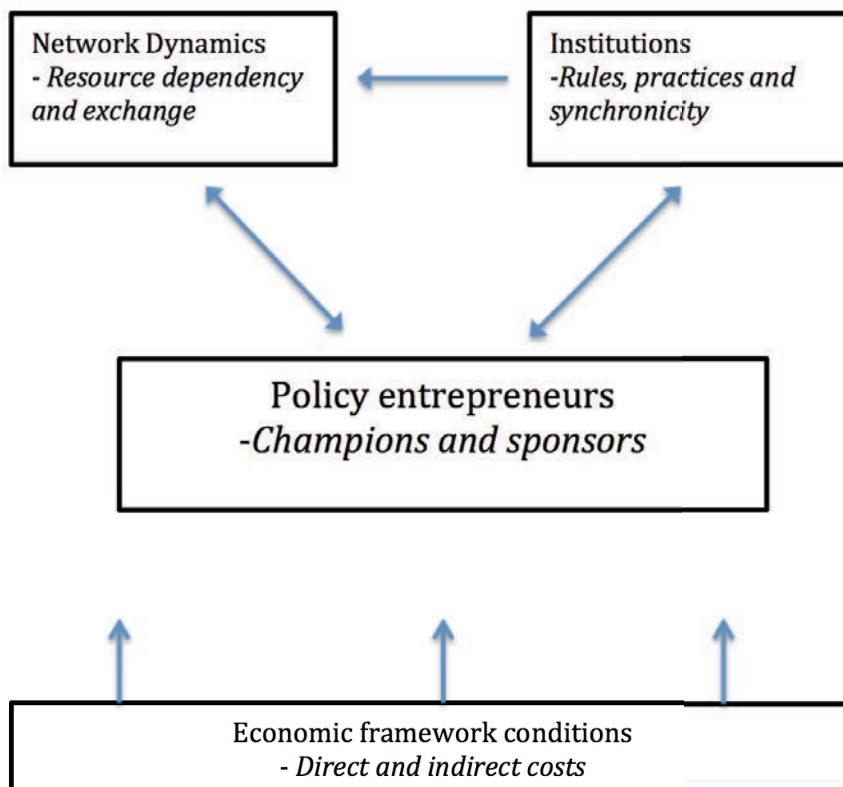
Figure 4.1: A Model of Environmental Policy Capacity

The following section outlines how environmental policy capacity has been deployed elsewhere in the literature on EM. Section 4.3. discusses the nature of policy entrepreneurship, situating it at the heart of the discussion. Section 4.4. focuses on institutional theory, discussing the constraining and enabling effects of rules, practices and narratives on entrepreneurs, discusses how those entrepreneurs can affect institutional change and introduces the idea of synchronicity to account for the interaction of national and local governments and the way that this inhibits institutional change, even when ambition or context otherwise would allow for it. Section 4.5. focuses on the way policy entrepreneurs navigate policy networks, together with the way that interaction

is itself influenced by institutional contexts. Section 4.6. discusses how economic conditions may play a dual role, depending on the extent to which the direct and indirect costs associated with local EM contributions can be accommodated within the existing political economy; strong economic performance may act as both an inhibitor or enabler of action depending on exiting institutional and network dynamics. So, whilst economic strength may sometimes – as in the case of sustainable construction – be a necessary condition, it may not be sufficient for contributions.

An important question to consider before the model is unpacked is the extent to which this model will be relevant beyond the UK, given that as it stands it is developed and applied in the local context. The main issue to consider when applying this model to a different context is the degree of centralization within a political system; local government in England has often been used as a political football by central government. It has been subject to significant reform for example, and finds its powers enabled through a top-down mandate. Therefore, if this model is to apply elsewhere we must be sensitive to this. Nevertheless, this doesn't mean that the model is inapplicable outside a centralized political system, just that the model may need to be refined. The nesting of local behaviours within a national level system of rules and regulations forms only one part of the model and can be easily adapted to better reflect the balance.

There would also need to be a greater focus on the construction and formulation of problems to reflect the greater autonomy local authorities would have to choose problems worthy of response and then formulate those responses. For example, in a hypothetical system where local authorities have complete autonomy to legislate for environmental sustainability a researcher - when studying variation across cases and/or applying a model of local environmental policy capacity – would need to be sensitive to how one particular issue made it onto the agenda and why the policy response took the form it did. The work of Kindgon on agenda-setting (discussed below) would be useful here and could be more fully integrated into the model in order to capture the agenda-setting dynamic. Alternatively, a different epistemological stance could be taken to focus more heavily on problem formation and construction as a precursor to action.

Beyond this, sensitivity is needed to the way that other elements of the model manifest themselves. It is likely that the form that particular dynamics takes differs across space. Again though, this is where the adaptive nature of the model comes into its own (see Section 5.1. below); the model tells us that resource exchange is important, for example, but the researcher has sufficient analytical 'room' to more precisely define what form and pace that resource exchange takes. For example, a political system might be characterised by more informal, illicit exchanges of resources in pursuit of political gains (bribes, etc). Or, it may be that the dialectical relationship between policy

entrepreneurs and institutional rules (depicted by the double-headed arrow in Figure 4.1) may not be as strong.

4.2. Environmental Policy Capacity

Environmental policy capacity has been used as a framework to account for outcomes in national government environmental policy responses in a number of countries (Janicke, Monch, Ranneberg, *et al.* 1989, Janicke and Weidner 1997, see Weidner and Jänicke 2002b). Sabatier (2007, p. 4) refers to the staggering complexity of the policy process', with outcomes involving 'extremely complex set of interacting elements' (Sabatier 2007, p. 3). John (2012) stresses the importance of five interrelated processes when discussing the policy process: policy networks, institutional rules and norms, exogenous socio-economic factors and ideas. This multi-factoralism underlying public policy outcomes has been emphasised elsewhere, most notably in the literature on local government innovation (see Osborne 1998, Osborne, Stephen & Brown 2011) and public policy implementation (see Sabatier 1988) and, as we saw in chapter two, EMT (Janicke 1997, Janicke and Weidner 1997).

A theoretical approach that focuses on one 'school' or 'tradition' at the expense of others would therefore have missed the influence of a range of potentially important factors. The usefulness of a model of environmental policy capacity stems from its assertion that 'successful environmental

protection is brought about by a complex interaction of influences and not by a single, isolated factor, nor a favourite instrument, nor a single type of actor, nor a particular framework condition' (Janicke 1997, p. 4), and its ability to account for this complexity.

Jänicke's model was developed in comparative study of national environmental policy-making and provides a multi-factoral perspective on the limits and preconditions of successful environmental policy-making. In doing so it accounts for the endogenous and exogenous factors underpinning environmental policy outcomes at the national level. Jänicke tells us that the capacity for action 'depends on [the] strength, competence and constellation' of opponents and proponents of change (Janicke 1997, p. 6), and thus situates actors at the heart of his model. The same is true of the model developed below.

Jänicke suggests that the success of actors is contingent upon a) structural conditions and b) situative contexts. Structural conditions are comprised of three factors. First, cognitive-informational framework conditions – 'the conditions under which environmental knowledge is produced, distributed, interpreted and applied' (Janicke 1997, p. 7). Second, political-institutional framework conditions – 'the constitutional, institutional and legal structures [and] the institutionalised rules and internalised norms' (Janicke 1997, p. 7). Third, economic-technological framework condition – 'the performance, technological standard, sectoral composition, or general availability of raw

materials' (Janicke 1997, p. 7). Situative contexts can be thought of as 'windows of opportunity'. Jänicke qualifies this by arguing that 'the structure of problems as well as the capacity to respond to them is strongly influenced by economic performance' (Janicke 1997, p. 4).

Jänicke's framework has been developed in a national-level context and is largely incompatible in its existing form given that the model therefore explains policy responses in a cause-and-effect type relationship: an environmental problem arises, which does or does not provoke a policy response depending on the alignment of various constituent factors. However, in this thesis we are looking at regulatory powers, where the policy 'problem' is clearly defined and the nature of the policy 'response' is broadly dictated elsewhere, thus severing this cause and effect link. Rather than being confronted with a problem and being tasked with formulating a response, local authorities are confronted with a policy and being given the choice of whether to adopt it. Both situations invoke an element of choice, but the former provides governments with the choice over the policy itself. The latter simply gives local government the choice to adopt a policy *or not*. This means that cognitive-informational and economic-technological framework conditions and problem structure play a less significant role in this case. This model was therefore not applicable for this study, but nevertheless provided inspiration for the one eventually developed in so much as it also holds as central the role that political entrepreneurship play in a complex institutional setting.

An attempt to tailor this model to the local context was made by Press (1998). Press' model of local environmental policy capacity focuses on five interrelated factors: social capital, political leadership and commitment, economic resources, administrative resources, and environmental attitudes and behaviour (Press 1998, p. 44), and defines capacity as 'a community's ability to engage in collective action that secures environmental public goods and services' (Press 1998, p. 37). However, the model he develops seeks to account for environmental policy outcomes, rather than outputs. By focusing on outcomes he is interested in, 'observable physical, behavioural and biological indicators…activity of agencies…measures of emissions or discharges…levels of some pollutants…[and] exposure to contaminants' (Press 1998, p. 31). This means that the policy system is black boxed in the model, situated as little more than a conduit through which social norms, social capital and external constraints – 'local private and public wealth or state and federal mandates, funding and locally available expertise' (Press 1998, p. 39) – influence policy choices and outcomes.

Press falls into the trap of providing a unifactoral explanation for what is a complex, multi-factoral process. Jänicke avoids such black boxing somewhat by focusing on 'political-institutional framework conditions' as a factor that inhibits or encourages proponents and opponents of change. Because this thesis is concerned with explaining variation in outputs – 'regulations, programs, or ordinances' (Press 1998, p. 29) – we can only draw limited insight from this model.

Nevertheless, these two existing attempts to theorise environmental policy capacity provide useful signposts to the interaction between various structural, institutional and agential factors. They also signpost the need for greater consideration of the political dimensions of capacity; rather than black-box them they need to be bought to the fore.

4.3. Policy Entrepreneurship

The model of local environmental policy capacity developed in this thesis considers the presence and behaviour of policy entrepreneurs as the most important factor in accounting for variation in EM contributions by local authorities. Discussion on policy entrepreneurship has a strong grounding in existing literature on local government behaviour in particular and innovations in governance in general. It stems in large part from the agenda-setting literature (see in particular Kingdon 1984), but also has featured in discussions within the policy diffusion literature (Berry and Berry 1990, Shipan and Volden 2008, Walker 2012) and the literature on policy innovation (Newman *et al.* 2000, 2001, Bartlett and Dibben 2002, Hartley 2005).

Kingdom (1984, p. 214) for example, in his attempts to explain patterns of agenda setting, talks of the importance of policy entrepreneurs as bridges between novel policy proposals and existing problems and as a mechanism through which the policy process can be navigated. There he argues that policy entrepreneurs 'distinguish themselves through their desire to

significantly change current ways of doing things in their area of interest' (Kingdom 1984, p. 214). These individuals possess a 'willingness to invest their resources – time, energy, reputation, and sometimes money – in the hope of a future return' (Kingdon 1984, p. 122) and are thus important in raising an issue on the legislative agenda and in securing institutional resources to ensure implementation and are therefore likely to be key actors in any local networks. Roberts & King (1991, p. 151), along similar lines, understand policy entrepreneurs as those who 'develop a new idea, translate it into a more formal statement (such as a proposal, bill or law), and then help to implement it into public practice as a new program'. Most famously, Osborne and Brown (2011) and Osborne and Gaebler (1993) showed the centrality of policy entrepreneurship to public sector innovation; arguing in a similar vein, Bartlett and Dibbon (2002, p. 119) suggest that we should understand 'entrepreneurship and innovation as necessarily going hand in hand in the local government context'.

Bartlett and Dibben (2002) also suggest that a distinction should be made between different *types* of policy entrepreneurs[19]. They argue that we can distinguish between policy champions and policy sponsors. This is an important distinction to make and one that is followed through in the model developed in this thesis. Such a distinction recognises the difference between those who push for change and those who support it through the legislative

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[19] Similar attempts at offering distinctions between different types of policy entrepreneurs have been made in the past, most notably by Roberts and King (1991). Such distinctions are often overly complex; for example, Roberts and King (1991) lists seven types of policy entrepreneurship. It was felt that such a distinction would muddy the waters, when all that is really required is a distinction between those *outside* the policy arena (i.e. those without a political mandate) and those *inside*.

process; often there is a tendency to imply that the two are the same. Policy champions, on the one hand, are those who champion 'their proposal for a new service through the council decision-making procedures' or who possess a desire to 'make a mark' (Bartlett & Dibben, 2002, p. 112). Policy sponsors, on the other, are those who give a political mandate to the innovation pushed for by champions. They argue that 'a champion working without a sponsor…is less likely to see innovations through to successful implementation' (Bartlett and Dibben 2002, p. 212). It is for this reason that Mintrom and Norman similarly argue that 'the efforts of 'outsiders' to make change often comes to nothing' (2009, p. 656).

A champion may exist in the council itself – whether as a councillor or officers and managers – or elsewhere in the network. Similarly, in some cases the sponsor function may be provided by officers and managers as well as elected councillors. Nevertheless, those with high capital, high levels of resources and/or resources that are depended upon by other actors 'can be more circumspect and invest their more extensive resources in low-risk incremental ventures' (Christopoulos 2006, pp. 772–3). Seen in this light, policy champions and sponsors represent two sides of the same coin, yet two sides that are mutually co-dependent; entrepreneurialism as a whole is contingent upon both being present (even if, as the case may be, the policy champion is *also* the sponsor).

Of course, such agency is not problem-free and the efficacy of their endeavours is contingent upon a range of contextual factors. It is for this reason that the relationship between agents and broader institutional and structural contexts is elucidated further in this chapter and forms a central part of the model developed and deployed in this thesis.

Examples of championship and sponsorship may help for clarification. We might refer to attempts made by central government from 2011 onwards to packages of responsibilities and decision-making powers (mainly focusing around skills, infrastructure and economic development) to groups of local authorities (known as 'combined authorities') in an attempt to foster urban-led economic growth. Such proposals were championed heavily by Jim O'Neill) formerly an economist at Goldman Sachs and later a minister in the 2010-2016 Cameron government) in his role as the chair of the City Growth Commission, an influential think tank pushing for city-region autonomy. However, it was George Osborne, Chancellor of the Exchequer from 2010-2016, who acted as the policy sponsor by lending political support that saw those proposals turn into policy. He successfully navigated a complex political arena that saw powers devolved from numerous central government departments (most notably the Department for Transport and the Department for Business, Innovation and Skills) and constructed numerous 'tailor-made' deals made with groups of local authorities. Greater Manchester was the first to negotiate such a deal and we can see similar examples of championship and sponsorship at work here. A package of devolved powers for Manchester

were championed by the Council's Chief Executive, Sir Howard Bernstein, but sponsored by the Council's leader, Sir Richard Leese.

Thus, policy entrepreneurship is understood as a form of proactive leadership, defined as 'a style of leadership that is oriented towards seeking out new ideas, and encouraging others to do the same' (Newman *et al.* 2000, p. 47). Leadership in this sense is hidden, in so much as 'while authority wide leadership is important…often the difference between translating new ideas into practice and their getting stuck is the existence of individuals to drive the initiative and, if necessary, fight for it' (Newman *et al.* 2000, p. 47). The necessary characteristics of entrepreneurs so conceived are a 'deep knowledge of relevant procedures and the local norms that serve to define acceptable behaviour' (Mintrom and Norman 2009, p. 656).

The dialectical, strategic relationship between economic, institutional or network structures and agency implies that entrepreneurship is an intrinsically 'insider' affair, in so much as it is those within these contexts that possess the 'deep knowledge' of procedures and norms prevalent in and restricting a context. Within the context of local climate governance policy entrepreneurs can be instrumental in securing policy success (Allman *et al.* 2004, Pitt 2010). They work to increase expertise, push for innovative change, or channel demands of proponents (Bartlett and Dibben 2002, Christopoulos 2006, Mintrom and Norman 2009).

They, by definition, are political insiders and their influence is therefore contingent upon their status and authority, conceptualized in terms of their resourcefulness (which, as we see when discussing policy networks in section 4.3. are an important determinant of their ability to broker between stakeholders). Put another way, 'the amount of political capital actors are willing to employ is determined not only by how much capital they initially possess but what are the potential returns' (Christopoulos 2006, p. 772). This isn't to suggest that those with low political capital, low resources or resources upon which actors have low dependency cannot influence outcomes, just that it is more difficult and that they 'can only hope to attain prominence by engaging in high-risk opportunistic actions' (Christopoulos 2006, p. 772).

However, it is important to note that policy entrepreneurs do more than push for proposals or influence institutional design, 'they also lie in wait – for a window to open' (Kingdon 1984, p. 181) As Kingdon argues, policy entrepreneurs play an important role when 'problems, policies and politics come together certain critical times. Solutions become joined to problems, and both of them are joined to favourable political forces' (Kingdon 1984, p. 170). These windows of opportunity are by no means the only way through which entrepreneurs can influence outcomes, but they are a useful means nonetheless.

There are similarities between the concept of policy entrepreneurship (and the related idea of champions and sponsors) and the idea of norm

entrepreneurialism (see Finnemore and Sikkink, 1998). Norm entrepreneurs are seen as those who call attention to issues or even ''create'' issues by using language that names, interprets, and dramatizes them' (Finnemore and Sikkink, 1998, p. 897). However, as conceived in the thesis the idea of policy entrepreneurship goes further than an interaction just with norms. There is a dialectical relationship with institutional practices (akin to the idea of norms) in the sense that policy entrepreneurs are both constrained and enabled by practices but also in a position to position to change them (for example by offering educational opportunities to shift councillors' mind-sets on climate change). In this sense they act as norm entrepreneurs. However, they go further in the sense that they can also have an effect on the constitution and operation of a network (in the sense that they may be in a position to select members of networks, exchange resources or instigate rule or practice changes that shift the relative value of particular resources (see Section 4.5.1 for more on the relative value of resources). These could have been labelled 'network entrepreneurs' (see Christopolous 2006) if they were being discussed singularly. What's more, where policy entrepreneurs differ from norm entrepreneurs is that their behaviour is directed towards the goal of policy change, thus norm or network entrepreneurialism is a means to a conscious end.

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In this section we have seen how policy entrepreneurs – champions and sponsors – that exist within the local authority can exploit windows of opportunity to influence outcomes. Without this kind of agency contributions are less likely to take place, and the inclusion of an agential focus is deliberate in order to avoid a deterministic understanding of institutional constraints. The following section discusses the nature of institutions, arguing that whilst they constrain or enable particular behaviour by entrepreneurs they themselves are also constructed by entrepreneurship.

4.4. Institutional Theory: Why Institutions Matter

So, whilst policy entrepreneurship is a necessary condition for contributions to the EM process, it does not exist in a contextual vacuum. Whilst Jänicke and Press recognise the importance of institutions in their models of environmental policy capacity, we must avoid the black-boxing political systems (a tendency of which both are guilty, to differing extents) and instead talk specifically about their constraining or enabling effects. Broadly speaking, institutional dynamics affect the extent to which entrepreneurs are able to exercise influence and affect outcomes (Hay and Wincott 1998).

The central tenet of 'new' institutionalist theory, which has emerged to account for the constraining and enabling effect of these institutions, is that political behaviour cannot be understood without referencing the institutions within which it takes place (Schmidt 2006, 101). Institutions are the standard

operating procedures that: constrain outcomes through formal *rules* and informal *practices*; that occur regularly; and that are accompanied by procedures to sanction non-compliance (Lowndes and Roberts 2013). They constrain or enable particular forms of behaviour by influencing actors': interests, preferences or sense of appropriate behaviour, paths (not) taken and ideas. Each will be dealt with below. Additionally, the theory of environmental policy capacity developed here situates actors and institutions in a dialectical relationship, such that agents are seen as both constrained and enabled by institutions but also involved in their (re)creation.

'New' theories of institutionalism emerged in the 1980s out of a frustration with the 'old' way political science was dominated by behavioural and rational choice approaches to the understanding of political action. Institutions within this behavioural turn were seen – at best – as an accumulation of individual preferences that had little constraining effect. James March and Johan Olsen (1984, 1989), the forefathers of new institutionalism, advocated a return to a study of political institutions that had been the 'historic heart of the discipline' (Rhodes 1997, p. 5, cited in Lowndes and Roberts 2013, p. 23) and 'part of the toolkit of every political scientist' (Rhodes 1997, p. 64, cited in Lowndes and Roberts 2013, p. 24) prior to the behavioural turn. A methodologically individual focus that saw institutions as the outcome of atomistic, self-interested behaviour missed the important influence that institutions themselves had on the availability and choice of behaviours by actors. It was

clear that 'the organisation of political life makes a difference' (March and Olsen 1984, 747).

These 'new' institutional approaches differed from their 'old', 'first wave', pre-behaviouralist counterparts in three important ways, though. First, they were concerned with informal convention as well as formal rules. Second, they saw actors and institutions as co-constitutive of on another. Institutions play an important causal role and 'are political actors in their own right' (March and Olsen 1984, 738) that both shape and are shaped by political action. Seen like this, individuals are not atomistic 'but rather are embedded in a complex series of relationships with other individuals and with collectivities' (Peters 2012, p. 26). Individuals' preferences are understood as endogenous to the institutions in which they operate, a markedly different understanding to that implicit within behavioural perspectives, which see them as exogenously formed. Third, they adopted a more critical approach to the way that institutions embodied particular values and identities.

4.4.1. Institutional Constraints and Enablers: Rules and Practices

We can talk of the constraining effects of institutions by thinking in terms of rules and practices. This focus on standard operating procedures allows us to conceptualize institutions in both formal and informal terms. On the one hand they are 'rules-in-form' (Ostrom 1999, p. 49): the 'dos and don'ts', the formally agreed upon, codified rules. On the other they include 'rules-in-use', the 'dos

and don'ts that one learns on the ground', the informal *practices* (Ostrom 1999, p. 49). Institutional rules are formally codified and constructed. They constrain or enable actors by prescribing allowed and prohibited behaviour (Lowndes and Roberts 2013, pp. 53–55). They are embodied in constitutions, policies, regulations and so on.

These are constituted through institutional practices. Institutional practices are more informal and rather than being codified tend to be demonstrated 'in-use'. Particular 'ways of doing things' embodied in informal rules are often the source of the most relevant and important incentives to action. Sociological strands of institutional theory have the most to say about these informal rules, given their emphasis on actors' sense of 'appropriate behaviour' (see section 4.4.1.2. below). March and Olsen write that 'although self-interest undoubtedly permeates politics, action is often based more on discovering the normatively appropriate behaviour than on calculating the return expected from alternative choices' (March and Olsen 1984, 744). The focus on these kinds of informal practices is at the centre of the 'rediscovery' of institutions after the behavioural turn, but rather than separate out an understanding of rules from practices (as the distinctions between rational choice, historical and sociological institutionalism forces us to do) there is a lot to be gained from thinking about rules and practices on a continuum 'from highly formal to highly informal, with many places in between' (Lowndes and Roberts 2013, p. 60).

The literature on local government innovation tells us that the prevalent culture of a local authority – an informal practice – has an important

determinant effect on the propensity to innovate (Osborne 1998, Newman *et al.* 2001, Middlemiss and Parrish 2010). In their discussions on the role of communities in low-carbon transitions Middlemiss and Parrish introduce the idea of cultural capacity, 'the legitimacy of sustainability objectives in light of the history and values of a community', and organizational capacity, 'the values of the organisations active within a community and resulting support available for community action' (Middlemiss and Parrish 2010, p. 7561). Culture in this context relates to the previous tendency within the local authority to innovate and to lead the way in a particular policy area, a factor that Newman *et.al.* (2001, p. 67) found to be important in explaining local innovation.

Table 4.1 outlines the core distinction between rules and practices as forms of institutional constraint:

	Rules	*Practices*
How we recognize them	Formally constructed and recorded	Demonstrated through conduct
Empirical examples	Clauses in a constitution, terms of reference, national and international laws	How elected members conduct themselves in parliaments, assemblies or local councils
Enactment by actors through	Writing and formal interpretation – e.g. law to policy documents to guidance	The consistent rehearsal of 'the ways in which we do things around here'.
Sanctioned by..	Coercive action through formal rewards and punishments	Displays of disapproval, social isolation and threats of violence.
Impact on actors through	Reading representations and interpretations of rules (e.g. speed limit signs, procedure manuals)	Observing the routinized actions of members of the group and seeking to recreate those actions
Interconnection between nodes	Rules often formalize well-established practices	Rules may specify the practices through which actors must enact the rules

Table 4.1. Rules and Practices as Forms of Institutional Constraint

(Adapted from Lowndes and Roberts 2013, pp. 52–53)

To qualify as an institution – as opposed to, say, a tradition – there must be a degree of regularity in the regulatory capabilities of that institution and some form of retribution if particular rules and practices aren't followed. To illustrate the distinction let us take the following example. Within a committee, formal rules may outline the procedure with which witnesses are called upon and questioned by legislators. These are rules in form. However, a particularly aggressive style of questioning is not something that is codified as a formal rule but one that nevertheless is clearly visible and has an effect on the behaviour of those being questioned. This is a rule-in-use. Sanction for failing to follow correct rules in questioning will be achieved through formal punishment, for example a removal from the committee. Sanction for failing to follow the correct practice – for example one committee member bucks the trend and adopts a lenient or sympathetic questioning style – is sanctioned through display of disapproval or social exclusion and isolation (Lowndes and Roberts 2013, p. 53).

Within local government we can 'identify local government rules that are consciously designed and clearly specified – like constitutions and structure plans, community strategies or performance plans and agreements' (Lowndes 2005, p. 292). These might exist within the local authority (i.e. planning policies that concern development) or between the local authority and other

institutions (such as neighbouring authorities, regional bodies, development corporations or housing developers). Alongside formal rules 'we can also recognise informal rules that take the form of unwritten customs and codes… like 'community leadership', the 'public service ethos', or 'continuous improvement; or that may underpin 'negative' frameworks like departmentalism, paternalism or social exclusion' (Lowndes 2005, p. 292).

We need to also consider formal rules and informal practices emanating from central government. Local powers are enabled or constrained by decisions made at higher levels. Whether or not a local authority is permitted through formal rules to set local standards on sustainable construction, for example, is contingent upon enabling powers from higher decision making bodies. This is typical of processes of multi-level governance, where 'competences and authority are shared between different levels of government' or where 'multiple overlapping and interconnected horizontal spheres of authority are involved in governing particular issues' (Bulkeley and Betsill 2005, p. 48). Informal practices emerging from the national context are also important though. Jollands (2008, p. 5, cited in Bulkeley *et.al*. 2009, p. 24) argues that the 'lack of acknowledgement, encouragement and clear national level guidance on climate change for local governments' represents a significant informal barrier to action'. So we must be considerate of any potential discrepancies between rules and practices at the national level (more on this below).

Table 4.2. below highlights a number of rules and practices at both the national and local level that may be important in the context of local contributions to EM. It is not an exhaustive list of specific rules and practices. Instead, its purpose is to sensitize the reader to the range of possible institutions that exist in the local context and may play a role in structuring outcomes in the case of local authorities engagement with ecological modernisation. What is important to remember is that the separation of central and local level rules and practices is not meant to suggest these exist as two discrete levels – a distinction that is important in its own right and forms a central component of this theory in terms of institutional synchronicity, discussed in section 4.4. below.

	Rules	Practices
Central Government	Enabling powers (Burch 2010) Investment and funding Legislation Organizational creation/destruction (e.g. QUANGOs, Regional Development Agencies)	The nature of central-local relations (whether in general or with a particular LA) Informal expectations of the role of local government (e.g. striving for efficiency, localism, etc.)
Local Government	Local legislation Neighbouring local authorities' legislation (Argyriou *et al.* 2012b, Mann *et al.* 2014) Legislative process (consultations, inspections, evidence gathering) Budgetary mechanisms Political make-up of council (Mann *et al.* 2014)	Local culture in particular policy area Attitudes towards devolved policy. Attitudes towards neighbouring local authorities/central government/regional bodies Attitudes towards environment Attitudes towards local government's role in environmental governance Attitudes towards local-central relations Attitudes towards principles of localism Officer-councillor relations Local authority-citizen relations

Table 4.2. Institutional Rules and Practices in The Case of Supplementary Powers for Ecological Modernization

This way of conceptualizing institutions in terms of rules and practices is part of a third 'wave' of institutionalist research: a *new* 'new' theory of institutionalism. It emerged through attempts to achieve a rapprochement of existing work, which had branched off into at least eight different variants of institutional theory: rational choice, historical, empirical, constructivist, sociological, network and international (Peters 2012, pp. 18–21) and feminist (Lowndes and Roberts 2013) institutionalisms. It has drawn strong influences from four of these in particular: rational choice, historical, sociological institutionalism and constructivist institutional theories (Lowndes and Roberts 2013, p. 32). All four present useful ideas for conceptualising the relationship between institutions and actor behaviour given the way they outline how institutions constrain actor behaviour, so are all considered within the model of environmental policy capacity developed in this thesis. Each will be dealt with in turn.

4.4.1.1. Influence of Rules and Practices on Actor Preferences

Rational choice institutionalists understand institutions as the 'rules of the game in society' (North 1990, p. 3), within which political actors attempt to maximise their own interests. Institutional rules and practices structure the conditions for rational action, 'thus in these models the individual politician is expected to manoeuvre to maximize personal utility, but his or her options are inherently constrained because they are operating within the rule set of one or more institutions' (Peters 2012, p. 48). Here 'the individual is constantly

asking the consequential question 'what action would produce the highest utility for me, in a context where institutional rules place some constraints on subsequent behaviour' (Lowndes and Roberts 2013, p. 36). It emerged out of an attempt by rational choice theorists to 'bring the state back in' to 'explain outcomes that could not be explained by universal theories of rational action without reference to institutional context' (Schmidt 2006, 103).

4.4.1.2. Influence of Rules and Practices on the Logic of Appropriate Behaviour

Sociological institutionalists see institutions as 'collections of interrelated rules and routines that define appropriate actions in terms of relations between roles and situations' (March and Olsen 1989, 21). The norms and values embodied within particular institutions shape political outcomes by creating meaning for individuals. So, rather than understanding outcomes on the basis of a logic of consequentiality, as per rational choice or historical institutionalism, sociological institutionalist adopt a logic of appropriateness. These logics of appropriateness 'are followed because they are seen as natural, rightful, expected and legitimate' and because actors 'seek to fulfil the obligations encapsulated in a role, an identity, a membership in a political community or group, and the ethos, practices and expectations of its institutions' (March and Olsen 2004, p. 4 cited in Lowndes and Roberts 2013, p. 30).

4.4.1.3. Influence of Rules and Practices on Paths (Not) Taken

Historical institutionalists define institutions as 'formal and informal procedures, routines, norms and conventions embedded in the organizational structure of the polity' (Hall and Taylor 1996, p. 938). They focus on the structuring effect of institutions over time (Pierson and Skocpol 2002), and in so doing adopt a non-linear understanding of causality that focuses attention on the constraining and enabling effects of historical institutional arrangements (Hall and Taylor 1996). A core argument is that a failure to take a historical perspective means we end up with a 'snapshot explanation for what should be seen as a moving picture' (Pierson 2000, p. 263).

Historical institutionalists talk of the 'path dependency' of institutions (Pierson 2000), the basic idea of which is that 'once policy makers have started down a particular path (however arbitrary the initial choice), the costs of changing direction are high' (Lowndes and Roberts 2013, p. 39). These 'increasing returns' mean that decisions made at one point in time have an effect on decisions made at another point in the future (Steinmo 2008) and imply a 'stickiness' to policy (Pierson and Skocpol 2002, p. 699). Rules and practices thus 'have a strong tendency to persist once they are institutionalized' (Pierson 2000, p. 259). The high density of institutions in political life, power asymmetries and political complexity combine to produce high sunk costs to political behaviour and thus 'make increasing returns processes in politics particularly intense' (Pierson 2000, p. 257). Institutional change most often occurs, in this scenario, through sudden accentuated punctuations to an

otherwise sticky equilibrium (Pierson 2000, p. 257) – as we discuss below in section 4.4.2.

4.4.1.4. Influence of Rules and Practices on Ideas and Perceptions

Constructivist institutionalists take a different perspective on the way that institutions enable or constrain behaviour. Rather than focusing on external rules or norms they instead focus on the way that an external reality is processed by actors themselves as they create meaning and understanding of the world around them through ideas and discourse. They are thus concerned with the context in and through which ideas are communicated and the way that those ideas inform outcomes. Institutions then are 'constraining structures and enabling constructs of meaning which are internal to 'sentient' (thinking and speaking) agents' (Schmidt 2010, 4). Actors construct their own realities, and thus the way that they do that is malleable. Rules and practices, although external to the way actors interpret and construct the world, nevertheless have an impact upon the way that process pans out. So, changing external rules and practices can influence the perceptions that actors have.

4.4.2. Theories of institutional change

The previous section showed that rules and practices constrain behaviour, through altering preferences, logic of appropriateness, paths (not) taken, and perceptions of the world around them. Although these constraining effects of institutions are important to consider, how the way existing institutions *change* is what we are ultimately concerned with when discussing contributions to

EM, given that such contributions require a change from one institutional configuration to another. This is where policy entrepreneurship and institutions interact; contributions to processes of EM necessarily imply institutional change, where existing rules and practices are subject to reform and it is actors who lie at the heart of such processes.

A lingering critique of institutional theory (see Peters 2012) is its inability to adequately account for processes of change, given the emphasis often place on the stickiness and inertia embedded within institutions through increasing returns and processes of path dependency, with some suggesting that institutional theory, particularly historical institutionalist accounts, 'sometimes lapse inadvertently into institutional determinism' (Steinmo and Thelen 1992, p. 16). Whilst it may be the case that institutions may possess path dependent characteristics and stability may be a more prominent feature of institutional life, institutional change clearly does occur. It is said to occur in one of two ways: suddenly or gradually.

Until recently scholars have relied upon the idea of a 'punctuated equilibrium' to account for these change processes. Baumgartner and Jones (1993) have argued that the bounded rationality of institutional actors – how an issue is framed – and agenda-setting all help to explain change. As issues fall into the purview of institutional actors and rise on the agenda they can be subject to sudden, intense and dramatic activity. Conversely, where an issue falls on the agenda or where it is framed as unimportant or solved inertia can kick in. Punctuations, then, emerge from shifts in either preferences or attentiveness;

policy makers may be unwilling, for example, to reform existing institutions because such behaviour is electorally unpopular or because they have more pressing matters on hand (Baumgartner and Jones 1993). Where a critical mass of attention is achieved, a tipping point is reached, new approaches are considered, new priorities are assigned or where new ideologies emerge, punctuation occurs. Krasner (1984) has developed this notion of punctuated equilibrium further to bring a focus on both internal and external shocks or crises as determinants of these preferences and the attention given to particular institutional designs and arrangements. New institutions, then, 'originate during periods of crisis' (Krasner 1984, p. 240) as they alter the preferences of institutional designers and the urgency given to particular issues.

However, as Duit (2007) argues, whilst the notion of a punctuate equilibrium 'does resemble *some* historical processes…this is far from proof of its applicability as a general model of political and institutional change' (2007, p. 1098 emphasis original). Indeed, Streeck and Thelen (2005) contested this punctuated equilibrium model (accounts, they argue, that locate institutional change in 'convulsive historic ruptures'; Streeck and Thelen 2005, 18) by arguing instead that institutional change is a near continuous process of gradual but transformative change. The emphasis here is on the way in which institutions change occurs incrementally. Institutions reform to reflect changing contexts not by sudden, dramatic change but instead through a process of layering and gradual adjustments (where existing institutions take

on new forms, are reformed through the creation of new, layered institutions, where they no longer have relevance or drift to take on a new relevance). A core distinction between these two accounts of institutional change is the extent to which they understand institutional change as a necessary depletion of existing institutions. For Krasner, punctuated equilibrium causes the demise of existing institutions, which become replaced by new ones that reflect changing priorities and preferences. For Streeck and Thelen institutions instead evolve. They have developed a typology of gradual change that focuses on the effects of: displacement, layering, drift, conversion, and exhaustion (see Table 4.3. below).

Dynamic of Institutional Change	Defined as:
Drift	'Neglect of institutional maintenance in spite of external change resulting in slippage in institutional practice on the ground'
Conversion	'Slowly rising salience of subordinate relative to dominant institutions'
Exhaustion	'Gradual breakdown (withering away) of institutions over time'
Layering	'New elements attached to existing institutions gradually change their status and structure'
Displacement	'Redeployment of old institutions to new purposes; new purposes attached to old structures'

Table 4.3: Dynamics of Gradual but Transformative Institutional Change (Source: Streeck and Thelen 2005, 31)

Displacement occurs with the rising importance of peripheral institutions. Institutions sit within an 'interdependent web of an institutional matrix' (North 1990, p. 95), where they are 'nested or embedded within wide institutional frameworks that exist above, below and alongside' (Lowndes 2005, p. 294). Displacement occurs through 'the rediscovery or activations – and, always,

the cultivation – of alternative institutional forms' from within this matrix (Streeck and Thelen 2005, p. 20), or through the blending or assimilation of new institutional logics, the material practices and social constructions that underpin institutional behaviour (Skelcher and Smith 2014, p. 8). The central argument is that in 'critical moments or periods latent subsidiary ways of action can be rediscovered' through 'cultivation by enterprising actors' (Streeck and Thelen 2005, pp. 20–21).

Layering takes place where path-dependent processes preclude the dismantling of existing institutions, so change stems from new elements being added to those existing institutions in a way that changes their form, which may occur through 'the active sponsoring of amendments, additions or revisions to an existing set of institutions' (Streeck and Thelen 2005, p. 23). This kind of differential growth sets in motion 'dynamics through which they, over time, actively crowd out or supplant by default the old system' (Streeck and Thelen 2005, p. 24).

Drift occurs through the intentional or unintentional neglect of institutional maintenance, even where external circumstances require or encourage it. A failure to actively maintain the institution 'may amount to actively allowing it to decay' (Streeck and Thelen 2005, p. 25).

Conversion occurs where institutions are directed towards new purposes or goals, whether because of unintended consequences, through compromise in political negotiation, because of the circumvention or subversion of rules by actors, or because of changing contextual conditions (Streeck and Thelen

2005, pp. 26–27). Lastly, exhaustion refers to the breakdown of institutions over time, through decreasing returns, as institutions become older and more stretched, or where the institution has sowed the seeds of its own destruction (Streeck and Thelen 2005, pp. 29–30).

When it comes to the local contributions to EM itself policy entrepreneurship is important in stimulating many of these dynamics. They can prevent drift, where through 'deliberate neglect' institutions lose their relevance in spite of changing circumstances. Or may play a role in fostering the change of existing institutions in order to accommodate new supplementary standard setting powers; for example, new powers may be suitably layered onto existing institutional rules in so much as they can be 'attached to existing institutions [and] gradually change their status and structure' (Streeck and Thelen 2005, p. 31). Or, they could convert existing institutions in a way that means they serve new functions, such as capitalizing upon latent environmental awareness (an institutional 'practice') and redirecting it towards a more explicit focus on sustainable homes. They could similarly seek to exhaust institutions preventing the uptake of supplementary standards (such as explicit wording in local policy).

So far we have seen the structuring effect that institutional rules and practices have on actors' preferences, logic of appropriate behaviour, availability of paths and ideational construction of the world around then, and the way that those rules and practices can change over time both gradually or suddenly.

This change though occurs though by purposive agency, highlighting a close relationship between institutions and agency that needs to be considered; actors are both constrained by institutions but also complicit in their design and reform.

4.4.3. The Dialectical Relationship Between Institutions, Institutional Change, and Agency

We can talk therefore of a dialectical relationship between agents and institutional contexts; policy entrepreneurs do not just accept the status quo, they attempt to change it in pursuit of their aims. Indeed, this is often *how* they achieve their aims. They are therefore important in the creation of new rules and practices and thus in the dynamics of institutional change.

So, whilst institutional theory is a useful lens through which to account for variation in contributions, a more nuanced understanding of differences in that variation can be obtained from also understanding the interaction of policy entrepreneurs and institutions. A central component of the model of environmental policy capacity that this thesis seeks to develop is the local institutional landscape; variations in contributions by local authorities can be accounted for in part by the nature of this landscape and how actors both negotiate and influence it. In other words, variations can be accounted for in part by the differing institutional contexts actors in each local authority are subject to and thus the differing rules and practices prevalent in each case. However, the inter-relationship between agency and institutions is also

important. Those local authorities that have champions within them who are able to either navigate favourable institutional contexts or shape existing contexts to make them more favourable would be in a better position to contribute to the EM process.

The dynamics of institutional change (particularly gradual change dynamics) are underpinned by intentional, purposive design:

> 'While highly unlikely to achieve all they set out to do, attempts at institutional design are inevitable as political actors seek to make their values 'stick' through institutional mechanisms. Such action does not only include heroic foundational moments (new constitutions, for instance) or fundamental reform programmes, but also many disparate small actors of adjustment undertaken by strategic actions on the ground' (Lowndes and Roberts 2013, p. 171)

As Streeck and Thelen (2005, p. 19) argue 'political institutions are not only periodically contested [by agents]; they are the object of on-going skirmishing as actors try to achieve advantage by interpreting or redirecting institutions in pursuit of their goals, or by subverting or circumventing rules that clash with their interests'. Various attempts have been made to understand the relationship between agents and institutions – reflecting the on-going structure agency debate (see Hay 2002, 89–134). Hay and Willcott see the relationship between agents and institutions dialectically, where 'change is seen as the consequence (whether intended or unintended) of strategic action (whether intuitive or instrumental), altered through perceptions (however informed or misinformed) of an institutional context that favours certain strategies, actors and perceptions over others' (Hay and Wincott 1998, 955). This is closely related to Hay and Jessop's 'strategic relational approach' (Hay and Jessop 1995) where 'actors are presumed to be strategic – to be capable of devising and revising means to realise their intentions' (Hay 2002, p. 126)   and   are

situated in an on-going process of institutional exposure, strategic action and institutional reform, a process affected by perceptions of the institutional landscape (and its shortcomings) and their ability to develop and exercise effective strategy.

Lowndes (2005, p. 291) and Lowndes and Roberts (2013, p. 179) develop this dialectical approach further to offer a comprehensive theorisation of institutional entrepreneurship. They refer to a process of institutional bricolage, which they argue 'may actually be the only route to institutional innovation in the face of path dependency' (Lowndes and Roberts 2013, p. 180). Bricolage refers to the idea that actors 'make and remake institutions on a daily basis', (rarely do so from scratch) through four dynamics: remembering, borrowing, sharing and forgetting.

Such a view recognizes the importance of endogenous sources of institutional change and reflects a third phase in institutional theory commitment to 'bring the actor back in'. (Lowndes and Roberts 2013, pp. 179–185). Remembering refers to the idea that latent institutional resources can be reactivated in pursuit of new objectives (and thus has resonances with the idea of displacement) (Lowndes and Roberts 2013, p. 181). The notion of path dependency suggests that initial decisions can preclude particular paths from being available to actors at later junctures. The notion of remembering implies that these 'paths that were feasible but foregone' can be reactivated or rehabilitated in new contexts by institutional actors 'searching through past repertoires' (Lowndes 2005, p. 301). This relates closely to the notion put

forward by Crouch and Farell of institutional 'redundancies', the idea that 'far from being coherent, they are characterized by redundancies, previously unknown capacities, and incongruities, which frequently provide the means through which actors – whether firms, policy entrepreneurs, or others – may seek to tackle new exigencies' in the face of changing environments (Crouch and Farrell 2004, p. 8).

Borrowing occurs when institutional actors actively seek to transfer institutional resources from one 'action space' to another (Crouch and Farrell 2004, Lowndes 2005, p. 302). Referring again to the idea of an institutional matrix, borrowing takes place where actors – often those who operate within more than one action space, referred to elsewhere as boundary spanners (Williams 2002) – draw inspiration from institutional formations elsewhere. Sharing takes place where actors transfer experience through networks; 'while 'borrowing' involves the same actor transferring experience between the different arenas in which she acts, 'sharing' provides access to the institutional repertoires of other actors (who operate in different action spaces)' (Lowndes 2005, p. 304). Alternatively, 'if remembering is about looking backwards and borrowing is about looking sideways, then sharing involves looking outwards in the search to expand or recombine institutional resources' (Lowndes and Roberts 2013, p. 184). Forgetting has resonances with the idea of drift, particularly the notion of 'deliberate neglect' (Streeck and Thelen 2005, p. 31), and involves the purposive neglect of existing institutions. Where institutions fail to be maintained, they can begin to 'wither

on the vine' (Lowndes and Roberts 2013, p. 185). However, it is important to note that processes of forgetting can be difficult (for the same reasons that institutions tend to be sticky and inert), especially where it is the case that institutional rules are neglected, given the potential for practices and narratives to either prevail regardless or lie dormant beneath the surface waiting to be remembered at a later stage.

4.4.4. Institutional synchronicity as a determinant of institutional change.

In the previous section we elaborated upon and integrated the discussion on institutional entrepreneurship with that on institutionalism and institutional change through the notion of bricolage. Variations in contributions to EM – conceptualized above as a process of institutional change – come about through differences in the purposive action by policy entrepreneurs directed at institutional maintenance or change. Thinking in this way requires an assessment of extant institutional landscapes, actor strategies and their role as agents of institutional change.

However, these existing accounts of institutional change and the dialectic understanding of the relationship between actors and institutions as it has thus far been discussed fail to consider that local government operates within a multi-level context. This is a problem endemic to the literature in general.

We saw above that the notion of *bricolage* is central to discussions on institutional maintenance and change – and thus to our understanding of the constraining and enabling effects of institutions themselves – but we must do more to recognise that processes of institutional bricolage take place in a multi-dimensional institutional setting, where 'the institutions of local governance are shaped by rules that emanate from higher tiers of government (national legislation, EU directives), by 'institutional templates' that circulate in the wider society and economic…and by locally specific cultures and conventions' (Lowndes 2005, p. 294). Although the likes of Lowndes and Roberts acknowledge that 'in local governance…the shape of the institutional matrix emerges as the outcomes of action at many different institutional levels' (Lowndes and Roberts 2013, p. 180), there is a failure to account for how interactions between institutional rules and practices at each level impact upon the nature and pace of institutional change locally. *Borrowing* and *sharing* in particular can take place across administrative levels. However, there is a problematic assumption within such discussions that such processes occur problem-free, or that power balances between them are equal. This would imply that when new contexts encourage either *sharing* or *borrowing* by local government actors from institutions at, say, the national level, such processes occur regardless of the dynamics at play between the two levels.

Whilst theories of institutional bricolage certainly have their place in explaining institutional change, greater focus on the multi-level dimension of institutional

change and design is needed when we are talking about institutional change in the context of local government than is currently offered in the literature, because such changes occur within bounded spaces. The extent to which actors can interpret the institutional world around them to initiate and design institutional change within those spaces is a product of institutional architectures at different levels, so greater consideration of the interdependencies between those levels is needed.

There are hints from within the existing literature of the importance of this dynamic, but thus far no concrete conceptualizations of the interaction of this multi-level dimension on institutional behaviours. For example, Lowndes (2005, p. 292) has remarked that we should conceptualize local governance as an 'institutional matrix' where 'different rule-sets change at different rates in and in different directions, reflecting power relationships and the 'embededdness of local governance in specific historical and spatial contexts'. Nevertheless, there has yet to be sufficient theorization for how those 'different rates', 'different directions', or 'power relationships' influence the pace and direction of institutional change. In other words, how formal and informal rules at one level synchronize (more on precisely what this means below) with those at another structure the range of possible outcomes and the scope for institutional design and change. The literature on local and urban governance also points towards these 'multiple overlapping and interconnected horizontal spheres of authority [that] are involved in governing particular issues' (Bulkeley and Betsill 2005, p. 48). Indeed, the centralization

inherent in the British political tradition (Hartley *et al.* 2004) – even in spite of a recent emergence of a discourse of devolution and decentralisation – means that local policy discretion is on the whole contingent upon central government legislative or (de)regulatory action.

The concept of *institutional synchronicity* is developed here as a novel concept to address this shortfall in the literature and account for this dynamic. Where institutional architectures are spread over multiple-jurisdictional levels (as with local governance) the degree of *institutional synchronicity* - the extent to which overlapping institutional rules, practices and narratives that are spread across jurisdictional levels align at those different levels – is one determinant of institutional change alongside those discussed above. So, rather than just rely on the notion of punctuated equilibrium or graduated change as a factor involved in institutional change, consideration of synchronicity is also needed. Institutional synchronicity is not just discussed in order to enrich the analysis of local contributions to processes of EM, it is discussed as an end in its own right; the notion of synchronicity is a novel contribution to the literature on institutions, particularly that which focuses on the dynamics of institutional change.

Broadly, it is argued that local government institutions often emerge and are made possible within an 'enabling' framework, whereby local competences are prescribed through series of formal rules from central government. These national rules have two effects. First, they are the 'external shocks' that can

bring about shifts in priorities and preferences amongst local decision makers in line with the punctuated equilibrium model. Or, alternatively, they act as incubators or inhibitors to processes of gradual but transformative change by limiting the pervasiveness of local dynamics of layering and gradual evolution. In this latter conceptualization the scope for *bricolage* is diminished through boundary conditions on legitimate or appropriate action that have emerged elsewhere.

We can talk in terms of *rule-based* and *practice-based* synchronicity. Local government in England operates within a framework enabled by rules emanating from central government, where particular powers are devolved or particular responsibilities assigned to local authorities (often with a degree of voluntarism attached). We can conceptualize this as the emergence of national level institutional rules from central government. Conflicts may emerge where these national rules conflict with local rules and practices. Where there is a voluntarism attached to the embrace of these national rules, such conflicts may undermine the capacity of local authorities to embrace them, even where political will is on side. Where there is a mandatory element – that is, where local authorities have little choice but to embrace such rules – there is the potential for tension where they conflict with dominant practices abound locally. In both situations the pace and direction of institutional change within local government is determined in part, then, by the dynamics of institutional synchronicity.

4.4.4.1. Rule Based Synchronicity

Rule based synchronicity occurs where local government institutional rules can accommodate emergent national institutional rules within existing decision making processes at the local level. New national level rules that enable or constrain particular types of local government behaviour interrelate with existing or emerging rules at the local level, such that conflict may arise. New rules that grant local authorities the opportunity to integrate new planning regulations, for example, are only useful to a local authority if it is in a position to re-draft its local planning policies. Thus, this lack of synchronicity acts as a constraint on institutional change, despite the wishes of local actors.

There are two additional elements to consider when talking about rule-based synchronicity. The first is whether national rules (particularly devolved policies) are relevant to a local context or, in other words, whether that policy applies in a particular context. For example, legislation that gives local authorities the choice to introduce particular farming standards has little to no relevance in an urban environment. The second concerns the activities of the local government and the extent to which it is experiencing what we might refer to as legislative *congestion*; limited resources (whether in terms of economics, available expertise or more fundamental concerns over legislative time on the Council's agenda) influence the priority given to different policy areas.

4.4.4.2. Practice Based Synchronicity

Practice based synchronicity occurs with alignment between national level rules and local institutional practices. Lowndes and Roberts (2013, p. 53) suggest that 'narratives are often used to justify the existence of rules [and] rules often formalize well-established practices', suggesting an interrelationship between the two. Extending this into a multi-level setting allows us to say that local narratives may conflict with emerging national rules, thus precluding their justification, and those same rules may either legitimize or discredit existing local practices. This therefore acts as an inhibitor or enabler of institutional change.

Both notions of synchronicity have different effects depending on whether rules emerging nationally are voluntary or mandatory. If a local authority has the option of whether or not to embrace new rules then all notions of synchronicity can serve to frustrate or encourage institutional change – by encouraging or inhibiting the embrace of those rules. Where those rules are mandatory, and where local government thus has no alternative but to embrace them, these processes are still at work but work in more subtle ways. In this latter case a lack of synchronicity manifests itself in frustration or tensions, which can themselves serve to encourage institutional change through generating new practices or narratives.

Synchronicity between national and local level can be understood as an enabling condition for processes of institutional change. Without synchronicity between levels, the extent to which institutions are *able* to change – in spite of

actors intentions, or lack thereof – is restricted. However, the presence of synchronicity alone does not ensure outcomes; such situations present the windows of opportunity that entrepreneurs are skilled in exploiting, as we saw in section 4.3. Defining synchronicity along these two dimensions adds nuance to discussions on multi-level governance, avoiding the assumption of unproblematic implementation or interaction between administrative levels.

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So far in this chapter we have seen the constraining and enabling effect of institutional rules and practices, how actors are complicit in their reform over time and how the synchronicity between national and local level can restrict the scope of institutional change and provide a window of opportunity that entrepreneurs can exploit. However, policy entrepreneurs do not operate in an agency vacuum; they interact with other actors in complex webs. These *policy networks*, and their internal dynamics, also have a structuring effect on the role of actors and thus the way that local authorities can contribute to processes of EM. Entrepreneurs are key actors in any local policy networks, but their action can be constrained or enabled by network dynamics.

4.5. Policy Networks and Institutional Entrepreneurship: Resources, Resource Exchange and (Changing) Institutional Contexts

Who interacts within a network, the resources they hold and the way they interact matters, because it affects the influence that policy entrepreneurs

have in affecting outcomes. The dialectical interaction between agents and institutions discussed in the previous section are mediated through policy networks – in other words, they are sites of institutional design. Policy networks are 'the set of political actors inside and outside government who are involved in, or take an interest in, the making of public policy, and/or the relations between these actors' (Compston 2009a, p. 7). As we saw in the previous chapter, the English planning regime is characterised by a stratification of power, frequent regulatory change and a shift in power in recent years from the state to private sector actors. How these other actors behave therefore has an influence on the change we see. New institutions are created and regulatory change elsewhere can empower existing groups at the expense of others.

Borzel distinguishes between the 'interest mediation' and 'governance' schools when discussing policy networks (1998, p. 254):

> 'The interest mediation school conceives policy networks as a generic concept which applies to *all kinds* of relations between public and private actors. For the governance school, on the contrary, policy networks only characterize a specific form of public-private interaction in public policy (governance), namely the one based on non- hierarchical co-ordination, opposed to hierarchy and market as two inherently distinct modes of governance' (Borzel 1998, p. 254 emphasis original)

Marsh and Rhodes (1992, pp. 251–255) talk of different 'types' of these policy networks, each of which has a different effect on outcomes and are situated on a continuum; on one end of the continuum are tightly integrated closed networks comprising a handful of members with stable memberships. These 'policy communities' usually share similar ideologies and achieve high

degrees of consensus. 'Issue networks', at the other end of the continuum, have complex memberships that include a range of government, non-governmental and private actors. Membership is erratic and in flux, and consensus is often difficult to achieve.

Networks represent 'a stable or recurrent pattern of interaction between individuals or organizations' (Ansell 2009, p. 75). They can enable particular forms of behaviour because they can be 'channels of information and aid', whilst they can constrain when 'they are structures of social influence and control that limit action' (Ansell 2009, p. 75). Policy entrepreneurs must navigate these 'entangled web of relationships' (Ansell 2009, p. 76), acting as brokers between the external and internal; whether opponents or proponents of change, local residents, other local authorities, national government or a range of other stakeholders. We know from elsewhere the power of cross-border learning in facilitating innovation amongst policy makers, not least at the local level (Berry and Berry 1990, Walker 2012).

The ease with which entrepreneurs can navigate these networks is a product of the composition and dynamic of the network itself. This is conceptualized in terms of the resourcefulness of network actors and the resource exchanges between them. Each group has its own interests and goals, and seeks to exert influence on policy makers through deploying their resources and exchanging resources with others.

4.5.1. Network Actor Resources

The extent to which each actor within a network is able to pursue their interests is a product of their resourcefulness and the extent to which they are able to 'trade' those resources with others. Compston suggests that 'each actor wants something from one or more other actors and is prepared to exchange something of their own in order to get it' (2009b, p. 728), Börzel argues that network actors acknowledge that 'co-operation is the best way to achieve common goals' (1998, p. 254). Resource dependency theory explains policy outcomes on the basis of these interactions (Rhodes 1985): private and public actors possess a variety of different resources that are depended upon in a variety of ways by other actors in the network. Compston (2009a, p. 26) defines eight tradable resources, which are outlined in Table 4.4, below.

Controlled By	*Resources*
Public actors alone	Policy amendments
	Access
Public and private actors	Veto power
	Information (either through lobbying or in a consultative role)
	Cooperation with implementation
	Recourse to the courts
	Political support
Private actors alone	Private investment

Table 4.4: Tradable Resources of Policy Network Actors

Source: Amended from Compston 2009, p. 26

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Resources reflect the institutionalized status of particular interests that influence policy outcomes. All actors have them and it is through these formal and informal interactions that they make use of them. They all have resources that decision makers either want or have no choice accepting. Within the context of policy capacity, we can say then that the capacity of a local authority to contribute to EM is contingent upon the resources of the local authority *vis à vis* other network actors (and thus the extent to which it depends upon the resources of other network actors) and the ability of policy entrepreneurs to exploit and deploy those resources.

Public actors (central and local government actors) are the only actors that can provide amendments to legislation and access to the policy-making process (through, for example, committee appointments or commissioning). Other resources though can be possessed by both public and private actors. Actors both inside and outside the council may possess veto power over policy unless concessions are made. Opposition parties, for example, may form a coalition against proposals made by the ruling party. Actors external to the legislative may possess a *de facto* veto power if their resources in other areas are so great that the threat of their withdrawal can have a similar effect as a veto. For example, if a firm employs 50% of people in a district it can threaten to move elsewhere if a policy is passed. Such a threat may, in effect, veto the proposal. Information is a key tradable resource. Compston (2009a, p. 29) lists three ways in which it can be used. First, if an actor controls

information in an area they can trade this for amendments. Second, information can be deployed to change the preferences of policy makers. Third, policy learning from other policy environments can also change actor preferences. If local authority *x* adopts a policy that has a series of unintended consequences it may change the preferences of authority *y*.

If the cooperation of an actor is needed to implement a policy that actor has leverage over policy makers to seek policy amendments. Policy makers have an incentive to exchange amendments for implementation. Recourse to the courts is particularly important in this context, allowing legal challenges where local authorities have overstepped their role. Central government sets clear boundaries around when, where and how a local authority can act. Any party – central government, other local authorities or private sector actors –that feels that these conditions have been breached can launch legal action to block, delay or amend policy to bring it in line with the enabling framework. Additionally, private actors alone can control flows of investment, which can be an important tradable resource. The threat to disinvest can be a powerful tool.

Political outcomes can be explained in part on the basis of how these resources are possessed, depended upon and exchanged across a network. Within the context of EM we know that policy-makers play an important role in arbitrating between the demands of industry and the demands of pro-

environment groups. Resources are a useful way to conceptualize how and whether this arbitration takes place.

4.5.2. Resource exchange amongst network actors

Jänicke (1997) refers in his discussions on policy capacity to the 'participative capacity' of a government, defined as 'the openness of the input structures of the policy process' (1997, p. 12). There are similarities here with the idea of a political input structure, which refers to the 'openness of political regimes to new demands on the input side' (Kitschelt 1986, p. 63) from social movements, civil society groups and interest groups and lie on a continuum from 'open' to 'closed'. Kitschelt developed the idea to elucidate the dynamics of resource dependencies. It wasn't enough, he argued, for us to focus on the resources of a group when explaining outcomes, but instead we must be sensitive both to whether or not the political system is conducive to interest group and social movement influence.

Given that the involvement of external advocacy groups is a 'relevant factor for the general opening-up and modernisation of a political system' (Janicke 1997, p. 12), sensitivity to the way that social movements and interest groups interact with the local government is important. We can expect that those local authorities that have a more participative style of policy-making and that have well resourced and organized local pro-environment interest groups are better able to contribute to EM. They can do so by integrating the local community into the decision making process, thus taming the objections of opponents

whilst at the same time altering the balance of resources in a network. We saw in the previous chapter that civil society support within EM catalyses ecological concern amongst other actors.

4.5.3. Political Dissonance and Congruence

An additional influence on the ease with which entrepreneurs can navigate policy networks is the degree of congruence that exists between those members of the network with which a statutory relationship is mandated in national level rules. For example, chapter three showed that local authorities have recently been required to cooperate on deciding local housing targets and cooperate on where those houses should be located (the duty to cooperate). This introduces a statutory requirement for cooperation, so a useful notion to consider is the degree to which relationship between those stakeholders is characterised by congruence – a relationship built upon mutual trust, cooperative working and reciprocity or dissonance – a relationship built upon mutual distrust, little to no cooperative working and a unilateral relationship or breakdown of cooperative working.

4.5.4. Institutional Contexts and Network Dynamics

Thus far we have theorised the way in which entrepreneurs can navigate policy networks. However, much in the same way as actor preferences, appropriate behaviour, paths (not) taken and ideas are informed by institutional rules and practices, the dynamics of networks (i.e. the perceived resourcefulness of actors and the nature of resource dependencies and

exchange and the patterns of behaviour amongst network actors) are themselves influenced by this external institutional context. We must remain focused on the interdependencies that exist between network dynamics, policy entrepreneurs and institutional contexts. For example, as Toke suggests, 'the resources of network members may be increased simply because the policy context increases the importance of the policy objectives with which a particular interest group is most concerned' (Toke 2001, p. 770). Particular legislative changes nationally, for example, may shift the balance of power towards or away from housing developers. Marsh and Smith suggest that 'in order to understand how networks affect outcomes, we also need to recognize that there is a dialectical relationship between the network and the broader context within which it is located' (2000, p. 7). Although they are important in linking problems to solutions, agents do so within particular temporal, spatial and institutional contexts. The resources of actors and the degree to which they are depended upon are influenced by how those contexts change. Toke (2010, p. 765) argues that 'changing resource distributions among actors can help explain policy outcomes' but that 'changing resource distributions may be associated with changes in policy context'. These changing external contexts can influence actor preferences, their resourcefulness and the perceived or actual worth of those resources by other actors. Any model of local environmental policy capacity should seek not just to map the range of actors, interests, resources and dependencies but also relate these to a broader institutional context as discussed above.

4.5.5. Political Parties, Political Dynamics and Expertise

Thus far we have investigated the constraining and enabling effects of institutions, the way that entrepreneurs confront and negotiate them and how those entrepreneurs fit within prevailing and emerging policy networks. However, an important dynamic to consider is the influence of local politics and local political parties. There is a balance to strike, as we saw briefly above and will see in more detail in section 5.1., between the theoretical parsimony of extant conceptual models and the adaptability that is often required for effective social and political analysis. Anything that may ground the model in too specific a context may only serve to inhibit its applicability to other contexts. Thus, one could situate political parties as an independent causal force within the model of local environmental policy capacity, but to do so would ignore that different party-political systems prevail across different contexts. Given that one of the contributions of this thesis is to develop a model of local environmental policy capacity that is applicable beyond the case of sustainable housing, this kind of flexibility and adaptivity matters.

As such, local political dynamics and the influence of political parties is captured through the idea of resource exchange and network dynamics (particularly the idea of political dissonance and congruence – see section 4.5.3.) Local political actors are network actors in their own right, with their own resources (for example they may hold the balance of power, may be the ruling party, may hold key portfolios in the cabinet and so on – see section 4.5.) and their involvement is reflected through these dynamics.

Understanding them as network actors – in the same way as industry groups or policy entrepreneurs are – allows us to understand their resourcefulness, the extent to which those resources are depended upon by others and how they relate to, interact with, and depend upon other actors in the network.

The same is also true of experts and expertise. Individuals may serve as experts, whether in political parties or elsewhere, such that one might wonder how they relate to policy entrepreneurs. Certainly, those with technical knowledge can be policy entrepreneurs, but only when there is clear evidence that they have actively sought policy change, as per the definition offered in section 4.3. However, if they aren't in pursuit of policy change they may instead simply be resources that the council can deploy in pursuit of CSH targets, for example: technical knowledge and expertise is useful in counteracting developer opposition to the inclusion of sustainable construction targets; similarly, it is useful when drafting and implementing sustainable construction policy. It thus serves as an informational resource for local policy entrepreneurs.

Including the influence of political party dynamics and expertise in these less obvious ways reflected the desire to keep the model adaptive and thus flexible in the context of this research, and flexible in the context of application in other policy or geographical settings.

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One final component of the model of local environmental policy capacity are economic framework conditions, which can influence network dynamics, institutional contexts (although institutional contexts can also influence economic conditions) and thus the scope and permissibility of policy entrepreneurship and, ultimately, contributions to EM.

4.6. Economic Framework Conditions

As we saw chapter two, the literature on ecological modernization has tended to focus heavily on the role that economic conditions play as determinants of ecologically directed change. The dual notions of ecologizing the economy and economizing ecology are used to explain why industry may begin to form decisions on the basis of economic *and* ecological rationale. A central tenet of any ecologically modern approach to environmental governance is the extent to which the costs associated with a particular course of environmental stewardship can co-exist with a more immediate concern with profitability, economic prosperity and growth (Mol 1995, Mol and Sonnonfeld 2000). More technically, EM theorists talk of the necessary congruence of economic and ecological rationality if growth is to be decoupled from environmental degradation (Mol 1996).

This emphasis on economic conditions continued in Jänicke's model of environmental policy capacity, where he argued that 'the structure of [environmental problems] as well as the capacity to respond to them is

strongly influenced by economic performance' (Janicke 1997, p. 4). However, both within that model and the one developed here economic conditions has a dual effect, influenced by the extent to which the policies adopted locally as a result of those contributions have an economic impact – whether direct or indirect – and also the extent to which strong economic performance is included as a specific condition in any devolution terms.

Strong economic performance in this context is defined as the extent to which the costs associated with particular policies can be reconciled with the existing political economy. In other words, the extent to which economic and ecological rationality can exist in a positive-sum relationship. Ecological modernisation, as we saw in earlier chapters, is contingent upon decisions being made increasingly on the basis of economic, political, social *and* ecological concern. What that means in this context is that when seeking to account for contributions to EM by local government sensitivity is needed to the direct and indirect costs associated with the policies they put in place in doing so (see Table 8.1 below for examples of each). The extent to which economic performance of a local authority becomes problematic in terms of affecting contributions is a product of these direct and indirect costs and, more specifically, the extent to which they can be incorporated into the existing political economy.

Direct Costs	*Indirect Costs*

• Policy design costs
   o e.g. evidence gathering
	• Industry compliance costs
	   o e.g. production costs

underpinning a new local planning policy
• Procurement costs
    o e.g. buying a new zero-emissions council vehicle fleet
• Monitoring costs
    o e.g. training building control officers to ensure compliance with a new building standard.
	associated with meeting a zero-carbon homes standard.
	• Consumer costs
	    o e.g. change in values of houses near a new neighbourhood recycling plant, or the rise in domestic energy costs associated with renewable energy subsidies.

Table 4.5: Direct and Indirect Supplementary Standard Costs

Different levels of economic performance may work to both enable and constrain behaviour, suggesting a strong link between economic performance, institutional factors, network dynamics and agency. Different institutional rules and practices can affect the extent to which these costs can be incorporated and the extent to which particular economic conditions prevail. Existing rules can exacerbate housing shortages, for example, and new ones can alleviate them, particular practices encourage cross border working to alleviate housing shortages, existing green-belt policies can influence house prices, and so on.

As we saw in the previous section, networks can have institutionalizing effects, where they constrain and enable behaviour by affecting the distribution of powers, interests, and identities of (and the dynamic of interaction between) network actors. Network composition and dynamics (conceptualized in terms of resource exchange and dependency) can influence the perception of economic conditions by actors. This interdependency of institutions, agents, networks and economic tells us that we should avoid an overly deterministic

focus on economic conditions (a tendency within some EM research; McLaughlin 2012) as a condition for contributions to EM.

Whilst strong economic performance may be a necessary condition for action – where such action has an economic impact – it is likely not to be a sufficient condition. Although a base-line of economic strength matters where economic performance is a condition for local contributions (where, say, the embrace of devolved powers are conditional upon specific economic conditions), the effect it has on outcomes is likely to be more nuanced; the effect depends on the extent to which the economic impact of any contributions can be mitigated given prevailing economic circumstances, which in part depends on institutional and agential contexts. What this means is that similar economic contexts can be interpreted differently by actors in different contexts, such that outcomes differ dramatically.

4.7. Conclusion

In this chapter a theory of local environmental policy capacity has been developed, in response to shortcomings of EMT to account for the contributions local authorities make to processes of EM. This is presented diagrammatically again in Figure 4.2, for reference. It draws on a range of different theoretical positions, which are used in a process of 'synthesis', where insights from multiple theories are 'combined to produce a single theory' to provide a heuristic lens through which to explain outcomes (Cairney 2013,

p. 2). It draws insight from a range of approaches: new theories of institutionalism, theories of network governance and theories of entrepreneurship and policy championship. The role of economic conditions is also considered. Agents acting as policy entrepreneurs and policy champions are the driving force behind any attempts by local government to contribute to processes of EM. They are constrained by economic conditions, institutional rules and norms and network dynamics. The former are largely outside of their control, but the latter are influenced by their behaviour.
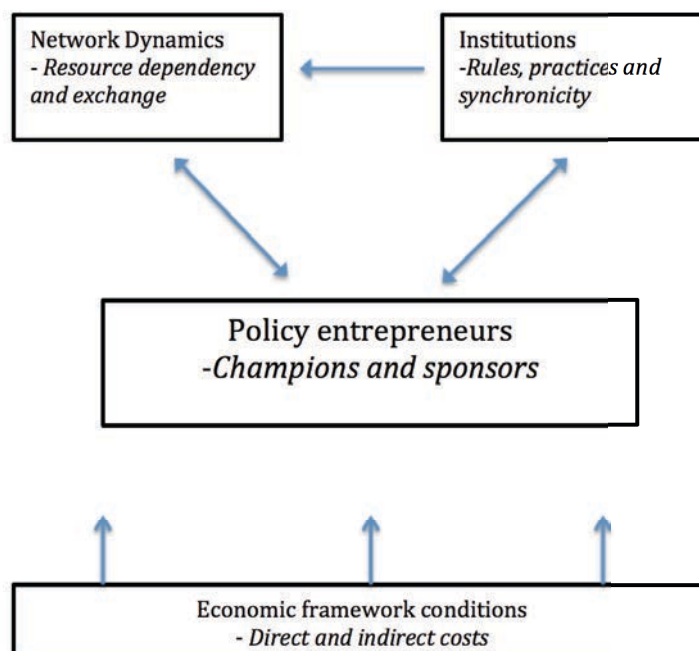
Figure 4.2: A Model of Environmental Policy Capacity

A headline statement summarising this model would be that contributions to EM are driven by policy entrepreneurs who are constrained by institutional rules and practices (and institutional synchronicity), network dynamics and

economic conditions. However, there are additional layers of complexity given that entrepreneurs and network actors can influence the institutional landscape (thus requiring us to think in terms of a dialectical relationship between institutions and agents). Policy entrepreneurs channel pro-environment interests through policy networks, which are governed by internal resource dynamics and institutional framework conditions. Institutional framework conditions also structure the range of permissible and acceptable behaviour and the scope for purposive institutional design (and thus change), whether through altering preferences, restricting choices, affecting logics of appropriateness or the ideational construction of reality, or by enabling or constraining particular behaviour through processes of synchronicity. Economic conditions can act both to enable or to constrain behaviour, but the extent to which they do depends on the composition of networks, prevailing and emerging institutional rules and the skill of entrepreneurs to navigate that environment.

Chapter Five:

Methodology

5.1. Introduction

The need for greater consideration of the role that local government plays in processes of EM was established in Section 2.4, where it was argued that a fifth phase of EM research that focuses on the dynamics of local contributions is needed. Section 3.3. situated changes to the residential housing sector as an example of EM where local governments appeared to act as contributors. As outlined in Section 2.5. this thesis is exploratory in nature and is geared towards generating a theoretical account for local contributions to processes of EM. To recap, the two research questions that stemmed from these observations were:

1. What is the nature of the contributions that English local authorities make in pursuit of ecological protection and sustainability in the residential housing sector?

> **1.a. How, if at all, has the nature of these contributions changed over time?**

> **1.b. How widespread have the contributions of local authorities been in this regard?**

> **1. c. How much commonality and variance has there been in such contributions?**

2. How can we account for any differences in the contributions that local government make?

This chapter outlines the methodological choices made that guided attempts to answer these questions. It describes the justification for and construction of a mixed-methodological approach that relies first upon the construction of a dataset that charts local contributions to EM in this case (in pursuit of an answer to research question 1) as well as two in-depth case studies (in pursuit of an answer to question 2). These case studies were supplemented by a binomial regression analysis, designed to introduce an element of rigour but also a degree of triangulation. The details of all of these stages form the basis of the chapter.

The first section discusses mixed-methodological approaches, including how and why they are deployed here. The second discusses the official documents, reports and extant literature that were used to answer question one. The third section discusses the practicalities involved in constructing a dataset of local contributions to EM. The fourth section discusses the use of regression analyses. It is in this section that discussions over the definition of 'differences in contribution' as used in the above research questions are explored. The fifth section introduces the case study methodology deployed here, including its appropriateness for a study of this sort, the links between the various other methodological elements, case-selection strategies, issues

of reliability and validity and more practical considerations involved in their execution.

This theory was developed using an adaptive approach to theorising, whereby extant theoretical material is employed jointly with emergent data obtained in the course of the research. Such working 'ensures that extant or prior concepts and theory both shape and inform the analysis of data which emanates from on-going research at the very same time that the emergent data itself shapes and moulds the existing theoretical materials' (Layder 1998, p. 166). This kind of 'adaptive theoretical' approach (c.f. Layder 1998) is useful in exploratory research geared towards theory development given that it draws upon the strengths of both inductive and deductive approaches, whilst recognising their respective limitations. In this sense it allows the researcher to situate themselves mid-way between grounded theory approaches (which approach data 'blind' in order to inductively derive theoretical explanations) (see Glaser and Strauss 2012) and purely deductive approaches (which test a priori hypotheses in order to evaluate a theory).

It is also useful in case-study research, the dominant method employed in this study (see sections 5.4. and 5.6. below). Vennesson suggest that 'case study research and process tracing presuppose the existence of theoretical frameworks' and that 'in many situations, researchers should keep in mind that they will have to contribute to this theoretical endeavour themselves. Off-the-shelf theories are likely to be either lacking completely, or inadequate to

the task' (Vennesson 2008, pp. 236–237). In sum, the researcher needs to ask 'how can I show my readers that I did not impose my favoured theory as the explanation?'

Adaptive approaches provide some countenance to this by requiring the researcher to remain sensitive to emergent findings and explanations. In the context of this adaptive approach case studies are useful for driving new hypotheses (Bryman, 2006: George & Bennett, 2005; Yin, 2003). In the adaptive approach, orienting concepts are used to direct the initial stages of the research, but they are sufficiently adaptable to provide flexibility. These orienting concepts are drawn from the theoretical work in the early stages of the thesis together with the findings from the quantitative stage of the research, as well as through an on-going process of reflection in the course of the qualitative work. The result is a coding strategy that is both theoretically informed, but not completely tied down to a pre-existing theory in a way that may jeopardise important factors not previously considered.

Qualitative case-studies are less focused on the operationalization of variables in the way we see with variable oriented research and more on constructing a theoretically informed explanation of the events in a particular case as a means to assess the predictive capacity of a theory. Whereas variable oriented research is concerned with elucidating the causal influence of particular variables on an outcome, theory oriented research 'seeks to understand complex units' (Della Porta 2008, p. 198). Thus, this research

eschews a focus on hypotheses in the conventional sense, favouring an emphasis instead on using theoretical propositions and positions to uncover particular mechanisms not in order to 'prove' or 'falsify' a particular statement, but instead in an attempt to provide a thick, rich and theoretically informed explanation.

Epistemologically, this approach therefore rests upon an assumption that our knowledge of an objective world is necessarily subjective and interpretive such that often there is no one 'truth' about why things occur the way they do, instead we use theory to provide a particular interpretation of it that relies upon the sum of our theoretical understanding of a particular phenomenon. For that reason the 'end point' of the research is reached when a complete enough picture is obtained to adequately explain the particular phenomenon from a particular theoretical perspective. This theoretical saturation marks the point at which subsequent data-collection yields no new insights.

5.2. Mixed Methods

Research question number two asks how we can account for variations in the contributions that local governments make to the EM of residential housing. The theoretical framework developed in the previous chapter guides the analysis, in line with an understand of theory as 'a set of analytical principles designed to structure our observation and explanations of the world' (Cairney 2013, p. 5) rather than as the source 'testable' hypotheses. Theory

understood in this sense is a guiding mechanism, and the decisions taken over methods were done so in order to be able to tease out the most appropriate, reliable data such that theory could be deployed in this way.

It was decided early on that a mixed-methodological approach would be taken, given that it allows the 'best of both worlds' when it comes to deploying different methodological tools. It was clear that the dataset could be more fully exploited by situating it within a mixed-methodology and that doing so would increase the rigidity of the approach taken to answer question 2.

Employing mixed-methods brings a number of immediate advantages First, it allows for the convergence or confirmation of findings obtained using different methods. This kind of triangulation – 'the development of converging lines of inquiry' (Yin, 2003, 98) – is an important objective as it allows the researcher to demonstrate that conclusions 'are not due simply to an artefact or invalidity associated with a particular method' (Morgan, 1998, 365). Findings can be corroborated by the systematic collection of information from multiple sources concerning the same fact or phenomenon. Second it allows findings to be complemented by alternative data sources. For example, as we will see below the regression analysis used to aid case selection showed a weak association between economic framework conditions and the incorporation of CSH targets. The case studies that follow provide an opportunity to interrogate that association more closely, uncovering nuance and hidden detail that cannot be captured quantitatively.

There are four ways of combining quantitative and qualitative approaches, visualised in Table 5.1 below, which broadly reflect the priority given to either and the sequence in which they are carried out. This study will follow a quantitative preliminary design, outlined in the top right quadrant.

Qualitative Preliminary	Quantitative Preliminary
A smaller quantitative study guides data-collection for a principally quantitative study. Used to generate hypotheses, develop context for questionnaires, etc.	A smaller quantitative study guides the data collection for a principally qualitative study. It can be used to guide sampling, establish preliminary results to pursue in depth, etc.
Qualitative Follow-up	**Quantitative Follow-up**
A smaller qualitative study helps evaluate and interpret results from a quantitative study. It can be use d to provide interpretation for poorly understood quantitative results.	A smaller quantitative study helps to evaluate and interpret results from a principally qualitative study. It can be used to generalize to different samples or test emerging theories.

Table 5.1: Strategies for Mixing Quantitative and Qualitative Research Designs

Source: Adapted from Yin 2003, p. 24

In this design, quantitative study preceded qualitative. In other words, the case study was guided in part by the quantitative analysis. This allows those elements of the theoretical model that lend themselves to quantification and statistical operationalization to be studied in a more rigorous manner than is the case within case studies. Indeed, Bryman (2006, pp. 609–613) suggests that mixed-methods can be employed to explain or illustrate findings in more detail and tackle different research questions with the most applicable techniques, all in order to increase the 'completeness' of the research.

The classic example is a preliminary survey or census of a field setting either to guide the selection of sites and informants or to provide a context for understanding the contacts that one does make. Preliminary quantitative results can also help to focus the analysis of large amounts of qualitative data. For example, if tabulations from a preliminary survey reveal interesting patterns of association, a detailed qualitative analysis can provide a much richer understanding of why these patterns exist or how they operate' (Morgan, 2008: 369).

The rigid divide placed between qualitative and quantitative methods in social research often reflects little more than a deterministic rejection of one or the other on the basis of entrenched epistemological or ontological differences about the nature of social research and the role of the researcher in the social world (Layder, 1998). Researchers are often encouraged to adopt either quantitative *or* qualitative methods when conducting research, but in doing so there is an explicit rejection of their respective merits and drawbacks (Bryman, 2006). This is often framed as an ontological or epistemological argument: quantitative methods are more amenable to positivists attempting to objectively model and account for a world 'out there' in the objective ontological sense in a way that eschews interpretation in favour of scientific rationalism (and thus subscribes to an *objective* epistemological outlook). Qualitative methods are traditionally the preserved of those with a relativist ontological outlook, where the world we research does not exist independent of our interaction with it, and a subjective epistemology, where our understanding of that world is only ever partial and always incomplete.

However, to presuppose that reality is understood with reference to one ontological approach alone is to misunderstand the variegation of social reality and the subsequent need for ontological plurality. The common

argument against the mixing of methods is that because they are associated with different paradigms, an irreconcilable epistemological conflict exists if they are combined in the same study (Bryman, 2006; 2008, Johnson & Onwuegbuzie, 2004). It is often argued that the different assumptions underpinning these ontological and epistemological positions about what constitutes the social world and how we can attempt to make sense of the social world inform different methodological approaches and that 'the kinds of information they produce are often incommensurate' (Morgan, 1998: 363). However, there is a difference though between attempting to bridge two different paradigms and combining methods with a sensitivity to the paradigmatic stance that underpins the research project, because:

> [i]f a particular paradigmatic stance provides the framework for a project, then the selection of an appropriate method or combination of methods does become a largely technical task (*ibid*).

Often the distinction then is more empirical that philosophical, a question of what tools can best be employed in order to understand a particular phenomenon or answer a particular question. In this sense mixed-methods is employed here because it allowed a choice of the 'best tools for the job'.

Thinking in this way forces the researcher to recognise the respective merits of both qualitative and quantitative methods (and, crucially, the respective flaws) such that they can be employed as and when necessary in order to bolster the rigour of the study. The point to stress is that mixed methods are used in this study to tease out different elements of a social world that is stratified (in the sense that different aspects of it lend themselves to

quantification and observation in different ways, requiring different tools). Each method has its own advantages for representing different aspects of that stratified world. Therefore mixed-methods are used under the same paradigmatic umbrella rather than across two (competing) paradigms. There are elements of the social world that are more amenable to quantification in the positivist sense with others that require a more interpretive stance. Mixed methods provide a useful toolkit for this realist epistemology.

Why not employ an exclusively quantitative approach? Quantitative approaches are most beneficial – and reliable – when the indicators deployed accurately represent the concepts that they are intended to represent. The difficultly of choosing appropriate proxy measures of concepts is a factor that can undermine the power of quantitative work, especially where the concept-indicator link is necessarily tenuous (such as where inherently subjective concepts are being measured). Quantifying economic growth, for example, is more straightforward than quantifying cultural norms.

When it came to what elements of the theoretical model to put forward for quantitative analysis the choice was clear. As discussed above, it is often difficult to understand the importance of economic conditions in explaining outcomes directed at EM. Expanding the dataset discussed in section 5.4. to include a range of economic indicators would allow quantitative analysis of the influence of economics on particular outcomes in this context in a way that will rigorously explore this claim.

Those elements of the theoretical model that *do not* lend themselves to quantification are explored through case study.

Attention now turns to discussing both of these methods in detail.

5.3. Accounting for Local Contributions: The Use of Official Reports and Extant Literature

As we have seen, our understanding of local government in the context of sustainable housing is under-developed, so a necessary degree of background work needed to be conducted, primarily in order to gauge the 'who' and 'what' of the policy area. This is necessary in pursuit of answer to research question number one, which asks what role local authorities have played in the EM of residential housing, and paves the way for case study in pursuit of an answer to research question number two.

Documents were mainly sourced from the Department for Communities and Local Government, which is responsible for national Building Regulations, the governance of local and regional planning policy and the zero-carbon homes policy agenda. These were available freely online. Previous work on the national-level zero-carbon homes policy was used to gain an initial foothold on the relevant documentation (see Osmani and O'Reilly 2009, McManus *et al.* 2010, Goodchild and Walshaw 2011, Pan and Garmston 2012, Paul 2013, Rydin 2013b, Greenwood 2015, Heffernan *et al.* 2015). It became clear at an

early stage that all the information needed to answer this question was contained in the handful of documents that launched major policy announcements concerning both the zero-carbon homes agenda and the role of local authorities within it (namely DCLG 2007a, 2007b, 2012a, 2014a, HM Treasury 2015). This avoided a considerable amount of time being spent looking for a metaphorical needle. Having said that there were a number of conditions around which this documentary trawl was premised; documents post-2006 would be obtained, given that this is the birth of the zero-carbon agenda as a whole, with a cut off at July 2015, which signalled the end of the zero-carbon homes policy agenda. Only official government documents would be obtained, although peripheral sources would be used (such as think tanks, academic literature or industry groups) in order to clarify or elucidate findings contained therein.

5.4.   Quantifying Local Contributions: Constructing a Dataset

Question 1.b. asks how many local authorities made contributions to the EM process. This necessarily had to precede the work used to answer question 1, given the unknowns about the nature of local contributions. In some ways the answer to this question will be useful in its own right, as an assessment of the local receptiveness to the CSH, but in others it is a necessary step to undertake in order to fully address research question number 2 proper.

For these reason a dataset was constructed. As we will see in more detail in the following chapter, local authorities contribute to the EM of residential housing primarily through introducing Code for Sustainable Homes targets into their local planning policy documents. For that reason, an assessment of which local authorities had introduced such requirements is a straightforward way of quantifying local contributions in this case.

Local authorities are required to make their local planning policies[20] publicly available, a requirement which most fulfil by making them available online. Between January and March 2014 copies of these planning policies (embodied variously in *Local Plans* or *Core Strategies*[21]) were downloaded and read for their sustainable construction policies (if any). The layout of these documents makes such references easy to find, typically contained in a section on 'the environment' or 'sustainability'. However, for completeness a number keyword searches were also carried out for 'sustainable homes', 'sustainability', 'zero-carbon', 'zero-carbon homes', 'the Code for Sustainable Homes', 'energy efficient' and 'energy efficiency'.

If any relevant policies were discovered the details were collected and tabulated into an SPSS dataset. A number of data-points were included: what CSH levels were required in different years (from 2006 – the beginning of the devolution of discretionary powers – through to 2016 (the theoretical end of the zero-carbon homes agenda)); whether a minimum development size was

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[20] See section 3.4
[21] See section 3.4

required for those levels to become mandatory; and whether the local planning policy had been formally adopted or was still in draft form[22] (and if relevant, what stage of the drafting process). These data-points were chosen because they represent the full scope of choice available to a local authority in this context, as we will see in Section 6.2.

An example of how this would look in the database is provided below in Table 5.2. A link to the complete dataset can be found in Appendix iii.

Authority Name	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Stage	Min. Size
Authority X	0	0	0	0	3	3	3	4	4	4	6	Adopted.	10

Table 5.2: Example Database Entry

In this fictional example the local authority x requires Code level 3 between 2010 to 2012, after which Level 4 becomes mandatory until 2015. Level 6 applies thereafter. These requirements apply to all developments of 10 or more houses and the plan has been formally adopted.

Information was available for 261 out of 326 local authorities, with the remainder excluded from any further analysis for a number of reasons; most typical reasons for exclusion were because of difficulty accessing or retrieving

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[22] As before, these terms are described in detail in Section 4.3 of the next chapter.

data in an up-to-date format. Nevertheless, a sample of 261 is more than adequate (Bryman 2008, p. 310)[23].

5.5. Binomial Regression Analysis As A Quantitative Preliminary

Binomial regression analysis is deployed in the quantitative stage of the research. Binomial logistical regression analysis can be used to understand the relationships and associations between ordinal dependent variables in order to predict outcomes or, rather, to calculate the percentage of outcomes on the dependent variable that can be predicted using the independent variables included in the regression model (Haggett and Toke 2006, p. 105). It is used when there is a dichotomous dependent variable and more than one independent variable (measured on either a continuous, nominal or ordinal scale). It was chosen because it is a widely used tool for analysts attempting to predict outcomes and uncover associations, as is the case here. Notice the emphasis placed on *association* rather than *causation*; as Haggett and Toke state:

> 'Causation implies that a variable drives the outcome. This is philosophically unsupportable, illustrated by the frequently cited tale of ice cream sales and sunstroke. Ice cream sales and cases of sunstroke increase at the same time, but nobody claims that one 'causes' or significantly influences the other' (Haggett and Toke 2006, p. 105)

Given the centrality of economic framework conditions to the model of local environmental policy capacity it was useful to incorporate a quantitative

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[23] Having said that, a pitfall of the approach deployed here is the issue of implementation; the proposed method is concerned solely with the design and adoption of policies, with no consideration given to whether those policies are implemented over time. Without significantly impacting the resources available to conduct this study there was no practical way to incorporate this focus in the analysis.

analysis that focused on the relationship between economic conditions and variations in contributions. Economic framework conditions are deemed central to sustainable construction in particular and EM in general. *PPS1, Building a Greener Future* and the *NPPF,* as we saw above, placed a strong emphasis on the viability of any supplementary standards, so it would follow that indicators of (un)viability would serve as a useful starting point in understand the factors that can account for variations in contributions by local authorities. As we saw in chapter two, ecological modernisation theory places economic rationality at the heart of attempts to explain outcomes – particularly when focusing on private sector contributions to EM. By exploring the relationship between variations in contributions by local authorities and a number of relevant economic indicators we can assess whether this centrality is appropriate in the local context.

The definition of viability embodied in the NPPF was used as a guide for the variables to include in the analysis. There a development is said to be viable where 'competitive returns to a willing land owner and willing developer to enable the development to be deliverable' exist (DCLG 2012a, p. 41). Measures of viability so conceived were deemed to broadly coalesce around indicators of housing market strength and growth. A stumbling block was the availability of information that could be used to measure such conditions at the level of local government. Data was obtained primarily from the Office for National Statistics and the 2011 Census, the two most comprehensive and readily available datasets that cover this level of detail and which focus on the

variables of interest. Of the data available a number of indicators were found that could be used as indicators of housing market strength and growth. These were: the mean volume of house building per annum, measured between 2006 and 2013 (DCLG 2012b); the percentage population change per annum between 2006 and 2011 (ONS 2014); the percentage house price change per annum between 2006 and 2012 (Hometrack 2015). Different date ranges here reflect differences in the availability of up-to-date information[24].

One issue that needed attention was the way to conceptualize (and measure) 'variations in contributions' that local governments make, as research question 2 asks. This is the case for both the regression analysis itself but also the case study. Understanding what is meant by variation is crucial if an effective analysis is to be undertaken. As briefly discussed above and discussed in depth in chapter six, local governments contribute in the zero-carbon homes agenda by setting *Code for Sustainable Homes* standards that supersede sustainable construction standards that have emerged nationally (see section 3.4 in particular). For that reason the dependent variable in the regression analyses is a binary distinction between those local authorities that have incorporated (or attempted to incorporate) sustainable construction standards against those who have not. Such a distinction can be made from the dataset constructed in order to answer research question 1.b.; those local authorities that have indicated Code policies in a draft or adopted version of

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[24] At the outset of the study it was assumed that a range of other economic variables could be included in the analysis, such as average salaries, but a lack of complete information at this local scale frustrated this ambition. The variables selected represent a compromise of sorts; the analysis strives to achieve the balance analytical rigor and reliability.

their local planning policy were considered examples of the former, whereas those who have failed to were considered examples of the latter.

Within the rest of the study the idea of 'variations in contributions', as outlined in the research questions, is understood to refer to the extent to which *Code* policies have been introduced or not, or whether attempts have been made to introduce them. On the one extreme will be those who have introduced the highest levels of the Code, whilst on the other are those who have made no effort to introduce Code standards. In between will be a range of local authorities that have introduced middling Code targets, or those who have tried but failed to introduce Code targets.

The decision to also include those who have yet to have their plans formally approved could be seen to be problematic, given that during the course of the research the local authority may either subsequently lose supplementary powers, have their plan rejected outright or have the CSH policy specifically rejected[25]. Nevertheless such a criticism is misplaced, because if anything the structural, institutional, network or agential dynamics of such a process may if anything yield more nuanced findings than those where a local authority experienced plain sailing. Challenges, setbacks, opposition and resilience provide a more detailed exposition of the local politics of EM.

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[25] As it turns out the latter of these two did occur in Cambridge City Council, the case finally selected to represent a more successful authority (and discussed in chapter seven).

On this basis three hypotheses were developed that would guide the regression analysis:

1. Local authorities with high percentage house price change per annum are more likely to have adopted or attempted to adopt supplementary CSH standards.
2. Local authorities with a high volume of house building per annum are more likely to have adopted or attempted to adopt supplementary CSH standards.
3. Local authorities with high percentage levels of population change per annum are more likely to have adopted or attempted to adopt supplementary CSH standards.

High house price change, high volume of house building and high percentages of population change are thought to be associated with an increased likelihood in adopting supplementary CSH standards because they are all indicative of a buoyant, profitable market for construction. Given the emphasis on growth-dependency within planning in England (as discussed in chapter three) and the centrality of economic rationality to processes of ecological modernisation (discussed in chapter two) – especially where such processes are 'weak' (see chapter three) – such buoyancy is understood to be integral.

The use of binomial logistical regression rests upon the assumption that a number of conditions be met: independence of cases; a linear relationship between the continuous independent variables and the dependent variable; at least 15 cases; no significant outliers; and mutually exclusive categories. All conditions were met here. The data collected for each data-point was recoded into three ordinal categories (low or negative, medium and high). This was done in SPSS using the 'recode' feature and was achieved using average

figures, ranking each case on the basis of where it relates to the mean value. This is done for two reasons; it limits the distortive power of outliers and extreme values and it is an efficient way to measure and define 'low' values as expressed in the hypotheses. Within the analysis a significance level of 5 percent ($p<0.05$) or less is sought. This represents the likelihood that the association occurred by chance through random fluctuations.

The findings from this regression analysis would serve two purposes. On the one hand it will allow us to understand the extent to which economic framework conditions can account for variations in contributions by local authorities to the EM process in this case. On the other it will provide a springboard for comparative case-study, where these findings can be elucidated further.

As we have seen, the CSH has built within it various 'levels' against which buildings can be rated. The question of why the significance of explanatory factors (economic conditions, etc) for setting requirements for different levels of the CSH (e.g. the difference between adoption of levels 3 and 4) was not explored needs to be addressed. There were three practical barriers standing in the way of this kind of analysis. First, it would have proved too difficult to account for the changing nature of policies adopted. As we will see, a large number of local authorities introduced 'tracking' Code standards that increased in stringency over time. It would be difficult to account for this and to be sure that any proposed increases over time were actually to be met.

Second, it would have been difficult to distinguish between those who adopted the Code wholesale and those who only required particular components of it. Third, as we have seen, local authorities often imposed a minimum development size, above which particular Code levels are required. It would have been too cumbersome to account for the different minimum qualifying development requirements adopted by each local authority. Some local authorities required Code on all their developments, some on developments of greater than 100, some greater than 10 and so on. It wasn't clear how these differences could be explained. Indeed it was for these reasons that the dependent variable was 'adoption' of Code policies or 'no adoption'.

5.6. Comparative Case Study Methodology

Case studies were chosen because they are the preferred strategy 'when 'how' or 'why' questions being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context' (Yin 2003, p. 3). The term *case* here refers a 'phenomenon, or an event, chosen, conceptualized and analysed empirically as a manifestation of a broader class of phenomena or events' (Vennesson 2008, p. 226). Developments in the residential housing sector are treated as a single case *of* ecological modernisation. A case study is defined as 'a research strategy based on the in-depth empirical investigation of one, or a small number, of phenomena in order to explore the configuration of each case, and to elucidate features of a larger class of (similar) phenomena by

developing and evaluating theoretical explanations' (Vennesson 2008, p. 226) and can be broadly grouped into four types (Venesson 2008, pp. 227–228): descriptive, interpretive, hypothesis generating/refining, theory-evaluating. (227-228). This study uses the second type. The interpretive case study – also referred to as the disciplined configurative case study (see Yin 2003) – relies upon 'the existence of middle-range theories that provide a set of hypotheses – sometimes even broad guidelines rather than clearly formulated hypotheses – which serve as a guide for the conduct of the research' (Vennesson 2008, p. 237) for the purpose of evaluating or refining existing or emerging theories.

More specifically, the work employs an embedded case study design, one where 'the same case study involves more than one unit of analysis' (Yin 2003, p. 41). An embedded case study is one where a meta-case is chosen as an overarching case *of* something (in this case local governments role in the EM of residential housing as an example of local government contributions to EM generally) with a further selection of cases that represent instances of that case. Yin (2003, p. 45) argues that 'the evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust'. Such an embedded approach was chosen consciously to allow for a thorough application of the theoretical concepts developed in chapter four, which often rely upon micro-institutional processes that can only be elucidated with an eye towards analytical depth.

The use of a comparative case study methodology (where two or more cases are compared with one another in order to elucidate generalizable findings to a broader range of cases) certainly brings its own challenges (discussed below), but it increases the external validity and in doing so provides a rigorous basis from which to make generalizations that extend beyond the cases at hand.

Questions such as research question 2, especially when viewed in the context of the theoretical framework developed in the previous chapter, lend themselves well to in-depth, comparative case study for a number of reasons. First, this research is inherently explorative, so the luxury of selecting variables deductively for quantitative analysis is limited somewhat (indeed the ability to quantify aspects of the theoretical model extends barely beyond those chosen for the regression analysis) pointing us in the direction of a more qualitative approach that skirts the boundaries of induction and deduction. Second, there is a necessary complexity inherent in the local policy-making arena that, together with the exploratory nature of this research, implies a level of nuance and richness that is beyond the means of a quantitative analysis. The aim of the research as it has been designed here has been to strike a balance between parsimony and rigour, ensuring that a sufficiently rigorous research design can provide reliable findings that are, to some extent, generalizable to a broader population of cases.

It must be said that the ability to generalize beyond the population is marginally limited by the move away from a deductive or quantitative approach in favour of case study - indeed one of the most sustained objections to the use of case studies is that they often offer limited scope to generalize findings to a broader population of cases in these ways (c.f. Flyvbjerg 2006, Ruddin 2006). However, it is important though to be sensitive to the nature of generalization within the case-study tradition. When case studies are employed (and particularly when they are used for the purposes of theoretical development, as is the case here) the emphasis is not on statistical generalization but on analytical generalization or, in other words, the extent to which theoretical findings can be transposed to broader populations:

> Case studies, like experiments, are generalizable to theoretical propositions and not to populations or universes. In this sense, the case study, like the experiment, does not represent a 'sample', and in doing a case study [the] goal will be to expand and generalize theories (analytical generalization) and not to enumerate frequencies (statistical generalization)' (Yin, 2003: 11).

Nevertheless, consideration must be given to the extent to which generalizations are possible with any given research design. There is a danger with improper design that whilst case-study findings may be useful in elucidating dynamics inherent to that case there may be limited opportunities to draw conclusions about other cases of the phenomenon under investigation. In comparative study such as this, this kind of limitation would fatally undermine the scope to reach any kinds of conclusions, let alone generalizable ones. Underpinning the methodological decision made in the course of the research and discussed below is a consideration for how this can be avoided.

5.6.1. Case Selection Strategies

Two cases were chosen for this study – Oxford City Council and Cambridge City Council (more on this below). Two – rather than one, three or more – were chosen largely for two reasons. First, the exploratory nature of this research meant that little was known about the subject area prior to this study, necessitating qualitatively rich case studies. Second, resource constraints inherent in doctoral research (namely time and funding) meant efforts had to be concentrated in a small number of locations (Burnham 1997). Whist it may seem that narrowing the range of cases would impact our ability to generalizable to the broader population of local authorities, one effective way to ensure generalizability is by introducing a rigorous case selection strategy.

Rigorous case study was fostered through the introduction of a the comparative element of this study, given that only then can different values on particular theoretical variables be assessed across a range of outcomes for the dependent variable. As Della Porta explains, 'in many research designs, the choice of the comparative method is not just a second-best one imposed by the availability of data; rather, it is justified by its capacity to go beyond descriptive statistical measures, towards an in-depth understanding of historical processes and individual motivations' (Della Porta 2008, p. 201).. The method 'adopts the same logic as the statistical method, adapting it to those situations in which we deal with complex phenomena without the large number of cases necessary for a statistical analysis' (Della Porta 2008, p. 201). The benefit of this method is that although the level of control between

variables remains relatively low compared to pure-quantitative comparisons 'it is often the *only* scientific method available for the study of macrodimensional, interdimensional and institutional processes' (Della Porta 2008, p. 202 emphasis added).

Two strategies are most frequently employed in comparative case study design: *most similar* and *most different* research designs (George and Bennett 2005). A most similar comparative case study is one where the population of cases under investigation differ on the outcome of the dependent variable but are similar on a number of independent variables, allowing the researcher to say something to the relative influence of different independent variables. The most different design requires the selection of cases that are similar on the outcome of the dependent variable, but which have different values for a number of independent variables, similarly allowing for a number of conclusions on the relative influence of others.

In this work a most-similar design was adopted, where the intention was to choose two cases that reflect a variance on the outcome of the dependent variable (i.e. the engagement with the zero-carbon homes agenda) but which shared similar values on a number of independent variables. It is important when investigating the factors that cause an outcome to be considerate to a range of outcomes on the dependent variable (Collier & Mahoney: 1996). Choosing cases for no other reason that their value on the dependent variable

is problematic and should be avoided, for fear of inserting a systematic bias into the study (King, Keohane & Verba, 1994):

> For example, if a scholar wishes to understand why certain countries experience high rates of economic growth, the relevant contrast space should include low-growth countries that serve as negative cases and consequently make it meaningful to characterize the initial set of countries as experiencing high growth…the assessment of explanations for high growth should therefore be concerned with the comparison set that includes these negative cases.
> (*ibid*, p.67)

Geddes (1990) echoes this call for variance, suggesting that selecting only those cases which are 'strong' performers, for example cases A and B, allows the researcher to only see what factors those cases have in common. It is only when the researcher contrasts these findings with weak performers can she be confident in any conclusions she makes. Studying cases A and B alone, the researcher might find that factors X and Y are present and might conclude that it is those factors that lead to the strong performance. However, contrasting 'strong' cases A and B with 'weak' cases C and D, she finds that Y is present in all instances, thus ruling it out as a causal variable. However, she notes that X is not present in the weak cases C and D. This allows her to be more confident in a conclusion that X causes strong outcomes. If cases C and D were not included in the study and the researcher instead chose on the basis of the value of the dependent variable then the initial conclusion she made that X and Y were correlated with strong performance would be false.

However, there was no prior knowledge of which local authorities were doing what with regards to sustainable residential housing, a stumbling block that undermined the extent to which most-similar cases could be chosen. George

and Bennett (2005) cite this as a common problem with this research design, as it is difficult at the beginning of the project to know what similar means in any given context and thus on what basis to compare. The emphasis on similarity necessitates a degree of *a priori* knowledge about the factors that contribute to a particular outcome in order to allow for a selection based upon a variance in the outcome of the dependent variable and similarity on a selection of independent variables.

However, the purpose of this research is to begin a preliminary exploration of potentially influential independent variables. This presented the researcher with a paradox: the goal of the research is to provide insight into relevant independent variables, but the rigour and success of that research is dependent upon, in part, sufficient foreknowledge about relevant variables prior to the research.

For that reason a more approximate case selection strategy was employed, one that sought to emulate the conditions of a most-similar design but which reflects the lack of *a priori* knowledge of potentially important causal variables in this case. This required selecting an initial case and offering an approximate comparison to sit alongside. In January 2013 three brief, informal telephone interviews were carried out with one industry representative, one academic and one local council officer with expertise in this area. Each was asked to suggest a candidate for an 'exemplar' local authority, defined as one

that has stood out for its attempts to increase the sustainability of residential housing in a way that supersedes the national strategy.

In all three discussions Cambridge City Council was singled out as an exemplar case. This is confirmed by assessing the number of CSH Post-Construction Certificates. These certificates are issues to a building post-construction in order to certify that it has achieved a *Code* rating (although information is not available that specifies the levels at which these ratings were awarded), and are available on a quarterly basis from the Department for Communities and Local Government website (DCLG 2014b). Cambridge City Council issued 2,555 certificates between 2006 and 2014. When adjusted for the number of houses constructed, Cambridge City Council achieved the highest number of Code Certificates of any local authority outside London (London operates under a unique regulatory environment and is excluded from this study), and the fifth highest of any local authority (including London) nationally. A brief glance at its local planning policy indicated that at the time of this case selection decision it had had yet to fully adopt its local plan, which proposes a Code Level 4 requirement for all developments. Although a number of these Code certificates would be issued for developments, which choose to meet CSH standards voluntarily, it would indicate that the Council is managing to mandate CSH standards without a formal basis in law. Indeed, Cambridge City Council had been successful in introducing a number of site-specific planning policies (known as 'Area Action Plans') in which Code targets were set (this is discussed in much greater detail in chapter 7).

Having established Cambridge City Council as an exemplar case, the challenge was to find a most-similar comparison. Reiterating the discussion above, this would necessarily have to be approximate.

Ecological modernisation occurs where ecological protection becomes economically viable, so it follows that strong economic conditions lend themselves to a more amenable marriage between economy and ecology. Any comparative case would thus need to reflect the economic conditions prevalent in Cambridge. In this case, the most relevant indicators of economic strength are local house prices and percentage house price change. Also deemed relevant, though, was the overall level of construction, the overall population and whether the local authority was urban or rural. A rural, sparsely populated local authority that has low levels of construction and a depressed housing market cannot meaningfully be compared to a city like Cambridge, an urban, densely populated city with high levels of construction and a buoyant market. If such a comparison were to be made it wouldn't be clear whether any differences in outcome on the dependent variable were the result of these innate differences.

Cambridge City Council has some of the most expensive property prices of any local authority in the country. Average house prices between 2006 and 2012 were £299,980 and changed 21% over the same period. (DCLG 2012b) The 2006-2012 average house price is 9 times average annual salary in the

City (DCLG 2012c). Cambridge City Council's average population between 2006 and 2012 was 119,414[26] (ONS 2013) and between 2006-2013[27] it had constructed an average of 354 homes a year (ONS 2014).

The most effective filtering device is average house prices, given the broad range across the country. Oxford City Council achieved similar levels of (un)affordability as Cambridge City Council; average house prices between 2006 and 2012 in the authority were £328,625 – having changed 30.2% over the same period – which represents 9.1 times the average annual salary (DCLG 2012b, 2012c). Oxford City Council's average population between the same period was 147,463 (ONS 2013) and between 2006 and 2013 it had constructed an average of 367 homes a year (ONS 2014). Importantly, only a limited number of Code certificates had been issued for developments in the area, at 655 between 2006 and 2013 (DCLG 2014b). What's more, there was no indication from an initial glance at Oxford City Council's planning policies that it had attempted to introduce Code targets, nor that it had introduced site-specific requirements.

Table 5.2. summarises these findings, as well as situating each case in relation to national average.

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[26] Compared to the national average of 160,283 in the same period (ONS 2013)
[27] The differing date ranges (e.g. 2006-2012 vs. 2006-2013) reflects the availability and format of data. 2006 was chosen as a starting point because it was the year in which the zero-carbon homes agenda was launched. The upper limit was determined by the date of the data collection and analysis, aswell as data availability.

	Cambridge City Council	*Oxford City Council*	*National Average*
Average House Prices (2006-2012)	£299,980	£328,625	£224,488
Average House Price Change (2006-2012)	21%	30.2%	8.16%
House Prices relative to Average Income	9 times	9.1 times	8.01 times
Average Population (2006-2012)	119,414	147,463	160,283
Average Annual House Build (2006-2013)	354	367	381
Code Certificates	2,555	650	1,071

Table 5.3. Most Similar Case Selection Criteria: Cross Case Comparison

On that basis, Cambridge City Council and Oxford City Councils are chosen as the two cases for in-depth case study, the former as an example of a local authority that has made strong inroads into embracing supplementary standard setting powers and the latter an example of a local authority that has made fewer inroads.

5.6.2. Internal Validity

Rigour in case selection is directed towards external validity, the extent to which we can have confidence that the conclusions reached in Oxford and Cambridge City Councils can be generalized to the broader population of local

authorities. Whilst always imperfect – for that is the nature of case study – the use of a most-similar design goes a long way to increasing reliability in this regard.

Issues of internal validity were also considered in the research design. Internal validity refers to the extent to which we can have confidence in the findings from individual case studies – that is, whether the conclusions we reach (and which we seek to generalize) have been formed through rigorous, well-designed and consistent research. How can we know, in other words, that the research was 'done well' (Yin 2003, p. 33). Yin (Yin 2003, p. 33) suggests three measures that can increase the internal validity of case study: the use of process tracing, interview schedules, and case study protocols. These three techniques were thus deployed in this study.

5.6.3. Process tracing

Within each case, process tracing was used in order to build up a picture of each case's respective experiences using the aforementioned theoretical framework. Process tracing entails the researcher to assess a theory 'by identifying the casual chain(s) that link the independent and dependent variables' in order to 'uncover the relations between possible causes and observed outcomes' (Vennesson 2008, p. 231). Process tracing is often used in case studies technique to build up thick, rich description that is amenable to analysis (George and Bennett 2005, Collier 2011). Whilst necessarily

descriptive, it differs from mere storytelling in three ways. First, it is focused, dealing only with particular aspects of a case. Second, it is structured, in so much as the researcher uses a previously defined theoretical framework to guide analysis. Third, its goal is to provide a narrative to a causal path that links inputs to outputs (Vennesson 2008, p. 235). It has a natural synergy with the way that case study is approached in this study. Within this study the theoretical framework developed in chapter four is used as the analytical guide. So, the political process surrounding the sustainable homes agenda in each case is traced, but effort is made to elucidate the dynamics of each particular conceptual heading (rules, practices, economic conditions, and so on).

5.6.4. Interview schedules & case study protocols

A cross-section of actors who had knowledge or involvement in the sustainable homes agenda in each case was chosen for interview[28]. These include: local politicians (both active and retired), civil servants (again, both active and retired), local and national civil society and industry groups, national and local housing developers and local academics in the planning field with a knowledge of (or involvement in) the particular local policy process. These were chosen to represent the full range of perspectives on both the context and policy-making process relevant in the context of the theoretical framework developed in chapter two. Interviews were conducted in Cambridge between January 2014 and April 2015 and in Oxford between

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[28] In some cases there was a crossover, with actors being involved or familiar with the agenda in both cases or at a national level.

November 2014 and June 2015. In total 25 interviews were conducted[29]. At the outset of the research there was no 'set' number of interviews, but instead interviews were conducted until a saturation point was reached, where the marginal returns of each interview approached zero. There were a small number of interviews that whilst deemed desirable (if not essential) were nevertheless not carried out because of a lack of cooperation from prospective respondents. Nonetheless, despite this a sufficiently broad range of opinions has been heard.

The focus of the interviews was on recent developments in the area of sustainability in housing in each case. A pitfall of research into historical institutional processes is knowing how far back in time to focus attention. This is an empirical problem more than anything and for the purposes of the research here a clear link needed to be visible between present day and historical factors for the latter to be considered causally relevant. In all cases though the focus of attention rarely stretched further back than two decades[30].

On the whole interviews lasted between one and a half and three hours and were conducted on a semi-structured basis. Respondents were contacted by e-mail and were told the purpose of the research and their involvement within it. A series of scoping interviews was conducted in the first few months of

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[29] See Appendix ii for a breakdown of these interviews.
[30] This decision was made 'in-use'; it became clear during the course of case study that beyond this point there was so little emphasis on sustainability in buildings (or indeed in sustainability in general) that it was deemed unsuitable to continue beyond this point. There are, in some cases, particular policy decisions from before this period that were deemed important (for example, greenbelt policies introduced after the Second World War). Alas, their inclusion was justified on the basis that they have been the subject of policy amendments or debates in the last two decades.

doctoral study with policy experts (in government, industry and academia) in order to provide a broad overview of the context and policy process. This was a useful exercise in scoping the terms of the debate and range of possible enabling and limiting factors. This meant that it was possible, having selected cases, to select an initial sample of interview respondents (focussing initially on the most 'visible' individuals, such as key policy makers). From there a snowball sampling technique was adopted, which saw new opportunities for discussions open up as the research developed. Prior to the interviews an interview schedule was created that outlined the main discussion points[31]. It was constructed to correspond to the various aspects discussed in the theoretical framework, including those subject to quantitative analysis (in order, as we saw, to allow for triangulation and complementarity). Questions were open ended, and the schedule was design as a guide rather than a template for the discussion. The same schedule was used for all respondents, with minor variations to reflect different roles, timelines or areas of expertise.

A case study protocol was drawn up[32]. This is 'intended to guide the investigator in carrying out the case study' that 'contained the procedures and general rules that should be followed' in order to 'remind the investigator what the case study is about' (Yin 2003, pp. 63–65). It provides an overview of the project, practical field procedures and the key questions to be asked of each case and is intended to ensure consistency across cases when it comes to data-collection.

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[31] This can be found in Appendix ii
[32] This can also be found in Appendix ii.

5.6.5. Documentary Analysis

In many ways, though, interview transcripts were a secondary data source. The primary source of information (which was used to inform the interview schedules) was documentary analysis. This method was employed because it provides a rich source of information, although only where documents are accessible. This was the case here because local authorities are obliged to provide a range of documentation to accompany the Local Plan, including evidence bases, draft proposals, consultation responses, reports, committee proceedings and both internal and external communications[33]. These are freely available on their websites. In addition, a range of peripheral documentation that provided context was obtained. This emanated from the council itself but also from external stakeholders, extant academic literature and news sources and included statistical information, reports, policy briefs and private or third sector research.

Documents were obtained where they provided insight into one or more aspects of the theoretical model, so there was a degree of filtering required by the researcher. All these documents provide a useful insight into the institutional and structural dynamics of the policy making process and, as above, were used to complement, inform and/or triangulate findings from interviews and statistical work.

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[33] A full list of the documents used in both cases can be found in Appendix ii.

5.6.6. Coding

Both interview and documentary data was catalogued using NVivo. There it was coded using the codes drawn from the concepts discussed in chapter four. Although drawn from theory these codes were nevertheless sufficiently 'adaptive' to avoid a narrow fixation on deductive logic. Data was coded in order to allow for a narrative to be constructed of the main developments in each case *vis à vis* the theory of local environmental policy capacity developed in chapter two. This would form the basis for the comparative analysis undertaken in chapter seven.

5.6.7. Ethical Considerations

All respondents were presented with an information sheet, attached in Appendix ii. Consent was sought to record the interviews, and interviewees were told that their contribution was entirely voluntary and they were able to withdraw their consent at any time before, during or after the interview. In the majority of cases interviews were conducted in person at a location of their choosing, but in four cases this was not possible and telephone or Skype interviews were conducted instead (primarily where the individual had moved abroad). In many cases there has been the possibility for follow up discussions in the weeks or months following the interview. This two way dialogue was often useful for clarifying particular aspects, developing new ideas and thoughts and keeping abreast of the latest developments in each case. What's more, the researcher engaged in a number of discussions with

industry and government practitioners at various specialist conferences and seminars on the built environment as well as major trade shows.

Interviewees were informed that any contributions would, where possible, be anonymised and informed that data would be handled in conformity with both the University of Birmingham's Code of Practice for Research as well as the Data Protection Act 1998. As a result, interviews were transcribed and digital copies securely stored and, in line with guidance from the UK Research Councils, recordings and transcripts have been retained for future access and verification over the next ten years. In addition, care was taken to follow the University of Birmingham's ethical guidelines. The data collection strategy was approved by the University's ethical review committee in January 2013.

5.7. Conclusion

No methodological approach is without its faults, yet work can be done at the research design stage to increase the strength of the study through careful choice of methodological tools. Within this study the aim had been to achieve rigour but also generalizability. Hence the inclusion of a regression analysis and most-similar case selection strategy, respectively. The theoretical framework developed in chapter four is the guiding force behind the data-collection process, but the nature of data sources was determined by a pragmatic attitude towards the divide between quantitative and qualitative

research; a pragmatic approach is taken where the 'best tools for the job' are selected in order to develop a mixed-methodological design.

In addition, a stratified approach is taken, where the findings from early research questions inform subsequent ones. It is hoped that the ambition to introduce rigour in case selection strategies has aided the scope for external validity; that is, the confidence we have that a study of two cases can form the basis of a generalization to the entire population of local authorities in the context of their contributions to the EM of residential housing.

However, to what extent can the findings from the case of local engagement with the ecological modernisation of residential housing be generalized in the same way? How will we know if the findings developed in this study are relevant, say, to the way in which local governments become involved in the ecological modernisation of waste management, for example? There are three points to make. First, there is an explicit exploratory focus of this research. Indeed the aims of the research as a whole is to develop a toolbox to account for these other engagement processes, forcing us to ask how we can refine the toolbox that is developed here. In this sense it is recognised that there are potential limitations, but it is argued that those limitations will only become apparent on the basis of further research going forward. Second, there is scope for theoretical generalization. Third, there are likely to be boundary conditions placed around these theoretical generalizations that reflect the specific institutional arrangement between central and local

government in England and which limit the usefulness of the policy capacity model in, say, a federated system (for more on this see section 4.1.). Nevertheless, none of these are fatal to the purpose at hand and their true influence will only be clear after this and further research is carried out. The implications of these shortcomings are discussed in chapter ten.

Chapter Six:

Assessing the Nature and Extent of Local Authority Contributions to the Zero Carbon Homes agenda

6.1. Introduction

In the previous chapters the case has been made for a greater focus on local government's contributions to processes of state-led ecological modernisation directed by national government, with the English planning regime situated as a focal point. Research question number one asks the nature of local contributions, how those contributions have changed over time, the number of local authorities that have contributed as such and whether variance exists between local authorities in terms of their contributions. This chapter seeks to answer those questions. In doing so it shows that in the case of residential planning local authorities acted until recently as *supplementary standard setters.* given their ability to set sustainable construction standards (specifically the Code for Sustainable Homes) for local development that exceed those in national Building Regulations.

Interestingly, this can be situated as a novel type of contribution, previously under-discussed in the extant literature on local and urban climate governance. Their behaviour is heavily circumscribed by national level enabling rules which, between 2006 and 2015 were unusual in the extent to which they allowed for local discretion. However, from 2012 the landscape became more problematic with the introduction of a set of restrictions on local behaviour that placed a much greater burden on local authorities to justify the economic impact of any such supplementary standards. In 2015 this discretion was completely curtailed, before (as we saw in chapter three) the zero-carbon homes agenda was abolished in 2015. Nevertheless we will see that a significant number of local authorities embraced these supplementary standard setting powers, albeit to differing extents and at different times.

However, this chapter has a dual purpose. Beyond addressing research question number one it also begins to address research question number two (which asks how we can account for variation in the contributions local authorities make). To what extent can economic factors alone account for such variation? As we saw in chapter two, ecological modernisation theory traditionally places considerable emphasis on the causal influence of economic rationality as a boundary condition around ecological, social or political rationale. Jänicke & Weidner's conceptualization of environmental policy capacity uses a similar logic to underpin their understanding of national responses to environmental crises. There they argue that 'per capita GDP is most closely related to environmental policy outcomes' (Janicke and Weidner

1997, p. 14). However, when we run the regression analysis discussed in section 6.5. we find that a different story emerging in this case. Economic conditions – defined in this case in relation to local house market conditions – are only weakly correlated with outcomes. The implications for this research are significant, in so much as it supports the idea that economic conditions play less of a role in the local context than we would expect. Nevertheless, a baseline level of economic buoyancy is a necessary condition to action – given the wording of national level enabling rules governing supplementary standard setting in an era of growth dependency, see section 6.2. below – but on its own economic buoyancy cannot be used as a predictor or an explanation for local adoption of supplementary standard setting powers. As we will discuss in more detail in chapter 10 and as we saw briefly in section 2.1., this presents a paradox of sorts, whereby it would appear that the positive-sum potential of economic growth and environmental protection is limited given that, in this case at least, a baseline level of economic performance is required.

The first section of this chapter outlines the specific contributions local authorities have been able to make – charting any changes along the way – in order to answer research question number 1.a. The second section then relates these contributions to our existing understanding of urban and local climate governance. The third then quantifies the contributions made to answer research question numbers 1.b. and 1.c. The fourth section is where we find the regression analysis. The chapter concludes by arguing that the

early findings support the suggestion made in earlier chapters that a multi-factorial explanatory model is appropriate in the local context, thus paving the way for the in-depth case study analyses in following chapters.

6.2. Local Involvement in Sustainable Construction: Supplementary Standard Setting

In whatever form, planning policies leave an important legacy and are the most important documents driving the nature, pace and direction of local development. There have been a number of mechanisms within the pre-2004, 2004-2011 and post-2012 planning policy systems described in the previous chapter for local authorities to make *supplementary* contributions to national level strategies for sustainable construction that this section will now outline. Prior to 2004 there were no formal, institutionalized mechanisms through which local authorities could introduce supplementary standards. Although a handful did introduce *Merton Rule type policies* – those that allowed for specific targets for on-site renewable energy generation on new developments[34] – these were on an ad-hoc basis rather than in response to circumscribed arrangements in national level policy.

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[34] Named after the London Borough of Merton, the first local authority to incorporate a similar policy.

6.2.1. Institutionalizing Supplementary Standard Setting: Planning Policy Statement 1 (Planning and Climate Change)

The post-2004 Planning Policy Statement (PPS) system was the first era in which institutionalized local standard setting became a reality. PPS1 (Delivering Sustainable Development) replaced the 1997 PPG1 (General Policies and Principles) when the PPG system was abolished. It was updated in 2007 to incorporate a focus on 'Planning and Climate Change'. This supplement to PPS1 (referred to simply as PPS1 hereinafter) 'sets out the overarching planning policies on the delivery of sustainable development through the planning system…by setting out how planning should contribute to reducing emissions and stabilizing climate change' (DCLG 2007b, p. 1). It made broad statements about the need to incorporate a focus on climate change into local plans, such as:

> 'Planning authorities, developers and other partners in the provision of new development should engage constructively and imaginatively to encourage the delivery of sustainable buildings (DCLG 2007b, p. 17)'

It also formalized Merton Rule type policy settings by offering guidance on how to manage permissions for renewable and low-carbon energy generation.

Most significantly though it introduced information on local requirements for sustainable building standards, stating that:

> There will be situations where it could be appropriate for planning authorities to anticipate levels of building sustainability in advance of those set out

nationally. When proposing local requirements for sustainable building planning authorities must be able to demonstrate clearly the local circumstances that warrant and allow this….[and] when proposing any local requirement for sustainable buildings planning authorities should…'specify the requirement in terms of achievement of nationally described sustainable building standards, for example in the case of housing by expecting identified housing proposals to be delivered at a specific level of the Code for Sustainable Homes'(DCLG 2007b, p. 17).

This builds on a commitment made at the time of the original 'zero-carbon by 2016' announcement and the publication of the Code for Sustainable Homes, embodied in *Building A Greener Future,* where it states that 'there are circumstances in which we do believe local authorities could drive things further and faster, in particular where local authorities can demonstrate that there are clear local opportunities to use renewable or low carbon energy…local authorities can themselves play a critical role' and that 'where there are demonstrable and locally specific opportunities for requiring particular levels of building performance through the planning system these should be set out in advance in a development plan document' (DCLG 2007a, pp. 18–19). So, although compliance with the CSH was voluntary at the national level[35] (DCLG 2006, p. i) PPS1 gave local authorities the powers to set Code standards in their DPDs[36].

This, in effect, meant that they were able to set standards for sustainability in residential housing that *superseded* those nationally (and embodied in the

[35] Although between 2008 and 2010 a Code rating was mandatory (but not the achievement of any particular level) as part of the Home Information Packs scheme.
[36] This supplementary standard setting role was formally adopted in the 2008 *Planning and Energy Act,* section 1(1) of which states that 'A local planning authority in England may in their development plan documents, a strategic planning panel may in their strategic development plan… include policies imposing reasonable requirements for…development in their area to comply with energy efficiency standards that exceed the energy requirements of Building Regulations'

Building Regulations), provided that they could justify their inclusion in the context of growth dependent planning[37].

6.2.2. Restricting Local Supplementary Standard Setting: The National Planning Policy Framework, Housing Standards Review and Abolition of the Zero-Carbon Homes Agenda

The 2012 NPPF placed restrictions on local supplementary standard setting power, largely in response to opposition from volume house-builders (Interview with Industry Representative, January 2015). Ironically it was the inclusion of a 'presumption in favour of sustainable development' that bought on this difficulty. Given the extent to which it focuses attention on viability it made it harder for the inclusion of supplementary standards, especially given it introduced further attention on the effect any standards would have on viability. This move was welcomed by house builders, who had become frustrated at what it saw as increasing costs imposed on them through local-plan sustainable construction policies (interview with Industry Representative, February 2015). However, it was criticised by local authorities as it limited the extent to which they could place planning-gain demands (i.e. those which

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[37] This thesis focuses on the CSH powers rather than the Merton Rule type policy powers as examples of supplementary standard setting behavior. The reason for this is that two-fold. First, Merton Rule type policies that require a 10% or 20% (most often) on-site renewable energy generation target would become *de facto* mandatory through progressive updates to the Building Regulations in pursuit of the 2016 zero-carbon homes target. Second, the CSH requires a far broader level of supplementary action than a Merton Rule type policy as we saw in chapter one, seeing as it focuses not just on energy but also on water, ecology, waste, materials and so on (including, in any case, a high degree of on-site renewable energy generation that means it in many ways incorporates an in-built Merton Rule 'lite' type policy). In growth dependent planning systems it represents a bigger 'cost' for developers, thus implying more dynamic political underpinnings.

require developers to factor in specific additional costs onto development for, say, sustainability, infrastructure, affordable homes requirements and so on) on house builders to address sustainability and thus favoured private-sector profit over societal need (interview with planning consultant, March 2015). Whilst by no means impossible, local authorities did find it more difficult to impose sustainable construction standards in their areas as a result of these changes (Interview with Sustainability Officer, January 2015).

It introduced additional clauses on how local authorities could embrace supplementary standard setting powers, even where viability hadn't been compromised. Local authorities would be required, 'when setting any local requirement for a building's sustainability, [to] do so in a way consistent with the Government's zero carbon buildings policy and adopt nationally described standards' (DCLG 2012a, p. 22). Additionally, 'they should assess the likely cumulative impacts on development in their area of all existing and proposed local standards, supplementary planning documents and policies that support the development plan, when added to nationally required standards'. Standards would only be considered where 'the cumulative impact of these standards and policies should not put implementation of the plan at serious risk, and should facilitate development throughout the economic cycle' (DCLG 2012a, p. 42)

In effect this meant two things. First, viability would play a much greater role. Second, that the links between the CSH and the zero-carbon by 2016 agenda

embodied in Building A Greener Future would become stronger. Because the definition of zero-carbon within Building Regulations would differ from those in the CSH any supplementary standards would have to remain sensitive to the building regulation definition (thus meaning that, in effect, local authorities would be automatically barred form introducing Code 6 requirements, notwithstanding the inevitable viability issues).

Most recently, the 2015 Housing Standards Review curtailed local authority involvement in standard setting for sustainability even further, removing their powers to set Code targets and limiting the extent to which they can require energy performance standards that exceed those set nationally (HC Deb 25 March 2015, c488WS). Justified as a continuation of the deregulatory agenda that justified the NPPF, the Housing Standards Review was intended to rationalize and simplify 'the many overlapping and confusing standards currently in operation', meaning that 'many of the requirements of the Code for Sustainable Homes will be consolidated into Building Regulations…in light of this, the Government thinks that the current Code will need to be wound down to coincide with the changes incorporating the new standards coming into force' (DCLG 2014a, p. 2). Government felt that because Part L of the Building Regulations (that governing energy and fuel use) were set between levels 3 and 4 of the energy component the Code '[it] has been successful in doing its job in terms of pointing the way forward…[but] the government does not now see a need for levels or separate carbon and energy targets in the Code…[they] should be set in Building Regulations'. It was the governments

preferred view therefore that these requirements are set nationally, removing local discretion (DCLG 2013, p. 62). These reforms were justified heavily in economic terms (as one would expect in growth dependent planning), whether it be the way that 'national and local policies can clash…causing confusion and potentially extra cost' or higher levels of the Code being 'applied inappropriately without consideration of viability' or 'the impact [of the CSH] can be to make development unviable' (DCLG 2013, p. 63).

Transitional arrangements accompanying the Housing Standards Review mean that local authorities that have policies in their local plans or DPDs may still ask developers to build to those higher energy standards, but have been advised not to request higher than Code level 4. The CSH remains a condition on existing planning applications (whether because of plan policies or ad-hoc requirements), so house builders will have little choice but to continue to build to Code standards for these extant developments (likely for a number of years). Although the Housing Standards Review doesn't talk specifically about the future of Merton Rule type policies, it is clear that even more stringent viability and evidence requirements would be needed for their incorporation (and for their maintenance where they have otherwise been adopted) such that it is questionable whether they would make it through that inspection process at all (Greenwood and Congreve 2016).

However, despite claims that 'Building Regulations will need to play a strong role in the development of zero carbon policy' on the basis of the revocation of

both local discretion but also the CSH, in 2015 the Government announced its intention to abolish the entire zero-carbon homes agenda. In *Fixing the Foundations: Creating A More Prosperous Nation* (HM Treasury 2015) the Government announced that 'the government does not intend to proceed with the zero-carbon, Allowable Solutions carbon offsetting scheme, or the proposed 2016 increase in on-site energy efficiency standards' (HM Treasury 2015, p. 46). At the time of writing there are proposed reforms to Part L of the Building Regulations in the pipeline, but on the basis of this announcement they will not seek to achieve the 'zero-carbon' requirement originally proposed back in 2006. Instead they will seek to consolidate the various aspects of the Code as it is wound down, but even here it is becoming clear that a number of elements within the Code will not find their way into Building Regulations (the latter will cover energy efficiency – measured in terms of dwelling emission rate – fabric energy efficiency, indoor water use and security. This excludes, for example, the environmental impact and sourcing of materials, site waste, NOx emissions, daylight, energy labelled white goods, external water use, energy display devices and composting. In total only 12 out of the 34 original CSH elements are retained in national Building Regulations or through the few local discretionary powers that remain[38] – see Greenwood and Congreve (2016)).

So, whilst Part L will have gone some way since 2006 to achieving zero carbon, it falls short of the original intention. Nevertheless, the zero-carbon

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[38] These cover access, space and water use.

target in general and the CSH in particular have served part of their original aims. Building Regulations are in 2015 at a significantly higher level in terms of energy efficiency compared to 2006, costs have decreased through economies of scale and expertise amongst stakeholders has increased.

The failure to meet the original 2016 target has resulted from what Greenwood (2012, pp. 162–3) has referred to as a coordination problem. The state, in attempting to arbitrate between competing interests on the supply side to encourage the deployment of technologies and new construction practices has found itself unable to reconcile divisions (particularly over definitions, technological solutions and financial burden) in an environment marked by uncertainty and significant complexity. Lemprière (2016) suggests that the inherent 'weakness' of the policy approach taken (which, as we saw in Section 3.3., places a burden on the supply side with little input into shifting demand practices) created a window that opponents of the policy (namely housing developers) could exploit, which is pertinent given the governments' deregulatory agenda. Housing is a highly politicized policy arena, and the supply (and, related, the affordability) of homes is a topic of considerable policy debate. Objections from housing developers have been able to successfully tap into that debate when objecting the zero-carbon by 2016 targets. Van Bueren and de Jong (2007, p. 547) similarly point towards issues over state regulation for sustainable development.

As we saw above, the 2010-2015 Coalition government has been further institutionalizing growth-dependent planning through the *NPPF*, which seeks to remove regulatory burden on developers whilst at the same time attempt to integrate a zero-carbon homes agenda. It has unsurprisingly proved difficult to reconcile a logic that emphasizes de-regulation in pursuit of growth dependency with one that emphasizes raising sustainability standards through increased regulation. Given the extent to which housing provision is growth dependent, it is perhaps little surprise that regulation is being removed.

To recap briefly, we saw in chapter three that residential housing in England has undergone a process of EM that is heavily dependent upon the state instigating a smart regulatory approach (were both binding and voluntary measures are introduced) that instituted a step-change reform process to the energy components of national Building Regulations. It also introduced the Code for Sustainable Homes (CSH) that could be used voluntarily by developers as a reference point for the future trajectory that Building Regulations would take in the build up to 'zero-carbon by 2016'.

6.3. The Role of Local Government in Urban Climate Governance: A Recap

6.3.1. Four Traditional Local Government Roles

As we saw in Section 2.4., the literature on urban and local climate governance points to four typical roles that local governments play in

mitigating and responding to climate change (Betsill and Bulkeley 2007, Bulkeley 2013). To recap, they can: self-govern, ensure provision of infrastructure, enable new forms of governance and regulate (both through 'soft' and 'hard regulation). Self-governing may take the form of internal emissions monitoring procedures for local administrative buildings or measures designed to reduce those emissions. Enabling occurs where the local government provides facilitative means to local residents or business (through, say, grants or business rates relief) to allow them to take proactive steps to reducing their environmental footprint. They may, for example, provide free home energy assessments or grants and loans for home energy efficiency improvements. Provisions are made where the local government installs (or facilitates the installation of) cycling racks, electric car charging stations, car-sharing schemes and other infrastructural measures. Regulation occurs where the local government has an influence over firm and individual behaviour in order to make them do things they otherwise wouldn't have done through, for example, sustainable construction targets or fines for failing to recycle adequately.

A local authority that is able to adopt a strategic approach to climate mitigation and adaptation that draws upon the full range of these roles is in a strong position to instigate local attitudinal and behavioural shifts. To do this they should rely on a combination of both governing and governance strategies, seeing as the two can interact and self-reinforce (Evans *et al.* 2004). Grassroots organizations such as Transitions Towns and various

transnational networks such as ICLEI, C40, Climate Partnership and Energie Cités for example play important discursive and ideational roles that can influence local political agendas or open up new possibilities for political deliberation[39].

6.3.2. A Fifth Role: Supplementary Standard Setting

However, in this context we can talk of a new, fifth role. Local authorities act as *supplementers* that set regulatory standards for sustainability locally that exceed those nationally. Supplementary standard setting was defined earlier as the power to set standards that are more stringent than those that exist nationally in order to encourage and/or require behavioural shifts amongst market actors in order to decouple economic growth from environmental negative externalities. In this context central government acts as an enabler and, in so doing, delegates autonomy to local government who, if they are willing to and in a position to do so, can set these kinds of standards. This voluntary aspect of supplementary-standard uptake is an interesting one, because it allows an avenue through which to interrogate the dynamics that explain the adoption and evolution of supplementary standards over time. The

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[39] It is perhaps no surprise then that local government is seen as an important component in any national climate change strategy (whether striving for or underpinned by a logic of ecological modernisation or otherwise). The British government's own committee on climate change recognizes this, saying that 'there is an important role for local authorities in preparing for climate change' and calling for 'increased focus by local authorities in order that climate risk is managed appropriately' (Committee on Climate Change 2012, p. 9). Supranationally, the 1992 Rio de Janeiro 'Earth Summit' called on local governments to work alongside national governments to respond to environmental problems. The resulting Local Agenda 21 project 'specifically recognised the role of local governments, as 'the level of governance closest to the people' and their communities in delivering sustainable development' (Joas *et al.* 2004, p. 104). These behaviors are well discussed in the literature on urban climate governance. Early interventions focused on arguing the case for local involvement, before more recent work began to focus on specific issues. These included, the relative autonomy of local government in being able to respond the way it wished (Collier 1997, Deangelo and Harvey 1998), the sectors with the biggest capacity to make a difference (Collier 1997), an assessment of the actions being taken locally (Collier 1997, Agyeman *et al.* 1998, Angel *et al.* 1998, Deangelo and Harvey 1998, Easterling *et al.* 1998, Kates *et al.* 1998, Brody *et al.* 2008, Zahran *et al.* 2008, Argyriou *et al.* 2012, Mann *et al.* 2014), and the use and deployment of evaluation procedures (Agyeman *et al.* 1998, Easterling *et al.* 1998, Kates *et al.* 1998).

central-local relationship in this context is represented in Figure 6.1 below and it is this supplementary standard setting role that is explored in the rest of this chapter, *as a distinct, novel form of local action in climate governance.*
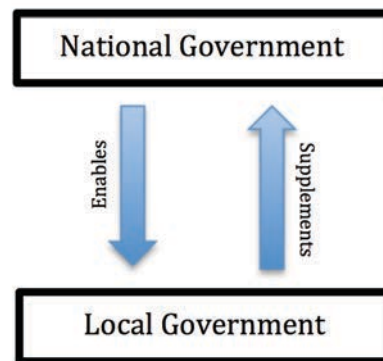
Figure 6.1: National and Local Interaction

in Supplementary Standard Setting

This is closely related to the previous discussions on regulatory functions, but there is an important distinction. We can therefore distinguish two types of regulatory responses by local government. First, there are those that operate relatively independently of the national or supranational level. Here local government uses its competencies to engage in its core functions relatively free of external influence. Often these kinds of behaviours are 'soft', in the sense that they shy away from the regulatory role and tend more towards self-governing, provision or enabling (Evans et al., 2004; Joas et al., 2004). Second, there are those that take place through enabling powers from central government and which allow local authorities to adopt regulatory roles that mean, in theory, that they can introduce legislation that is more stringent than that at the national level. As later chapters will show, this is the case with local

authorities and sustainable construction. 'Soft' strategies tend towards pareto-efficiency – where all actors benefit - and present only limited political contest for local decision makers. 'Hard' strategies, however, tend towards redistribution, where there is a measurable effect on resource distributions amongst key policy actors at the local level. In such situations the political dynamics underpinning the policy process are markedly different[40]

6.4. Quantifying Supplementary Standard Setting in English Local Authorities

Having established the nature of local government contributions, the remainder of this chapter addresses the second part of research question one by quantifying the range of contributions and using statistical techniques to assess the relationship between contributions and economic framework conditions. Chapter two called for a move away from a focus on the economic drivers of ecological modernisation when discussing local contributions to EM, arguing instead that whilst economic conditions have a role to play they are bracketed by particular institutional and agential factors. The findings within this chapter support this argument; we find that economic variables – those

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[40] This study also talks to the literature on local government climate governance (aswell as that on zero-carbon homes and EMT). Within this literature there are two problems that mean we must tread cautiously when discussing supplementary regulatory powers. First, studies of local responses to climate change, as we will see elsewhere, treat the local level as a 'black box', disconnected from economic, political and social dimensions within regional, national or supranational contexts (Bulkeley and Betsill 2005). With supplementary regulatory powers it is the case that powers are enabled or constrained by decisions made at higher levels and we need to therefore consider this multi-level dimension in discussions on local capacity. We can talk of two 'types' of multi-level interaction. Type I refers to 'a hierarchical approach which focuses on the ways in which competences and authority are shared between different levels of government', whereas Type II refers to 'a polycentric model in which multiple overlapping and interconnected horizontal spheres of authority are involved in governing particular issues' (Bulkeley and Betsill 2005, p. 48).

that indicate the strength of local housing markets, as discussed in section 5.4. – correlate only weakly with the outcome on the dependent variable – defined as whether a local authority has introduced *Code* policies into a draft or adopted version of its local plan.

Research question 1 asks what role local authorities have played in the ecological modernisation of residential housing. We saw above that they adopted a supplementary standard setting role between 2006 and 2015, albeit one that became more difficult to embrace over time because of national level institutional rule changes. Nevertheless, they have had the ability to contribute to the ecological modernisation process in this time by setting *CSH* standards that, in effect, mandate higher sustainability standards than those outlined nationally in Building Regulations.

This section shows how many local authorities introduced (or attempted to introduce) CSH standards into their local plans or core strategies during this time. What follows is an assessment of the sustainable construction policies in place across every English local planning authorities for which data was available (*n*=261) from 2006 to 2014. Local plans were downloaded from local authority websites, where they were browsed for relevant Code policies. A note was made on the particular standard requested, the status of the plan (whether it was draft or adopted) and whether there was any movement over time in the standard required (for example a Code Level 3 requirement up until 2013 and a Level 4 requirement thereafter). Complete details of the

choices made in the design of this analysis were discussed in section 5.4., above.

Between 2006 and 2014 a total of 127 local authorities had indicated an intention to incorporate *Code* standards into their local plans. This is 48.3% of the sample; this is a considerable number when one considers that such behaviour is voluntary. A distinction needs to be made between those who have successfully had those plans adopted after an independent planning inspection and those who remain in the drafting stage.

Table 6.1. outlines how many local authorities had formally adopted plans containing Code standards and those that had included *Code* standards in draft plans that at the time of investigation had yet to be adopted. From this we can see that 85 of our sample have formally adopted Code standards. Why separate in this way? It is possible that at the planning inspection stage CSH standards are argued against by opponents on the basis of viability. Given that it is impractical to assess the evidence base of each of these drafts a degree of caution and pragmatism has to be maintained when discussing these cases. To assume that a draft policy equates to a formally adopted one is problematic. For that reason, the breakdowns that follow are separated into two: the 85 that have formally adopted and the remaining 45.

Plan Making Stage	Number With CSH Policies At Each Stage by 2014
Adopted	85
Proposed Submission	39
Preferred Options[41]	4
Issues and Options	2
Total	*130*

Table 6.1: CSH Policy Uptake: Separated by Plan-Making Stage

6.4.2. Local authorities with Adopted Local Plans/Core Strategies

Table 6.2 provides a breakdown of how many of those local authorities requiring Code standards with adopted local plans or core strategies had required particular Code standards in each year. We can recall from section 3.2. that the Code can be used to rate the sustainability of homes across nine categories, the outcome being a rating from zero to six stars, with the latter representing 'exemplar development in sustainability terms' (DCLG 2006, p. 6).

We can see from Table 6.2. that the most popular level at which to set local standards shifted in 2012-13 from Level 3 to Level 4. This reflects the 2013

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[41] Preferred options and issue and options are scoping draft copies of local plans that lay out a number of preferred policy options for a wide-ranging public consultation.

updates to Building Regulations, which would mandate achievement of between Level 3 and Level 4 in Building Regulations (although exclusively in terms of the energy component of the Code). A number of local authorities pre-empted this by introducing 'tracking' Code standards that increased at particular intervals. The most typical was a Level 3-4 rise in 2012-13, and a Level 4-6 rise in 2015/16 to coincide with the zero-carbon by 2016 updates to Building Regulations. We can also see however that a number of local authorities (17 by 2014 and a proposed 14 by 2016) still required level 3, despite a higher standard in energy terms at the national level. Despite this, the Level 3 standard is still supplementary, given that it mandates compliance with eight other sustainability areas, as we saw in section 3.2. Nevertheless, we see that by 2016, when the zero-carbon standard was due to be introduced, a spread of standards are required (again, bearing in mind the distinction between Building Regulations and Code standards with regards their breadth and supplementary status). Notwithstanding the changes discussed above to the target and to local discretion with this deadline, by 2014 we see that the majority of those requiring standards were requiring Level 4 (64 of 85).

	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Total
2006	0	0	0	0	0	0	0	0
2007	0	0	0	1	0	0	0	1
2008	0	0	0	7	4	0	0	13

2009	0	0	0	12	2	0	0	14
2010	0	0	0	26	3	0	0	29
2011	0	0	0	34	13	0	0	47
2012	0	0	0	40	24	1	0	65
2013	0	0	0	20	58	2	0	80
2014	0	0	0	17[42]	64	3	0	84
2015[43]	0	0	0	16	66	3	0	85
2016	0	0	0	14	27	11	33	85

Table 6.2: Number of Local Authorities With Adopted Local Plans Requiring CSH Standards, separated by year and by Code level.

We can also see that very few authorities introduced level five or level six requirements into local plans (even those that track to match the 2016 update to Building Regulations). This reflects the costs associated with building to such levels. Although in section 3.2. we saw that the costs of complying with Code Level 3 energy/CO_2 requirements decreased from £4500 to £1100 per unit in the four years from 2006 to 2010 (DCLG 2011), costs at the top levels of the *Code* have presented challenges for cost-sensitive housing developers. It may well be the case that the costs associated with achieving zero-carbon standard have decreased by roughly half between 2011 and 2014 (Zero Carbon Hub 2014, p. 3), but two observations need to be made. First, even after these cost reductions the costs of achieving the zero-carbon standard in

[42] A decrease in those requiring particular code levels from one year to the next does not indicate a withdrawal from the CSH, rather it indicates a progressive tightening of standards over time in some local authorities. For example, a number required Level 3 until 2013, whereupon Level 4 would apply, rising to Level 6 in 2016.
[43] The dataset was construction towards the end of 2014, so the figures for 2015 and 2016 are indicative, those suggested in local planning policies for where the standard would reach *ceteris paribus*. Clearly, given the reforms at the national level through the *Housing Standards Review* these are no longer attainable.

2014 were still estimated to be c£6,700-7,500 greater for a detached home (or c.£3,700-4,700 greater for a semi-detached home or c£2,200-2,400 greater for a low-rise apartment) than a home at minimum building regulation standard. Second, the time-frames involved in drafting local plans means that estimates were likely to have been higher when local government would be considering the incorporation of Code standards. For example, in 2008 the costs associated with meeting the zero carbon standard would have been c££37,817-£47,533 greater per unit for a detached home (c£31,207-c£37,668 greater for a semi-detached or c£19,080-c£22,555 greater for a low-rise apartment) (DCLG 2008, pp. 31–33). Given the importance of justifying the incorporation of Code policies to an independent planning inspector these costs would have been unpalatable to a planning policy maker, given the ease with which housing developers could claim that such requirements would impact upon viability.

It may seem that the potential reduction in costs would have mitigated the objection from developers, concerned as they were with their margins and bolstered by the institutional backing of a growth dependent planning system (see chapter three.) However, although costs have fallen dramatically, as the above figures showed, estimates in 2008 for the costs of achieving zero-carbon development by 2016 painted a different story. Predictions estimated that the extra costs of building a semi-detached house to zero-carbon standard in 2016 would fall to c£22,475-c£28,293 (DCLG 2008, p. 39), a

reduction of c£8,732-£19,240 but not as significant as the actual reduction, which was in the region of a c£18,775-c£23,597 reduction in costs.

Figure 6.2. shows how many local authorities introduced Code standards in any particular year. From this we see a significant flurry of activity between 2010 and 2013. This reflects two things: first, the fact that a number of local authorities may have had to wait before updating their local plans after the devolution of supplementary powers. Second, the length of time it takes to draft a local plan or core strategy, which can take many years. Similarly, there are two possible explanations for the tailing off of uptake post 2013. The first is that a saturation point had been reached whereby all of those local authorities in a position to adopt Code standards had already done so. The second is that because the data-collection was conducted in 2014 it may have been the case that a number of plans that were yet to be adopted had aspirations to achieving Code standards. It is towards these draft plans that our attention now turns.

Figure 6.2: Local Authority Adopted Uptake of Code Standards: By Year
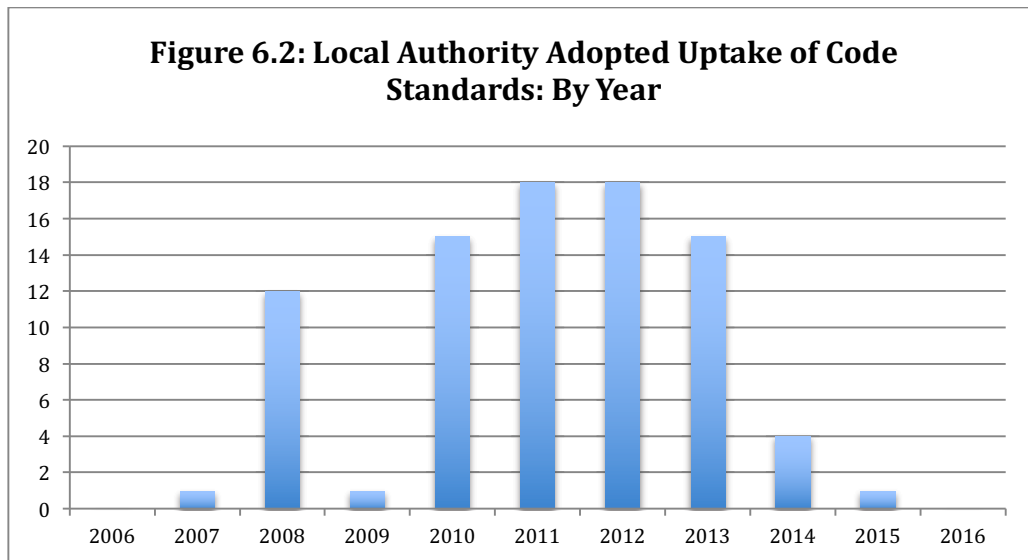
6.4.3. Local Authorities with Draft Local Plans/Core Strategies

Table 6.3 below shows a similar breakdown of Code standards by year as before but for those local authorities that had (by 2014) yet to have their plans formally approved at inspection.

	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	*Total*
2006	0	0	0	0	0	0	0	0
2007	0	0	0	1	0	0	0	0
2008	0	0	0	1	0	0	0	1
2009	0	0	0	1	0	0	0	1
2010	0	0	0	1	1	0	0	2
2011	0	0	0	1	1	0	0	2
2012	0	0	0	8	4	0	0	12

2013	0	0	0	11	18	2	0	31
2014	0	0	0	9	33	2	0	44
2015	0	0	0	9	38	2	0	45
2016	0	0	0	7	18	10	10	45

Table 6.3: Number of Local Authorities With Draft Local Plans Requiring CSH Standards, separated by year and by Code level.

A similar picture emerges here; a number of local authorities adopt a tracking Code standard to stay ahead of national updates to Building Regulations, although a greater concentration of those with draft policies are requiring Level 4 requirements than those with adopted plans when 2016 comes around. Figure 6.3. visualizes the number of proposed new standards per annum amongst this group[44].

Figure 6.3.: Local Authority Draft Policies Uptake of Code Standards: By Year

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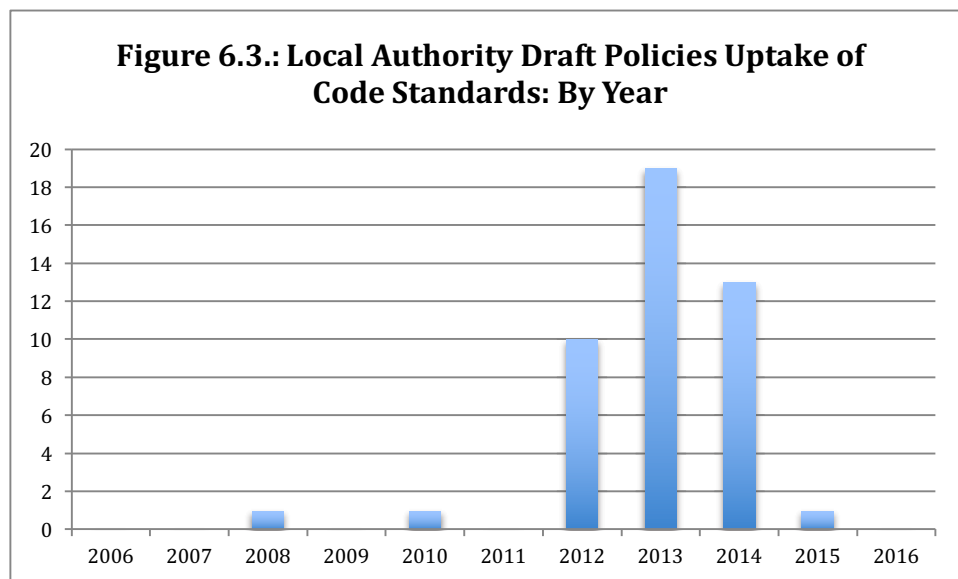
[44] The fact that plans that have yet to be adopted can refer to standards in the past reflects the delays that often emerge in the plan-writing process. It is for this reason too that the 'title' year-range of a plan often does not coincide with when it was formally adopted, as we will see in the two case studies.

The level of ambition within these drafts plans indicates that there was considerable desire for supplementary standards by local authorities at the time of the abolition of supplementary powers and the zero-carbon homes agenda in 2015 with the publication of the Housing Standards Review and Fixing The Foundations respectively (discussed above).

6.4.4. Minimum Development Size Requirements for Code Standards

Local authorities are able to specify in their plans the levels above which Code standards would apply when they write their supplementary standards.

Table 6.4. shows us that the large majority require standards on all developments (82.4% of those with adopted plans and 88.9% of those with draft plans), with only a handful imposing a minimum. The most typical, where there was one, was developments of 10 or more, 11.8% of those with adopted plans required this level and 6.7% of those working on drafts.

Minimum Size Requirements	Those With Adopted Plans		Those With Draft Plans	
>1	70	82.4%	40	88.9%
>5	2	2.4%	2	4.4%
>10	10	11.8%	3	6.7%

>100	1	*1.2%*	0	*0.0%*
>200	2	*2.4%*	0	*0.0%*

Table 6.4: Minimum Development Size Requirements for Code Levels: Adopted and Draft Plans

6.5. Regression Analysis Findings

Having established that roughly 50% of local authorities embraced supplementary standard setting powers to require CSH standards in their local plans it is time to understand the relationship between these outcomes and economic framework conditions that abound locally. Using binomial regression analysis we can use the same dataset discussed above together with variables that account for economic strength locally. Full details on the construction of this analysis can be found in chapter five. The findings show that the performance of local authorities in this regard cannot be explained with reference to economic conditions alone, signalling the move towards in-depth case study. However, we have seen above that consideration of the viability of supplementary sustainability standards is a legal requirement of local authorities. So, in this case strong economic conditions – defined, as we saw in terms of house market strength – are a necessary but not sufficient condition when considering local contributions.

		Chi-square	df	Sig.
Step 1	Step	9.942	3	.019
	Block	9.942	3	.019
	Model	9.942	3	.019

Table 6.5: Binomial Logistical Regression Analysis Findings (i)

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	222.360[a]	.057	.077

Table 6.6: Binomial Logistical Regression Analysis Findings (ii)

			Predicted		
			LAStrength		Percentage
	Observed		.00	1.00	Correct
Step 1	LAStrength	.00	63	26	70.8
		1.00	43	36	45.6
	Overall Percentage				58.9

Table 6.7: Binomial Logistical Regression

Analysis Findings (iii)

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
House Building Per Annum, 2006-2013	.402	.222	3.294	1	.070	1.495	.968	2.309
Percentage Population Change Per Annum, 2006-2011	-.008	.234	.001	1	.973	.992	.627	1.570
Percentage House Price Change Per Annum, 2006-2012	.512	.221	5.388	1	.020	1.669	1.083	2.572

Constant	-1.996	.650	9.440	1	.002	.136		

Table 6.8: Binomial Logistical Regression Analysis Findings (iv)

Tables 6.5-6.8. present the outputs from the regression analysis run, drawn from SPSS. Table 6.5 shows that the logistic regression model was statistically significant, χ^2 (Chi-Square) = 9.942, $p < .05$. We can see from table 6.6 that the model only explained 7.7% (Nagelkerke R^2) of the variance in supplementary standard setting and correctly classified 58.9% of cases. Table 6.8. shows that of the three predictor variables only one was statistically significant, percentage house price change (2006-2012). Increasing percentage house price change is associated with an increase. Those in higher categories of percentage house price change were 1.669 times more likely to adopt supplementary sustainability standards than those in lower categories.

That the model only accounted for 7.7% of the variance of the outcome of the dependent variable is a strong indicator that other factors must account for variation in uptake of CSH standards. Whilst they do play a role, and whilst they are a necessary condition given the growth dependent nature of planning, economic conditions alone – or at least indicators of housing market

strength and growth as proxies for viability – cannot explain the uptake of supplementary standards alone.

6.6. Conclusion: Problematizing Local Supplementary Standard Setting Behaviour

Having provided a brief history of planning policy in England, an investigation of the role of local authorities in the state-led EM of residential housing and recounting the findings from a large-*N* survey conducted in 2014 this work is in a position to take a step forward. Chapter one problematized the way that local government is conceptualized in accounts of EM and set the case of residential housing up as a site of analysis. This chapter has answered the first research question by arguing that local authorities act as supplementary standard setters (and setting this up as a novel 'type' of behaviour previously ignored in our discussions on local climate governance), that they have discretion over when policies are adopted, minimum size requirements, whether to track updates to Building Regulations and at what level they are set, that many have been denied the opportunity to adopt their supplementary standards in light of institutional change nationally (despite investing resources in pursuit of them) and showing that almost 50% of local authorities have embraced that role.

This chapter also though, through the regression analysis, marked the first step in answering research question number two. Existing thinking about EM

and the wording of the supplementary standard setting powers point towards economic framework conditions – particularly, in this context, indicators of housing market buoyancy – being important factors that can account for variation in uptake of CSH standards. By pointing towards a weak association between the two this chapter has shown that a much more complex answer is needed to answer the question of why variation between local authorities exists. However, we do know that the emphasis on growth dependency within the planning system places a strong emphasis on viability as a precondition for planning gain measures such as CSH targets. As we will see later, this requirement for strong economic framework conditions prior to contributions to EM would seem to undermine the central premise of EMT, that of the inter-relationship between economic growth and environmental protection.

Chapter Seven:

The Emergence of a Sustainable Construction Regime in Cambridge City Council

7.1. Introduction

Cambridge City Council has used various mechanisms to introduce supplementary sustainability standards for residential buildings, showing a strong willingness to embrace the powers devolved to it. Since the 2007 publication of *PPS1*, which formalized those devolved powers, it has actively sought to introduce supplementary standards into planning policy documents it has been tasked with constructing or revising. The first section of this chapter outlines the nature of these policies, arguing that supplementary standards have become more deeply engrained over time. It also shows that its efforts were curtailed by legislative reforms at the national level in the Housing Standards Review, which remove local discretion in setting supplementary standards, as we saw in chapter six.

The second section then accounts for this policy trajectory in line with the theoretical discussion in chapter four, thus contributing to the answer to research question number two (which asks how we can account for variation in the contribution local authorities make to the EM process). We will see that a ground-breaking housing-led growth strategy provided a window of opportunity, but that it was down to well-resourced policy entrepreneurs situated within a favourable policy network context to both exploit the institutional conditions that emerged during this window and redesign existing institutions along more sustainable lines. Cambridge embarked upon a major growth strategy with considerable institutional support from the national and regional level in the early mid 2000s. This helped to alleviate political pressures (somewhat) to address housing affordability and provision issues, provided a strategic vision in the planning department and coincided with the emergence of the national zero-carbon homes agenda and decisions about local autonomy over supplementary standards.

Things were further helped by the nature of development this kind of large-scale expansion entailed, which encouraged economies of scale and reduced costs (and thus the scope and power of opponents' objections). A harmonious relationship between relevant stakeholders both allowed this kind of strategy to emerge in the first place, but ensured that the focus could lay more heavily on the nature and type of development rather than being delayed and frustrated by *realpolitik*. It is from these discussions that a strategic vision of sustainable homes emerged, and one upon which local policy champions in

Cambridge City Council could attach themsleves in order to tie these economic, institutional and network factors together.

7.2.   Legislating for Sustainable Homes

Since 2006, Cambridge City Council had many numerous attempts to introduce sustainable construction targets and requirements for new homes into various elements of the local development framework, including Local Plan or Core Strategy policies, AAPs and SPDs.

It's first such policies were contained in its 2006 Local Plan, where policy 8/15 stated that: 'developers of major proposals above a threshold of 1,000 square meters or 10 dwellings will be required to provide at least 10% of the development's total predicted energy requirements on-site, from renewable energy sources', caveated by a condition that 'these requirements may be relaxed if it can be clearly demonstrated that to require full compliance would not be viable' (Cambridge City Council 2006, p. 94). In addition to this Merton Rule type policy, policy 3/1 states that 'where major development [45] is proposed developers should complete the Council's Sustainable Development Checklist and prepare a Sustainability Statement and submit both with the planning application' (Cambridge City Council 2006, p. 22).

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[45] Defined as 10 or more dwellings

Whilst the 2006 Local Plan made allowances for sustainable construction standards, more stringent requirements were introduced in 2008 in the Northwest Cambridge AAP. AAPs replace existing planning regulations in the area over which they have jurisdiction, so are 'mini' local plans and are therefore a material consideration in directing planning matters. The Northwest Cambridge AAP outlined planning policies for a major housing growth point that emerged as part of the growth strategy discussed in more detail in section 7.5. below. This University of Cambridge led development would provide 2000 student beds, 2,5000 homes (about half of which would be for University keyworkers), significant University research facilities and retail space.

In between the Local Plan and Northwest Cambridge AAP, the CSH had been published and PPS1 had specified detailed conditions on local policy discretion for supplementary standard setting, so it is interesting to note that the Council embraced both at the earliest opportunity. In this AAP a whole Code Level 4 for the first 50 dwellings on the site was required, wherein it would rise to Level 5 beyond 50. This was an unusually stringent requirement both then and now. At the time national Building Regulations equated roughly to Level 3 (but only in the area of carbon emissions and energy efficiency). Because of the statutory nature of the AAP and the wording of the policy, for the first time the Council was able to use sustainability standards as a material consideration in planning applications (i.e. it could refuse applications on that basis).

During negotiations in 2010 over a second major development site, in the CB1 district in the centre of the City (which would provide 650 homes and a mix of retail and leisure opportunities) the Council again pushed for the highest standards possible, given site constraints. Rather than an AAP, a Site Development Framework was drawn instead, which has the same binding status governing development but does so within the existing Local Plan framework rather than through the adoption of a new, localized one. Under this scheme developers are subject to Section 106 (S106) requirements, conditions put on developments to require, for example, the construction of infrastructure, affordable homes or, in this case, to adhere to sustainable construction standards. This framework required an initial whole Code Level 4, rising to Level 5 over time in line with changes to Part L of the national Building Regulations. The Level 4 requirement was until place 2013, after which Level 5 applied, thus keeping standards at CB1 'one step ahead' of national Building Regulations (Interview with Planning Consultant, February 2015; Interview with Senior Sustainability Officer at Cambridge City Council, January 2015).

Work began in 2011 on the 2014 Local Plan (Cambridge City Council 2013). Policies here would require that *all* development should reach Code Level 4, achieve a 44% reduction in CO_2 relative to 2006 Part L requirements and achieve 80 litters per head per day water use[46]. (Cambridge City Council 2013, p. 102). Whilst this thesis is concerned largely with the CSH (given its

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[46] The inclusion of CO_2 and water standards as well as a Code level is deliberate. Doing so mandates an overall Code Level 4 but standards for emissions and water that go higher than Level 4.

potential as a supplementary standard) it is interesting to note the strong commitment to sustainability outlined in this plan, which at its heart contained a vision that all development should: 'be designed to be adaptable to our changing climate' (Cambridge City Council 2013, p. 103); adopt design strategies that focus firstly on minimizing energy demand, seek to reduce transport related emissions (Cambridge City Council 2013, pp. 103–4); be designed in a way that minimizes and recycles construction (Cambridge City Council 2013, p. 104); be designed to meet Level 5 of the Code for Sustainable Home's water requirements (Cambridge City Council 2013, p. 104) as well as pay consideration to biodiversity, pollution, mobility, wellbeing and heritage. (Cambridge City Council 2013, p. 107).

Table 7.1 outlines that various policies discussed above, for reference:

Name	Year	Purpose	Binding?	Details
2006 Local Plan	2006	Set out detailed policies, land-allocations	Y	Introduced a 10% 'Merton Rule' and Sustainable Checklist
Sustainable Construction Supplementary Planning Document	2007	Set out detailed requirements to meet sustainability requirements in 2006 Local Plan	Y	Technical guidance for complying with 2006 Local Plan's sustainability requirements
NW Cambridge AAP	2008	'Mini' local plan for NW	Y (in NW Cam)	Set out CSH Level 5 requirement for

		Cambridge Site		development
CB1 Development Plan	2010	Development requirements for CB1 site	Y (in CB1)	Level 4 CSH requirement
2014 Core Strategy	TBC	Set out detailed policies, land-allocations; replaces 2006 Local Plan	Y	Attempts to introduce CSH Level 4 requirement across the city.

Table 7.1: Supplementary Standards in Cambridge City Council.

7.3. Entrepreneurs

Lying at the heart of Cambridge's success in introducing supplementary sustainable construction standards were a small group of policy entrepreneurs: one elected official (who was, at various times, leader of the Council and portfolio holder for both planning and climate change) and two consecutive sustainability officers, who bought high levels of expertise and who also served as policy sponsors and champions. What's more, the council was run in the key stages of its attempts to introduce sustainability standards by a Liberal Democrat party group with a strong manifesto commitment to the environment.

These policy entrepreneurs had a keen interest in principles of sustainable design and began to institutionalise not just an environmental awareness but

specific attention to supplementary standard setting powers. Without the input of these key political entrepreneurs it is unlikely that Cambridge City Council would have introduced the supplementary standards that it did. They acted as brokers between competing interests, built up local resilience, embedded expertise within the planning department and expended their own political resources in doing so. This made them well placed to exploit institutional and economic circumstances which, as we will see below, aligned favourably.

The former leader of the council and planning portfolio holder placed sustainability and design at the centre of their thinking about Cambridge's growth and devoted considerable resources to the political management of the various planning documents into which sustainable construction policies were embedded. Later also the portfolio holder for 'Climate Change and Growth' and in charge of climate change policy across the council as well as planning, she was vocal in embracing the principles of sustainable design. In her own words,

> My view is that it's something that you wouldn't expect *not* to have in a properly well-designed development. You'd expect sustainability to be a part of it by default. I think that's where the ideal should be. You obviously want it to be part of something that is finely done, sustainable in the richer sense of the word. Well designed, in a proper way. Functionally very well designed (Interview with Cambridge City Councillor, May 2015)

Others elsewhere in the council remarked that her involvement was the moving force and spurred on by her own personal interest in the subject area:

> 'She was the definite moving force; the key person. [Sustainable housing] is something that she's very keen on' (Interview with Cambridge City Councillor, January 2014)

> 'The portfolio holder for planning at the time had a huge commitment on sustainability and was really well informed. It might be more interesting to say

Where this councillor was effective was in taking a pragmatic approach to the way that climate change was approached by the Council, breaking down the techno-phobia that often prevents decision makers committing to sustainable development. She was able to exploit what expertise already existed in the Council and commit to employing external consultants and experts to undertake the necessary background work where that wasn't possible.

> It's very easy to be frightened about climate change and it's quite hard to get people to feel confident about it because it's a very technology driven area and you have to explain a lot of things. I couldn't stand up and give a lecture on what climate change is; the great thing about Cambridge is that you don't have to, because people know it…the important thing is not be hung up about that. It was very important for politicians and staff not to feel like it was above them or over their heads. Although it was important to have a specialist, what you can't have is a specialist culture. What you don't want is a person who thinks they're the expert and no-one else feels like they know enough or are qualified (Interview with Cambridge City Councillor, May 2015).

A considerable barrier though when designing local plans is to ensure that any policy proposals are adequately evidenced, a process that requires both considerable resources and considerable expertise. The political will within the Council was aided by a high level of technical expertise amongst the officer groups involved, led in particular by a dedicated Sustainability Officer. This post was created in the mid 2000s and had been filled twice between then and the 2014 Local Plan. It was the first holder of this post that conducted the necessary work to justify the original Merton Rule type policies in the 2006 Local Plan and the Code requirements in Northwest Cambridge and CB1. However, beyond this she was important in working with the

Climate Change and Growth portfolio holder to integrate sustainability across departmental siloes. The second holder, who started in 2010, was instrumental in negotiating the planning applications accompanying Northwest Cambridge and CB1 as well as integrating sustainable construction principles (amongst other things) into the 2014 Local Plan.

> In terms of what my role was within the council, I sat within the planning policy team so I advised on the development of new climate change policy and sustainable construction policy. I also then give guidance on planning applications. I've worked on this policy area helping to develop evidence bases. I sit in the policy team, so develop the policies in the first place, but also then see it through to the implementation in new developments. The success of the sustainability message is partly down to having the officers within the council who know what it takes to then get that policy adopted because there's a lot of evidence base that has to go into it' (Interview with Senior Sustainability Officer, January 2015).

It is important not to understate how important having this level of expertise can be, considering the level of technical awareness needed in order to scrutinize development proposals, planning applications and completed projects, navigating a complex (and evolving) legislative framework and commissioning evidence bases for proposed standards. This kind of expertise serves, as we saw in section 4.5.5. as a significant resource for the Council, given the importance it has in acting as a counterpoint to external opposition of any proposals. These barriers can be administrative, in the sense of the workload involved in justifying CSH targets, or legal, in the form of continued opposition from developers, landowners and other third party bodies.

> 'We were very fortunate with [our sustainability officer]. She has got an extremely good grasp of sustainable buildings issues. She is extremely well motivated and a tremendous asset to us in doing what we need to do. There's not much she doesn't know.' (Interview with Director of Environment, Cambridge City Council, February 2015

'[The sustainability officer] knows the right things, how to get there, how to encourage people and so on. She understands some of the issue, she has the ability to engage technically with people and understand the technical issues when needed and to get people on side. That's the strong thing' (Interview with Planning Consultant, May 2015)

In a time of fiscal restraint amongst local governments it is unusual for such posts to have survived, let alone be created in the first place.

'We have an excellent level of expertise. We have some experts that are very unusual. We have a water and drainage expert, for example. Many councils just can't manage to keep such a person. What happens elsewhere is Councils will say, 'right, you've got to put in a sustainable urban drainage system in the plan', then the developer puts in a whole bunch of documentation and the officers look at it and say 'gosh, that's impressive'. But we've got a guy who can actually spot whether any of it is bullshit' (Interview with Cambridge City Councillor, March 2014).

The role provides an internal coherence within the council itself, as it allows a point of contact for other departments to gain advice and feedback on plans, proposals or policies.

'Having dedicated staff has bought us expertise, allowing us to better negotiate with developers and so on and so forth. But also, everybody can ask that staff for advice and offer people quite simple frameworks for answering questions they may have. A colleague gave many briefing sessions to councillors on things that you and I might take for granted, that you should know x, y or z about sustainability. She gave classes on it! Then you started having people at planning committees then asking 'how are you meeting your 10% obligations'. Then you have political signals going out (Interview with Cambridge City Councillor, May 2015)

This not only made the job of developing and justifying proposals Cambridge City Council easier but also helped to reinforce a norm of sustainable construction. Developers are now expectant of critical scrutiny over the sustainability credentials of applications and have an awareness of the levels of technical expertise that exist (Interview with House Building Executive, April 2015). One particular example helps to illustrate this. A major volume house-

builder opposed the affordable homes and sustainable homes requirements that were being asked for on a development on the southern fringe of the city and launched an appeal to that effect:

> [At this stage] Cambridge didn't have a policy for Code. We went to them and said that we cannot afford Code and the high levels of affordable housing that they were asking [on the site]. They asked us what we could afford, we said that we can afford X. They said that they would support low levels of affordable housing if you give us high levels of sustainability because we're a liberal based folk and that's our expectation. We said fine, we went in on that basis and they refused us. We went in on appeal and we lost. So we had to do a 40% affordable and all the bells and whistles for sustainability, even though it wasn't in policy. What we should have done, like other developers do, is say no. Say that we would give you what was in the policy, which wasn't a lot. We'll give you the affordable, but we'll challenge it. You'll hear the planning officers at Cambridge tell you this, they got one over on us. Hey, look. In some respects Cambridge did a really good job. They got the high levels of sustainability, the high levels of affordable homes and the great infrastructure, but we as a company have paid for it (Interview with Housebuilding Executive, April 2015).

This was only possible with a political will and technical expertise. By maintaining resources here despite budgetary cuts the council has maintained its professional expertise. Such expertise was an important resource for the council, allowing them to interrogate planning applications more adeptly, fully engage in the evidence gathering and dissemination required to include specific Code targets and increasing the overall level of awareness amongst councillors and officers. For that reason we can point towards entrepreneurship in Cambridge City Council as an important factor when accounting for supplementary standard setting.

7.4. Institutional Rules and Practices

7.4.1. Growth Restriction

Whilst Cambridge has always seen itself as at the vanguard of environmental awareness the extent to which it could act on that in the built environment was heavily circumscribed. From 1950 until the 1990s Cambridge was restricted in the extent to which it could grow – both in terms of population and area – by restrictive residential and commercial planning regulations laid out in the 1950 Holford Report that capped populations at 100,000 (from a base of 81,500). The intention was to safeguard the 'present character and fine qualities of Cambridge' (Holford and Wright 1950, p. 24).' Development beyond this point was to be directed towards neighbouring towns outside of the city boundaries, although there were small allowances in Holford for pockets of development in the West of the City and pockets of employment growth (Brindley *et al.* 1996, p. 30).

From the 1960s onwards this limit-to-growth was reinforced by the formation of the Cambridge greenbelt, a 5 mile deep strip of mainly agricultural land drawn tightly around the boundaries of the City (While *et al.* 2004, p. 287). Given that they can only be altered in 'exceptional circumstances', greenbelts (by design) represented a significant obstacle to growth and expansion (Cullingworth and Nadin 2006, p. 233).

The considerable economic success of Cambridge in the post-war period – *The Cambridge Phenomenon* – placed pressure on the local housing market. Between 1950 and 1990 the number of people and jobs almost doubled (the fastest rate of growth in the UK), but did so within a settlement area that had remained unchanged for almost a century (Segal Quince Wicksteed 2000a, p. 86).

Beginning in the 1960s there was a rapid expansion of high-tech firms attracted to the city in order to develop and exploit research and development that emanated from or clustered around the University of Cambridge and latterly Anglia Ruskin University (Segal Quince Wicksteed 2000a, 2000b), capitalizing upon the fast paced developments in science and technology. In 1985 there were around 300 high-tech businesses in the city, comprising a mix of 'drug discovery, bioinformatics, software, computer hardware, electronics, ink-jet printing, computer games [and] clean-tech' (Segal Quince Wicksteed 2000b, p. 10) all vying for staff, but by 2011 there were over 900, employing roughly 37,000 people (roughly 25% of all jobs).

The effect of *The Cambridge Phenomenon* was to raise house-prices as demand outstripped the curtailed supply. Between 1998 and 2014 average house prices rose from £82,000 to £350,000, over a four-fold increase (compared to an average increase for the UK as a whole from £45,000 to £135,000, a three-fold increase) (Hometrack 2015). Between 2006 and 2014 alone average house prices increased by 50% in the city, rising to 9 times the

average salary (compared to 6.7 for England as a whole) (Cambridge City Council 2015, p. 5). This has also had implications for the availability of affordable housing in the City.

The provision of housing began to rise on the political agenda, dominating the activity of the City Council's planning department. The University of Cambridge commissioned the *Mott Report* in 1969 to investigate the influence of growth-restraint on its own expansion and evolution. It found that more fundamental issues were at stake than simply housing shortage and affordability; growth restriction strategies were impacting upon the extent to which inward investment (of both people and resources) could be maintained, whether in the context of industry, the professions or the knowledge economy (Brindley *et al.* 1996, p. 31). Additionally, where residential expansion was taking place was in neighbouring towns and villages outside of the greenbelt, creating significant infrastructural issues with the cross green-belt commuting and overpopulation of neighbouring villages that resulted (South Cambridgeshire District Council 2002, p. 17). Yet within the restrictive system there little room for manoeuvre. It is unsurprising that within this context – especially considering the low political saliency of sustainable construction on the national agenda at this time – few calls for sustainable housing were made by the local council.

7.4.2. Growth Expansion

As awareness of the dangers of this restrictive growth strategy grew, calls were increasingly made for a re-think of this strategy. It was during this time that policy entrepreneurs were able to institutionalise a commitment to sustainable design and construction. Regional planning bodies responded to the pressures of growth restriction by announcing a major growth strategy for the Cambridgeshire region, including a greenbelt expansion and a number of large-scale development sites. The government's *Sustainable Communities Plan* designated the Cambridgeshire region as a key growth point and, with it, devolved considerable funding and institutional responsibilities in order to manage the evolution of that growth. This was focused on the Thames Gateway, Ashford, Milton Keynes and the Stansted-Cambridge Corridor and provided £610 million between 2003 and 2006 for infrastructure, site assembly and remediation and a plan for the construction of 200,000 homes spread across the region.

7.4.2.1. Regional Planning Guidance and the Cambridgeshire and Peterborough Structure Plan

The growth strategy was institutionalised through two key planning documents. At this time housing provision was decided upon at a regional level, through Regional Planning Guidance (RPG) – latterly replaced by Regional Spatial Strategies (RSS), see section 3.5. – which were designed 'to act as a spatial strategy for the region, with a planning horizon of fifteen to

twenty years' (Cullingworth 2015, p. 103). Within these documents a new growth strategy was outlined that focused around green-belt land-release.

These regional documents are important, because local planning policies must nest within them, as we saw in chapter three. *Regional Planning Guidance Number Six for East Anglia* (RPG6), published by the Government Office for the East of England in 2000, set out in general terms land allocations for the area, covering the siting and scale of housing development and infrastructure across the entire East Anglia region, of which Cambridge City Council is just one constituent authority. It was drafted in dialogue both with central government but also constituent local authorities, as well as other relevant stakeholders. Given the regional and strategic nature of this planning document no specific policies are put forward at this level of detail, with the focus instead on infrastructural provision, major development citing, housing provision targets, employment growth strategies and overarching policy principles. However, having said this, there is a common thread within the plan that advocates a focus on sustainability, albeit in broad terms.

The purpose of RPG was to inform a Structure Plan, another regional planning document (but one closer to the local government tier) whose purpose was to provide 'a strategic tier of development plan' and which 'consisted of a written statement of strategic policies and proposals (but not detailed land allocations) for the area' (Cullingworth 2015, p. 109). Whilst RPG6 provided 'the outline of the spatial development strategy'

(Cambridgeshire County Council 2003, p. ix), the 2003 Cambridgeshire and Peterborough Structure Plan, as that covering the region was known, laid out in more detail the implications of RPG requirements. Individual planning authorities within this region were then required to develop Local Plans that conformed to these higher-tier strategies. For that reason their content is important in setting the planning context.

Overall, it required that 12,500 homes be built between 1999 and 2016 in Cambridge City Council, with around half of these in the city itself and the remainder on green-belt land. Policy P9/3C of the plan made suggestions for potential green-belt release sites across the Cambridge fringe. However, these were only enabling powers. Given that central guidance restricts greenbelt release except for 'in exceptional circumstances', it would be up to Cambridge City Council to provide the necessary evidence base to justify such a decision when it writes its own local plan. However, considerable emphasis was placed in the Structure Plan (and indeed RPG6) on green-belt release, providing a significant political-legal resource for any evidence gathering Cambridge City Council would later undertake.

The Structure Plan institutionalized a broad stroke commitment to sustainable construction, which helped to legitimize the incorporation of sustainable construction standards at a later stage when policy entrepreneurs began to apply pressure. Policy P1/3 builds upon the commitment to energy efficiency and sustainable development in RPG6 by calling for local planning authorities

to adopt local plans that, amongst other things, encourage 'a high standard of design and sustainability…[and] efficient use of energy and resources by including energy conservation measures' (Cambridgeshire County Council 2003, p. 12). Other policies assert that 'the environment is protected and enhanced' (Government Office for the East of England 2000, p. 12), or that policies strive towards 'improving the energy efficiency of all building types' (Government Office for the East of England 2000, p. 13).

Table 7.2 below summarizes the main developments in both the growth restriction and growth expansion stages of Cambridge City Council's planning policies.

Document Name	Year	Key Points	Binding?	Residential Sustainability Requirements
The Holford Report	1950	Restriction on growth, precursor to green-belt	N	Nil
Mott Report	1969	Advocated easing restriction on growth	N	Nil
Regional Planning Guidance 6	2000	Strategic planning for East of England Region	Y	Broad vision for sustainable construction
Cambridgeshire and Peterborough Structure Plan	2003	Called for 6000 homes in Cambridge and green-belt releases	Y	Introduced requirement for local authorities to adopt high standards of sustainability in Local Plans

Table 7.2: Local and Regional Institutional Rules

7.4.2.2. Local Planning Policies

Freeing up land for growth had an important legacy effect because it started the debate on sustainability. The regional planning documents contained overarching commitments to sustainable construction and introduced a requirement on Cambridge City Council to introduce new local planning documents, which presented a window of opportunity for those advocating sustainable construction. We can understand this era as a time of punctuated equilibrium, where institutional statis (growth restriction) is replaced by rapid and transformative change (expansion), as discussed in section 4.5. (see also Pierson 2000). Sudden institutional change of this nature meant a number of important decisions had to be made, most notably about the nature and type of growth that the City wanted. It was during these discussions that policy entrepreneurs were able to integrate the focused emphasis on sustainability within the regional policy framework within local planning institutions.

Since the beginning of the expansion period Cambridge City Council had made numerous attempts to introduce sustainable construction targets and requirements for new homes into various elements of the local development framework, including Local Plan or Core Strategy policies, AAPs and SPDs. As we saw in section 7.2, Cambridge City Council's first such policies were contained in its 2006 Local Plan – before the devolution of supplementary standard setting powers by central government – where policy 8/15 stated that: 'developers of major proposals above a threshold of 1,000 square meters or 10 dwellings will be required to provide at least 10% of the

development's total predicted energy requirements on-site, from renewable energy sources', caveated by a condition that 'these requirements may be relaxed if it can be clearly demonstrated that to require full compliance would not be viable' (Cambridge City Council 2006, p. 94). In addition to this Merton Rule type policy, policy 3/1 states that 'where major development [47] is proposed developers should complete the Council's Sustainable Development Checklist and prepare a Sustainability Statement and submit both with the planning application' (Cambridge City Council 2006, p. 22). This sustainability checklist required developers to outline their construction methods, material provenance, design-efficiencies and energy efficiency measures. It was contained in a dedicated Sustainable Design and Construction SPD, published in 2007, whose primary role was 'as a means of setting out more detailed guidance on the way in which the policies in the [Local] Plan will be applied in particular circumstances or areas' (The Planning Inspectorate 2009, p. 2). It focuses on outlining more specific details on various aspects of neighbourhood design and layout, transport and movement sustainable drainage, the Merton Rule policies, waste management provision, biodiversity, pollution, air quality, contaminated land, water conservation, materials and construction waste, protecting the historical environment. It also contains information and advice about resilient design, so that buildings can respond to the changes in weather and energy/water distribution in the future.

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[47] Defined as 10 or more dwellings

However, it is important to note that 'information on how the [sustainability checklist] scheme meets the recommended standards is entirely at the discretion of the applicant' and that, 'failure to do so would be unlikely to result in a recommendation to refuse' (Cambridge City Council 2007, p. 7). A Senior Consultant involved in major developments in the city suggests that 'filling out a sustainability checklist was not exactly hard', going so far as to call the statement 'wishy-washy' (Interview with Senior Consultant, February 2015). However, despite this, the checklist did provide the council with something to use in the negotiation process for large developments, and meant it could put pressure on those developments which although operating within the spirit of local regulation nevertheless left a lot to be desired from a sustainability perspective (Interview with Senior Sustainability Officer, January 2015). The only binding targets in the plan were the 10% Merton Rule type policy.

Whilst the 2006 Local Plan made allowances for sustainable construction standards, more stringent requirements were introduced in 2008 in the Northwest Cambridge Area Action Plan (AAP), the first of the major growth sites associated with the green belt release. AAPs replace existing planning regulations in the area over which they have jurisdiction, so are 'mini' local plans and are therefore a material consideration in directing planning matters. Because of the statutory nature of the AAP and the wording of the policy, for the first time the Council was able to use sustainability standards as a material consideration in planning applications.

7.5. Institutional Synchronicity

This growth expansion emerged alongside the rising political saliency of the zero-carbon homes agenda at the national level. What local actors were able to do was draw upon their political resources to translate that saliency locally by exploiting the window of opportunity associated with the growth strategy. Local Plans tend to last for a fifteen-year cycle, so they have important legacy effects and are only reformed infrequently and AAPs have the same lasting impact upon large-scale development sites. Just as the policies associated with the growth strategy were being drafted supplementary standard setting powers were offered by the government. There was an overarching sense that with such a step-change in attitudes to growth comes a responsibility, particularly around environmental impacts. One policy entrepreneur remarked that 'Cambridge City Council thought that obviously growth brings with it carbon challenges, and we wanted to link the two agendas together' (Interview with Cambridge City Councillor – May 2015). Accordingly, the 2006 Plan, the first to discuss this growth, sought 'to guide and facilitate growth in a sensitive and sustainable manner, ensuring that the high environmental quality of the City is protected and enhanced and that future developments offer a full range of opportunities to all its citizens' (Cambridge City Council 2006, p. 17). The results of this were the 10% Merton Rule type policy, the need for sustainability statements and checklists in qualifying developments and the Sustainable Design and Construction SPD that were discussed above in sections 7.2. and 7.4.2.2. However, 2006 Local Plan itself was published

before either the devolution of supplementary standard setting powers through PPS1 and the CSH, meaning that the scope for action within this document was limited, restricting behaviour largely to Merton Rule type policies and non-binding commitments to sustainability checklists and the like, as we saw.

Nevertheless, between the 2006 Local Plan and the Northwest Cambridge AAP and CB1 development central government had begun to grant local councils greater autonomy, presenting an opportunity for the local authority to add to or remove any policy requirements that it had put in place in the 2006 Local Plan. It is therefore telling of the extant ambition within the Council that they were keen to include supplementary standards at the first opportunity. Had the Council been writing its local plans after the publication of the *NPPF* it would have found it more difficult to justify the inclusion of supplementary sustainability standards, given the reforms it introduced to supplementary discretion and the much lower political saliency of sustainable homes at the national level at that time when compared to the 2006-2010 stages of the previous Labour administration, as we saw in chapter three.

However, the same temporal factors that benefitted the Council between 2007 and 2012 also halted plans to adopt citywide standards in the 2014 Local Plan. The Housing Standards Review removed the powers that local authorities have to set supplementary standards (followed shortly after by the abolition of the CSH and zero-carbon by 2016 standard, as discussed in

section 6.2), despite Cambridge having undertaken considerable work to justify their inclusion and despite on-going ambition. After a number of drafts the 2014 Local Plan was submitted to the Secretary of State for examination in March 2015. Given the embeddedness of local rules in national policy context it became clear that the Level 5 requirement within the Local Plan would have to be removed if the plan were to be considered sound. The Council had made every effort to incorporate supplementary standards, had provided a sound evidence base and had faced little opposition to such standards (Interview with Senior Sustainability Officer, January 2015). Yet, it was prevented from adopting them by changing national policy context.

This, together with the changes that emerged from the NPPF presented significant frustration for policy makers in the City – 'they just keep producing policies' (Interview with Cambridge City Councillor, March 2014). Many respondents were frustrated at these developments, for example:

> I don't think the level of uncertainty that we're currently getting from the national level helps at all. We were quite happily going through the plan and then all of a sudden the *Housing Standards Review lands* (Interview with Senior Sustainability Officer, January 2015).

> I think being a planning officer within a local authority is really a nightmare because of the pace of change. But, in terms of the frustration for local authorities currently, it does seem to be more pronounced than previously. There are more things left open to interpretation than previously. You could argue whether that is a pro or a con but I think on the whole people like clarity and the pace and frequency of change seems to be beyond what is normal in the cycle of constant change if you like. It must make the job very difficult (Interview with Planning Consultant, May 2015).

> I think the area we have been worried about is around Government chipping away at what we think are quite important policy requirements (Interview with Director of Environment, Cambridge City Council, February 2015)

Although the Local Plan review was suspended pending more thorough consideration of housing projections the CSH policies will, in any case, be removed. Any attempt to continue to justify their inclusion at examination will be met with resistance from developers given the lack of legislative backing.

Nevertheless, local actors were able to capitalise upon this rule-based synchronicity and growth expansion strategy to call for more stringent sustainable construction requirements. Indeed we might therefore talk about practice-based synchronicity, through a normative commitment within the Council to the principles of sustainability and climate change adaptation and mitigation; an internal sense that local planning policy was an adequate means through which to address the energy efficiency of homes and third; that the CSH was an appropriate means through which to do so. As the Senior Sustainability Officer tasked with managing the sustainability within the City Council's policies remarked:

> '[The publication of the Code] helped us to define sustainable construction and put a name to it. I think for us we just saw an opportunity. We couldn't miss that opportunity. It was so obvious that this was the perfect opportunity to get something quite special. With the amount of growth going on in the city that people could see that there was an opportunity to push for higher standards. I think we just took a proactive approach. We've got a lot of growth, lets make it as high quality as we can. It's all stemmed from there really (Interview with Senior Sustainability Officer, February 2015).

This commitment to the principles of sustainability is embodied in, for example, the City's Carbon Management Plan, which outlines a 'vision is for the city to be "at the forefront of low carbon living"' (Cambridge City Council

2012, p. iv), or the City's 2012 Climate Change Strategy and Action Plan. Key priorities within this strategy (which builds upon a 2008 plan) concern improving the sustainability of Council buildings and Council owned and managed homes, continuing to improve cycling infrastructure in the City, the creation of a climate change fund, and educational programs. It also provides a strategic link between various climate change mitigation and adaptation measures, of which supplementary standard setting was one component.

This practice-based synchronicity also extends to the perception by the Council of both the appropriate role of local authorities as an incubator for supplementary standards and the appropriate role for the planning system in raising the sustainability of buildings (rather than relying on national Building Regulations) (Interview with Cambridge City Councillor, March 2014). As one respondent said,

> The inspiring, fabulous thing about working in Cambridge all these years is the feeling that if we can't do this then nobody can. We really do have a duty to innovate and lead because we're wealthy. We're successful. We are a confident city. We value the environment. We are a very special place. We believe we're a special place. We have idealistic values about the quality of people's lives (Interview with Cambridge City Councillor, May 2015)

There was a very clear sense that the Council felt itself to have an obligation to ensure that the development agreed upon would achieve the highest possible levels of sustainability and a clear strategy to which that action will relate. It is unsurprising then that several respondents remarked that the CSH gave a 'name' and legal-institutional backing to pre-existing desires within the Council:

> 'I think the Code gave us something that we could look at and a standard we can use. The ambition was there before, but the Code helped us to define sustainable construction and put a name to it. We recognized that we had a supportive national framework through PPS1 and the Code (Interview with Senior Sustainability Officer, January 2015).

> When the code came along it was a way of defining sustainability more precisely. The commitment was there first and then the Code came second (Interview with Director of Environment, Cambridge City Council, February 2015).

So, normatively there was a commitment to: sustainability in general, local supplementary powers as a policy tool and the CSH as an appropriate means through which to address sustainability in housing.

7.6. Networks

In the same way that key actors were enabled and constrained by particular institutional factors, they were also constrained and enabled by policy networks surrounding planning (which are in turn affected by prevailing institutional rules and practices). Pro-environment interests dominate local planning networks, limiting the amount of opposition to sustainable construction proposals.

It was the University of Cambridge who made – and maintained - the first calls for growth. In 1996 it established a coalition compromised of local business leaders, politicians, local government officers and local professional groups to form *Cambridge Futures*, whose purpose was to reform the discourse and attitude to growth in the city. By drawing on the conclusions of the *Mott Report*

and the importance of *The Cambridge Phenomenon* to the academic and financial future of the University itself they set out to study alternatives to growth restriction.

> What the University did was, they said "to maintain our leading status as a global player, the City would need to grow". They were having all sorts of problems with post-docs and accommodation, and so on. The University saw this as a straightjacket and started a debate about releasing green belt land to accommodate growth within the City' (Interview with a former Head of Planning in Cambridge City Council, February 2015).

The main legacy of *Cambridge Futures* was the work it undertook on alternatives to the existing growth restraint strategy. In that work they modelled the impact of seven possible growth scenarios on economic, social and environmental grounds:

> The do nothing option, a densification option – try to pile it all in Cambridge, a green swap – taking a bit out of the inner boundary of the green belt and building urban extensions was a third spatial option. The fourth one was a new town beyond the green belt. The fifth one was building out along transport corridors. Another one was sprinkling it around the villages and there was a virtual highway one which was a sort of hope that everyone might work at home in the future and might not need to move anyways (Interview with former Head of Planning in Cambridge City Council, February 2015).

On the basis that there was no one 'fix'; they advocated a mixed approach that called for the redevelopment of brownfield sites together with a review of the greenbelt. Given the controversial nature of the proposals extensive public engagement was sought, and a consensus was reached:

> We did a big exhibition and had a lot of public consultation and workshops with Councillors and what emerged from that was a consensus. First of all both the do-nothing and the carry on sprinkling it around options were just not on anymore. So it was a question if Cambridge was going to grow, what was the best approach? What came out was a balanced approach. Let's try maximizing the brownfield sites within Cambridge but recognizing that there wasn't very much brown-field sites, because it doesn't have an industrial heritage – so that wouldn't be enough. Then lets us tackle of the greenbelt and do a review of the inner boundaries to see where you could plan urban extensions in ways that would still keep the principle of the purpose of the

greenbelt but would still allow for urban extensions (Interview with former Head of Planning in Cambridge City Council, February 2015).

The most important external organization to institutionalize a commitment to sustainable construction within the discussions on Cambridge's growth was *Cambridgeshire Horizons*, a non-profit QUANGO formed in the early 2000s, which drew upon the principles of sustainable urban growth embodies in *Cambridge Futures* to oversee the growth strategy embodied in *RPG6* and the *Structure Plan*. Given the scale of change implicit in the growth strategy *Horizons* was tasked with providing the necessary strategic oversight to deliver infrastructure, attract and direct funding and to bring together the various stakeholders (Interview with former Head of Planning in Cambridge City Council, February 2015). It was established as 'a consortium for local authorities to support growth' (Interview with Director of Environment, Cambridge City Council, February 2015) and was not intended to 'make' policy but to ensure that the growth that was agreed upon elsewhere was managed conscientiously:

> The principal behind the consortium was the idea that we wanted not just any growth – it wasn't just housing numbers, it was the sustainability, urban design principles and all the rest of it' – (Interview with Director of Environment, Cambridge City Council, February 2015).

It was abolished alongside the removal of regional planning and when central Conservative-led coalition government reduced the number of QUANGOs soon after the 2010 election.

However, it did leave an important legacy, which had a direct influence on the trajectory of sustainability standards: the Cambridgeshire *Quality Charter for Growth.* At the heart of the document are 'four C's' which should inform all spatial planning in the region: Community, Climate, Connectivity and Character. This programme emphasized the need for quality as well as quantity in future developments, and ensured a consensus amongst private, public and voluntary sector actors on the matter. Central to the discussion here is the notion of climate. *The Quality Charter for Growth* suggests that, 'environmental targets [for new development] should be challenging and where possible go beyond the minimum standards so that new schemes act as exemplars' (Cambridgeshire Horizons 2010, p. 10). One respondent went further, remarking that:

> It had these four Cs. Community, connectivity, climate and character. When you read there are about nine or ten objectives under each of those four Cs. A lot of that was already, effectively, just putting in simple terms what was already in policy. Some of it was new as well, or strengthened and being a bit more assertive about what it should be That provided a basis and the inspiration, if you like. It was providing the vision that gave people the confidence to demand that (Interview with former Head of Planning in Cambridge City Council, February 2015).

Although non-binding, it is important to stress the importance of this *Quality Charter for Growth.* It served as a normative benchmark against which the behaviour of local authorities (including Cambridge City Council) could both be judged but also justified. Additionally, though, because of its institutional grounding in RPG6, the Structure Plan and the Sustainable Communities Plan, the document could be used as a material consideration for local authorities when both designing and implementing their local planning policies if they were keen on including supplementary standards (Interview with former

Head of Planning in Cambridge City Council, February 2015). What this means is that a local authority intent on introducing particular sustainable construction standards could use the Quality Charter as a justification for doing so when submitting local plans for scrutiny, alongside regional planning policies. Additionally, it served to legitimize any claims for supplementary standards at the local level that would subsequently be made. It did not guarantee that these discussions would arise, but would legitimize any that did. Local policy entrepreneurs were empowered by this, and used it as a resource.

The highly educated population had formed a number of well-organised environmental groups and this kind of growth strategy met with a broadly receptive audience, both inside and outside of the council. There was little internal opposition within Cambridge City Council, both from officers and councillors (on all sides of the political divide). The Liberal Democrats held power at the time of the initial discussions and were elected on a pro-environment mandate:

> 'The environment was very much a Lib-Dem agenda, so we had that political mandate behind us. Sustainable homes were very much the Lib Dem agenda. Labour was really the only other party that mattered and they were quite passive about it, certainly not resistant. We had full control of the council, so we just did it. It was pushing at an open door' (Interview with Cambridge City Councillor, May 2015).

> 'The Lib Dems came in on the back of an environmental agenda. There was a happy coincidence in relation to a strong political impetuous to address environmental issues, a history of environmental issues that were exacerbated by the development strategy and an acceptance that growth was linked to the need for more capacity for more housing and to do those things carefully (Interview with Director of Environment, Cambridge City Council, March 2015).

> The majority of us Liberal Democrats here are on what you might call the green wing, the leftish of the liberal democrats…I don't think we've got any climate change sceptics on the Council as far as I know. Others may not be as enthusiastic as us but they don't oppose it (Interview with Cambridge City Councillor, January 2014).

Although demand came initially from within the Council there was little opposition from local residents or groups at consultation.

> We involved local groups in workshops as well. So we did engage with them early on. It was mostly through those workshops that we had and through the consultations. What did they bring to the table? I think it's the support. Having that local support of what we are trying to do and I think it terms of localism that is really important. We have lots of residents associations in the city and a lot of them support what we are trying to do on sustainable construction because they want to see the quality and all of that maintained at a high level. (Interview with Sustainability Officer, January 2014)

However, although the general populace in Cambridge has a long tradition of advocacy on environmental issue – with a wide range of local green advocacy groups – there was little evidence to suggest that external green groups acted as a direct catalyst for the incorporation of supplementary sustainability standards within the growth strategy. There was limited evidence that they did play an indirect role in keeping sustainability on the wider political agenda. For example…

> 'How significant were the various green groups in the city in bringing this onto the political agenda? Did they have much involvement in the agenda setting? Yes. They did. They were helpful in creating a culture for where it's important. They would make their voices felt if we weren't doing climate things. The slightly difficult thing for us is that it's such a technical area, the whole planning policy area, that it's quite hard for groups to follow that in depth to follow what's going when developing planning policies. I'm sure they wrote in endorsing things. Politicians know they're there and we talk to them and go their green events' (Interview with Cambridge City Councillor, May 2015)

This isn't to say that there were not objections to the proposals. However, the strong economic environment, strong public support, favourable development

characteristics (see section 7.8. below), wording in law and expertise of the council meant they were often unsuccessful. After time, Cambridge City Council had developed a strong reputation at defending Code policies and remained unchallenged, even when attempting to include them in its 2014 Local Plan. The expertise they had built up when introducing sustainable construction policy in the NW Cambridge AAP had helped the council not just to navigate the policy-making process but to gain confidence in negotiations with land-owners and developers. Successful attempts to incorporate supplementary standards into development had reinforced a normative vision into the city.

We can talk of a process of institutional layering, which (as we saw in section 4.5.) involves the 'active sponsorship of amendments, additions, or revisions to an existing set of institutions' (Streeck and Thelen 2005, p. 24) taking place such that 'new elements attached to existing institutions gradually change their status and structure' (Streeck and Thelen 2005, p. 31).

> 'When we started the 2014 Local Plan process North West Cambridge was quite a good catapult for us: 'look what we've managed to do here, we need to get a lot more of this into the local plan' and revising the Local Plan has always been on the cards and has always been on the work programme. I think that catapult has always been there from when we started reviewing the plan: we knew we really need to improve our climate change coverage from two policies [in the 2006 plan] to an entire chapter now. It's kind of embedded in everything we try and do in the plan' (Interview with Senior Sustainability Office, January 2014)

This is an important legacy effect that has set normative boundaries around the range of possible behaviours, altering perceptions such that some are more appropriate than others:

'There is an expectation within Cambridge that development is delivered safe-guarding the green spaces, that the community facilities are provided on time etc. etc. If we started delivering without those things then I think very quickly there would be a turn against growth. There is a sort of consensus. Not everyone agrees that growth is a good thing but there is a sort of consensus that we are safeguarding the quality of life within the City -and that includes the environmental issues. If we were to set that to one side then I think we would lose support for growth and there would be very much more opposition to it' (Interview with Director of Environment, February 2015)

'Council members looked towards NW Cambridge and said, 'can we do that to the rest of the city'? It set a precedent. We certainly wanted to take what we had in NW Cam and apply it to the rest of the city, moving that stuff forward so that we could start setting standards elsewhere. I think there was a very strong feeling that we should be doing that across the whole of the city not just on one site' (Interview with Senior Sustainable Consultant, February 2015).

'We're trying to use them NW Cambridge as a precedent. We're saying to developers that if you don't do your houses to the same standards then they're going to be a second rate development in comparison' (Interview with Cambridge City Councillor, March 2014)

In part this is reflective of the way that sustainable development is institutionalised within the council's decision-making process. As we saw above Cambridge City Council has history of action of sustainability and climate change and as a result of a number of dedicated governance structures exist that spread across existing departments and portfolios (see Figure 6.1 below) and frequent monitoring and progress reporting takes place.

This environmental awareness and commitment to sustainability also exists beyond the Council walls though. The City itself has a long tradition of innovation in this field. The University in particular has a strong track record in this area and has attracted (and incubated) a pro-environment culture within the City. It had its own internal structures and processes for raising the

sustainability of its estates and has long championed the green agenda through funding, strategy or direct action.

> Why is Cambridge so green? I think it's the nature of the city. I think it does attract certain people, because the university is here. There is a big clean tech sector in this area, for example. It does attract people who are already in that mind-set' (Interview with Senior Sustainability Officer, January 2015)
>
> 'It is a product of Cambridge socio-economic position. It makes life for the council easier…we are mostly pushing at an open door' (Interview with Cambridge City Councillor, January 2014).
>
> 'We are quite free-thinking and progressive people in Cambridge. When they hear about it they will ask you what you're doing. There's no resistance!' (Interview with Cambridge City Councillor, May 2015).
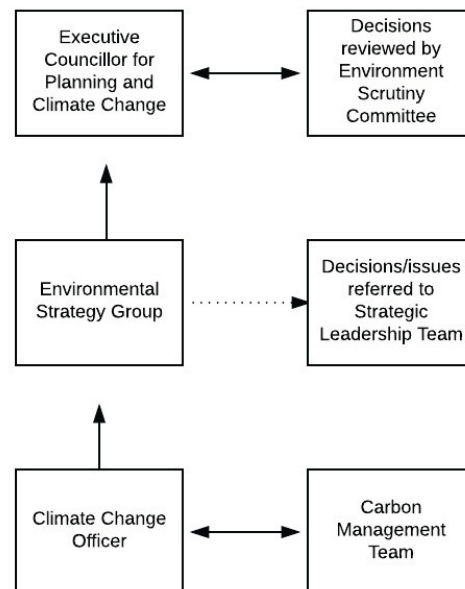
Figure 7.1: Climate change governance structures in Cambridge City Council (Source: Adapted from Cambridge City Council 2012, p. 24)

Another important network interaction was with South Cambridgeshire District Council. The abolition of regional planning in 2010 and the publication of the NPPF – with its broadly defined Duty to Cooperate replacing binding cross-border working (as we saw in section 3.6.) – meant in broad terms that such

cross-border cooperation could not always be guaranteed. The 'duty' does place a burden on neighbouring authorities to share provision but leaves precise figures, sites and footprints open to (often lengthy) negotiation and potential contestation. Contestation can arise when growth-averse local authorities or those with housing shortages of their own are asked by their neighbours to accommodate developments that will largely serve the latter.

In previous sections we saw that the growth strategy presented a window of opportunity for stakeholders to integrate a focus on sustainability. However, this growth strategy would not have been possible had it not been for congruence between Cambridge City Council and its neighbour, South Cambridgeshire District Council that allowed both the initial emergence of the growth strategy and its continuation post-*NPFF*.

Cambridge is unusual in so much as SCDC is its only administrative neighbour, circling as it does in a donut shape to completely surround the city. Many of the strategic development sites that underpin the city's growth strategy are at the edge of the city (most notably at the NW Cambridge site) and straddle the border between the two. Under the existing Structure Plan and Regional Planning Guidance system there was a binding obligation to work together where necessary to accommodate housing projections in line with typical approaches to regional planning; a regional body outlines housing need and key strategic development points, leaving it down to local authorities to (where necessary) work together to deliver.

Their relationship is marked by high degrees of political harmony. Whilst there were disagreements over precise figures and site footprints (Interview with Senior Sustainability Officer, January 2014), South Cambridgeshire District Council was nevertheless willing to work together with the City to accommodate its housing growth even after the abolition of regional planning. This harmony was crucial, for it meant that Cambridge could have some degree of certainty that problems surrounding housing shortages and housing affordability were at least partly being alleviated.

> We have always worked closely with South Cams, even before the duty to cooperate. We've produced joint area action plans before the duty to cooperate came in. A lot of people who live in South Cams look towards the city for their services, facilities and jobs, so there's always been that close relationship. This kind of working brings better coordinated planning and a coordinated approach to growth (Interview with Senior Sustainability Officer, January 2015).

It wasn't just AAPs that were written and agreed upon jointly; this cooperation continued up until the 2014 Local Plan, which was submitted for examination and written jointly by the two local authorities.

The fact that Cambridge City Council had a strong relationship with its sole neighbour, South Cambridgeshire District Council, meant that greenbelt review, shared vision and a proactive approach to employment and residential growth could help to alleviate the city's housing crisis, creating room on the agenda for sustainability.

7.7. Economic conditions

The wording of the devolved powers places a strong emphasis on the effect of any standards on the viability of future development, as we saw in chapter three. The same housing market conditions that led to calls for a growth expansion strategy also put Cambridge in a strong economic position to justify the inclusion of supplementary sustainability standards to the planning inspector. But this was only possible because the growth strategy alleviated the political pressure that such a strong housing market bought about. It created political 'room' for a discussion on sustainability by alleviating pressure for a growth in absolute housing numbers and provision of affordable homes.

Cambridge was additionally fortunate in that the types of development that were being discussed in the early stages of supplementary standard setting (i.e. large, green-field developments) were highly amenable to high levels of sustainability, both from an economic but also a technical perspective. This is important because as we saw above these plans had important legacy effects. For example, the NW Cambridge development site was particularly unusual:

> 'The Northwest Cambridge site offers particular opportunities [for high sustainability standards] due to several key factors, including the scale of the development, the mix of uses proposed, land ownership and long term interest in the site by the University, and phasing of development over the long term amongst others' – (Cambridge City & South Cambridgeshire District Councils 2008)

Particularly significant was the scope to incorporate site wide energy efficiency technologies (such as combined heat and power or district heating schemes), meaning that the cost of Level 5 compliance were reduced compared to a smaller, brownfield, more 'typical' development.

> 'The bulk of the cost of meeting the Code is in the energy requirements. Therefore, where decentralised energy is viable on a site, the energy requirements of the Code, certainly up until level 5, if not beyond, are likely to be relatively easily fulfilled. At Code level 5, the energy requirements become significantly more demanding. They represent a 100% reduction in carbon emissions compared to 2006 requirements. It is widely understood that a comprehensive, whole site strategy for any particular development is essential to meet these standards, as stand alone technologies will not be cost effective or viable to meet them in full' (Cambridge City Council and South Cambridgeshire District Council n.d., p. 21)

What's more, the fact that the University sat as both landowner and tenant on the NW Cambridge Site – which was so important, as we saw above, in setting a precedent for future developments in the City – meant that traditional costs associated with land acquisition did not factor into assessments of viability. Calls for Code Level 5 emanated from the Council but, surprisingly (given their long-term interest in lowering energy costs) were met with resistance by the University who 'really resisted badly. We took the view that we wanted Code level 5 on the site, and they resisted point blank' (Interview with local Councillor, April 2015). This placed considerable pressure on Council officials to fully justify (and argue at inspection) the inclusion of Code level 5. As we saw in section 7.4, Cambridge was well placed to deploy this required level of expertise.

> 'You can't get these things past the inspector because they're a nice idea, you have to do a lot of work. The University has quite a lot of resources and rooms full of men in suits doing their thing, and our Council staff really did

manage to pull it off. They convinced the inspector on an evidence basis that Code level 5 was sustainable for the university. That was a huge amount of work and conviction by them. They were absolutely delighted, we were all thrilled (Interview with local Councillor, April 2015)

Indeed the Planning Inspector, tasked with ensuring the validity of the AAP, observed himself that 'a failure to incorporate these kinds of standards would be a 'missed opportunity' (The Planning Inspectorate 2009, p. 32). Yet there were certainly challenges for developers on the site:

'I would say that the rigor of the Code five has meant that the architects have had to think very, very hard about some of the ways in which they design the buildings whereas if they go for Code 4 they wouldn't have done. So in some senses that has been a good thing' (Interview with Industry Consultant, January 2015).

CB1, being an inner city development on brownfield land presented greater challenges both for economists and technologists, but the considerable returns promised from high house prices in the city-centre alleviated initial viability concerns (The Planning Inspectorate 2015a; Interview with Industry Consultant, January 2015).

Much like in the case of the NW Cambridge AAP and the CB1 development plan, the Council had to provide sufficient evidence to justify the inclusion of Code 4 targets in the 2014 Local Plan. A major contributor to that process was a major assessment of the possibilities for sustainable construction to be advocated through the planning policy process titled *Decarbonising Cambridge* (ElementEnergy 2010). A number of policy proposals were judged for suitability and effectiveness (with an eye to the likelihood that those policies would make it through an independent planning inspection process).

Here it was shown that 'proposals for residential development or schemes which include residential development should consider the requirements of the Code for Sustainable Homes' (ElementEnergy 2010, p. 99). Yet it was the Council itself that hoped to include such targets from the outset of the plan writing process, learning from experiences in Northwest Cambridge, CB1 and elsewhere. Within *Decarbonising Cambridge* it was shown that the nature of the development sites and housing market in Cambridge was conducive to the incorporation of Code standards that supplemented those in national Building Regulations without any measurable impact upon viability. As we saw in chapter five, national policy guidelines allowed for supplementary standard setting, but in a way that has a minimal effect on the viability of proposed developed, citing concerns over a reactive restriction of supply in light of standards that compromise the bottom line. This places considerable burden on those Councils that wish to incorporate those standards to provide sufficient evidence to prove the viability to that effect. *Decarbonising Cambridge* represented a significant attempt to do so and showed that, on the whole, development viability would not be compromised by supplementary standards.

Whilst Code Level 4 was sought for the 2014 Local Plan, the Council wanted to go further. Architects of the policy initially aimed for a Level 5 requirement, but stopped short on the basis of viability and a belief that such stringent requirements would fail to make it past inspection.

> 'We were initially going to have an onsite carbon reduction of 70%… but I think we took the decision that it was probably too risky, even though we had

the evidence base to support it, it was probably not going to get through an examination. I am disappointed to have had to downgraded, I would have loved to have gone for 70%, but I think the reality of getting something through an examination is that it's better to have a policy than to not have anything' (Interview with Senior Sustainability Officer, January 2014)

The view was taken that a less stringent but more pragmatic level should be sought, for fear that a more stringent requirement would either be rejected at examination or through planning appeals by developers (Interview with Senior Sustainability Office, January 2015).

7.8. Conclusion: Institutionalising Sustainable Construction Standards

In this chapter we have seen that policy entrepreneurs were able to capitalise upon existing, external institutions and in so doing created new, internal institutions. The emerging regional normative framework, institutional synchronicity, latent institutional and network resources and rapid expansion of the city presented opportunities for entrepreneurs to institutionalise Code policies. Gradually the local planning system was layered to incorporate a much more rigorous and widespread focus on sustainable construction. Developers came to expect high standards in the city, with little chance of opposition. What changed were the external rules from central government, which removed supplementary standard setting powers before the Council was able to pass its Level 5 requirement. Rather than preclude further action by installing uncertainty, this simply stopped a rigorous policy in its tracks.

Chapter Eight:

The Demise of Sustainable Construction Standards in Oxford City Council

8.1. Introduction

Whilst the previous chapter focused on a success story in the provision of sustainable planning regulation this chapter focuses on a local authority that has taken a different, seemingly opposite trajectory. Prior to the devolution of supplementary standard setting powers in 2007 Oxford City Council could have been considered a success in its own right; it had an 'in-house' sustainable construction standard of its own, targets from which were integrated into local planning policies.

However, over time this success has diminished. In recent years this in-house standard has become redundant until eventually there were no supplementary standards in place. This chapter follows a similar structure to the previous one; having explained the range of policies in place over time the discussion turns to explaining why Oxford took the trajectory it did in order to pave the way for a comparative analysis in the following chapter and, ultimately, to answer to research question number two. Or, put differently, this chapter asks why Oxford went from a local authority that was ahead of the curve in 2006 to one that is considerably less innovative.

We will see that the ambition, expertise and entrepreneurship that existed in the 2000s struggled to compete with an institutional and economic context that prioritised housing affordability over sustainability in a context of acute housing shortages, growth restriction and rapid employment growth, especially when the in-house standard had just been adopted. What this serves to highlight is that although policy entrepreneurs are important in pushing for sustainable construction targets, without an institutional context that provides an adequate window of opportunity or one that incentivises such innovation their input is much less influential. As the saliency of sustainability decreased those advocating sustainable construction found themselves alienated within a policy network that prioritised employment growth and badly resourced or situated to set about reforming the dominant institutions that precluded an on going focus on sustainable construction in the first place.

The discussion below begins by explaining those policies in place with Oxford over the last decade before covering the expertise and policy entrepreneurship that has taken place; the institutional and economic context and the anti-sustainability bias that abounds in local policy networks. This paves the way for a comparative analysis of both case studies in the chapter that follows.

8.2. Sustainable Planning in Oxford City: From Leader to Laggard

8.2.1. Innovation in Sustainable Planning: The Natural Resource Impact Assessment

There is a history of innovation in sustainability and climate change mitigation/adaptation in Oxford City Council, both in a general sense and in its approach to planning regulation. However, this momentum has faltered in recent years. It was amongst the first local authorities to require specific sustainability standards for residential housing through specific wording in their 2001 Local Plan (adopted in 2005). This puts it considerably ahead of the curve when compared to other local authorities. Policy CP.18 required compliance with a *Natural Resource Impact Assessment* (NRIA) for developments over 10 homes or 2000m^2 of non-residential space (Oxford City Council 2005, p. 25). In some respects the *NRIA* is comparable to the *Code for Sustainable Homes,* although it is not as broad or comprehensive.

The purpose of the *NRIA* was to allow developers and planners to 'evaluate the natural resources and environmental impacts and benefits arising from a proposed development' (Oxford City Council 2006a, p. 5) and comprises two components, both of which were developed by the Council itself. The first is a series of questions for developers covering the design of the building. The second is a checklist, with minimum standards across a number of areas; energy efficiency, renewable energy, materials and water use (see Table

8.1[48]). The Council remarks that 'rarely is the City Council likely to approve a development where a score of six is not achieved including at least the minimum standard in each section' (Oxford City Council 2006a, p. 34). More detailed advice on how to comply with the NRIA were contained in the Natural Resource Impact Assessment Supplementary Planning Document, published in 2006 (see Oxford City Council 2006a).

	Minimum Standards		Preferred Standard		Target Standard	
Energy Efficiency	SAP[49] Rating of 'Good'	1 point	SAP rating of 'best'	2 points	SAP rating of 'advanced'	3 points
Renewable Energy	20%	1 point	30%	2 points	40%	3 points
Water	54m^3/bedspace/ year	1	37.5m^3/bedspace /year	2 points	n/a	n/a

Table 8.1: The Natural Resource Impact Assessment Sustainability Checklist

(Source: Adapted from Oxford City Council 2006a)

The most important of these is the requirement that 20% of a building's energy requirements come from on-site renewable energy provision. This was considerably more stringent than the London Borough of Merton's 2003 Merton Rule (which called for a 10% on-site requirement, discussed in section 7.2.). More importantly, no such requirements existed at the national level, meaning that these were supplementary standards. What's more, there was

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[48] Materials have not been included in this table because their points are dependent upon a series of calculation that are not necessary to reproduce here.
[49] SAP – the standard assessment procedure – is a methodology used to define the energy efficiency of a building.

no basis in law for local supplementary standard setting powers at this time, meaning that they were not subject to the stringent testing required of supplementary standards after the publication of PPS1 and, latterly, the NPPF (interview with Oxford City Councillor #1, April 2015). Nor was there a renewable energy standard nationally, so these policies represent somewhat of a watershed.

This innovation reflects a commitment to sustainability that is spread across the Council's activities. It was successful in implementing its 2008 Carbon Management Strategy and Implementation Plan, reducing the emissions from Council activity by 25%. It is the recipient of major national awards, (The Energy Saving Trust's Green Fleet Heroes and Carbon Trust Innovation Award in 2009/10, "Highly Commended" in the Low Carbon Council category of the Local Government Chronicle awards 2011/12) and was one of one 9 leading local authority areas in the UK invited to take part in the DECC sponsored Low Carbon Frameworks project (leading to £360k of additional funding which has helped kick-start Oxford low carbon communities projects and Low Carbon Oxford initiative – discussed below) (Oxford City Council 2012a, p. 1).

More recently, the Low Emissions Strategy (Oxford City Council 2013a) was the first attempt the Council made to integrate an over-arching carbon reduction plan across the Council's policy areas in order to 'provide the framework to ensure that we maximise the co-benefits of tackling climate

change and air quality in an integrated and co-ordinated way (Oxford City Council 2013a, p. 1). These documents commit the Council to a 50% improvement in the energy efficiency of Council Housing, a 40% reduction in overall CO2 emissions by 2002 (compared to 2006 levels) and a 50% reduction in emissions from housing through renewable energy schemes.

8.2.2. The Decline of Sustainable Planning Innovation: From Innovation to Stagnation

Whilst Oxford was ahead of the curve in the earlier days of the zero-carbon homes agenda the same cannot be said today. Even in spite of the engrained focus on climate change across the council on a strategic level, Oxford City Council has fewer policies in place in recent years concerning the sustainability of buildings, even if the commitment to sustainability in other areas of the council remains. Indeed, climate change didn't even feature in the City's 2012 Housing Strategy (see Oxford City Council 2012b) and today it has no policies in place that be considered supplementary in the sense discussed thus far, as we will see below.

During its life the NRIA lost relevance as national Building Regulations were reformed in line with the target for all new homes to be zero carbon by 2016 (see chapter three). Between 2006 and 2013 the NRIA did require sustainability standards supplementary to those in national Building

Regulations, but it was after this that step-changes nationally superseded it, something the Council itself recognizes:

> After 2013, the mandatory criteria for the code for sustainable homes [incorporated in Part L of the Building Regulations] would replace most of the requirements of the NRIA (energy efficiency, water efficiency and use of materials). The energy efficiency and water criteria are also duplicated by the Building Regulations (Oxford City Council 2011a, pp. 12–13)

Surprisingly, the *NRIA* was watered down rather than reformed to keep it 'one-step-ahead', replaced instead with a requirement for Energy Statements to accompany planning applications. This change was made following the proposed (but ultimately delayed) updates to national Building Regulations in 2013. The 2005 Local Plan, where the NRIA was first introduced, was replaced by the in 2011 Core Strategy (which reiterated the existing NRIA policies) and, most importantly, the 2013 Sites and Housing Development Plan Document, which allocated sites for development and sets out detailed planning policies. HP11 of the 2013 Sites and Housing Development Plan Document (SHDPD) states that:

> Until 31 September 2013, the Natural Resources Impact Analysis (NRIA) SPD checklist will be used to assess compliance with this policy. The NRIA would no longer apply to residential developments…from 1st October 2013…The energy statement will replace the NRIA checklist as the means of assessing sustainability criteria after 1st October 2013[50]. (Oxford City Council 2013b, p. 11).

Under this new regime all developers would be required to provide information about the energy efficiency of buildings and how renewable energy has been incorporated into their form and function, much like the questionnaire contained in the NRIA (Oxford City Council 2013b, p. 4). However,

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[50] It does note that should the introduction of Part L updates be delayed the NRIA would continue to apply until that later implementation date.

importantly, there are no minimum targets or levels for any of those categories. Whilst the Council can use the statements as leverage in negotiations, there is little that would allow it to deny an application on the basis of its energy statement (unlike the NRIA or supplementary Code standards). Unlike a Supplementary Planning Document, which provides detail on compliance with a particular policy and which forms part of planning policy, the advice note on energy statements provided by Oxford City Council lacks detail (see Oxford City Council 2013b). It allows for interpretation by developers and offers great flexibility in terms of how the policy is applied.

As a result of the SHDPDP, the NRIA now only applies for non-residential building, although the 20% on-site renewable energy generation rule does still apply as a material consideration for all residential developments of 10 homes or more (although such level of on-site renewable energy is a de facto requirement of updated national Building Regulations).

Even before this watering down though, there have been concerns that the NRIA itself had been poorly implemented over its life. A major advantage of the Code for Sustainable Homes when compared to the NRIA is that it allows planning departments to easily monitor compliance, because the burden for proof lies with the developer to contract an independent Code assessor to show compliance. By developing their internal standard Oxford had to ensure staff in building control enforcement were adequately trained to interpret and apply the NRIA, ensure resources were available for this and ensure that this

level of expertise could transcend new generations of planning enforcers and, crucially, budget cuts. Problematically, one councillor said:

> 'I don't think there are as many officers today who understand this stuff. The department has certainly changed over the years and the officers that were originally involved with the NRIA aren't around any more' (Interview with Green Party Councillor, April 2015).

Indeed, if we refer to table 8.2 we can see that compliance has been decreasing in recent years. There was concern that in recent years there had been a decrease in attention given to NRIA scores in planning decisions as resources became more stretched and the focus shifted in response to the rising saliency of affordability. As one remarked;

> 'The NRIA has slipped away. I think its because officers weren't being firm enough. When it was all new in the lead up to being adopted in policy and the first year or so afterwards, it was very much a case of 'oh look, this is what we can do and we are complying with it'. Once word gets out that the council isn't really being very strict then they don't comply any more' (Interview with Green Party Councillor, April 2015).

2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
n/a	57	100	89	74	58	75

Table 6.2. Percentage of qualifying developments that met the NRIA standard

(Sources: Oxford City Council 2008, pp. 49–50, Oxford City Council 2009, pp. 46–47, Oxford City Council 2010a, pp. 46–47, Oxford City Council 2011c, pp. 40–41, Oxford City Council 2012b, pp. 33–35, Oxford City Council 2013b, p. 37)

So with Oxford we have a situation where supplementary standards that were introduced in 2005, poorly implemented in recent years and have ultimately been watered down rather than strengthened in the face of a strengthening of national Building Regulations to keep them one step ahead.

The question is, then, why Oxford City Council failed to reform the NRIA or, put another way, how it went from a local authority that led in the field to one that requires compliance with little more than national Building Regulations.

8.3. Expertise and Policy Entrepreneurship

Central to the model of environmental policy capacity developed in chapter four is the role that policy entrepreneurs – whether policy champions or policy sponsors – play in institutional design and, in this context, pushing for sustainable construction standards to be included in the policy discourse. We saw that they are both constrained by existing institutional rules and practices but instrumental in the design of new or redesigned rules and practices.

Within Oxford policy entrepreneurs were key to the adoption of the *NRIA*, but over time became restricted in their behaviour by prevailing institutional architectures, the focus of the next section. The original ambition for sustainable construction that resulted in the *NRIA* emerged because of considerable expertise amongst the Green Party Group in the Council - who at the time had seven out of a possible 48 seats on the Council (Oxford City Council 2004). The deputy leader of the Council and portfolio holder for planning at the time remarks that:

> 'The members and officers were clearly concerned about this. We had a reasonably strong 'small g' green lobby at the time and we also had the large G Greens knocking about, but there was a bit of public and political pressure to take an interest in these things as well. We are a relatively small-l liberal, tolerant place that is concerned about sustainability. The other thing is that land values in Oxford are relatively high so you're better able to evidence that

sustainability requirements don't compromise viability' (interview with Oxford City Councillor #2, March 2015) [51].

It was shortly after the adoption of this standard that sustainable construction rose on the national political agenda. The Code for Sustainable Homes, for example, was in its drafting stage and a core priority of the Labour government – as we saw in chapter three – was to use housing as a means to lower emissions as part of a broader low emission strategy. The Oxford Green Party were keen to seize the opportunity to capitalize upon their chair of the Local Plan Review panel to engage in discussions with officers about what was and wasn't possible and, in doing so, drafted the NRIA (interview with Oxford City Councillor #1, April 2015). As the head of planning policy in the City said,

> The NRIA was a product of its time. We had positive green members. It doesn't matter what party they're from, they're all really hot on the green agenda. Initially, when we drafted the Natural Resource Impact Analysis SPD, it was them who were pushing it. All the councillors like to 'out-green' the Greens. Whoever is in, it's so important to all of them, they're all clued up on the environmental and sustainability matters (Interview with Head of Planning Policy at Oxford City Council, March 2015).

The Green Party played an important role in championing the NRIA throughout the Local Plan drafting process, ensuring that NRIA compliance became a binding (rather than optional) requirement for developments. It met with little internal opposition ('the main reason why there wasn't any objection was because a lot of the councillors didn't really understand it, to be perfectly

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[51] The reader may be wondering why, given their supplementary status, the incorporation of this early NRIA standard doesn't form the core of the empirical discussion. First, at the stage no national strategy existed nationally. Given that the focus here is on contributions to national processes of EM, so this falls outside the remit. Second, at the outset of the research the focus remained on the CSH as a potential site for supplementary standards (given its relation to the national strategy), so little consideration was given for these kind of 'ad-hoc' arrangements that, at that time, remained rare.

frank' (interview with Oxford City Councillor #1, April 2015)), nor opposition from housing developers (Interview with Deputy Leader of Oxford City Council, March 2015). The portfolio holder at the time said 'I certainly didn't get any correspondence about this from house builders. They target their representations in areas where they think their input makes a differences.' (Interview with Oxford City Councillor #2, March 2015).

Over time (as we saw above and will discuss below) this expertise was lost as priorities within the Council shifted. Evidence from interview respondents suggests that in the face of budget cuts from central government and as complacency over the NRIA set in the technical expertise of planning officers declined over time. There was no 'go-to' officer qualified in the technical aspects of sustainable construction, making it difficult to fully confront developers and challenge the sustainability credentials of their proposals (Interview with Oxford City Councillor #2, March 2015).

8.4. Institutional and Economic Constraints

The focus of this discussion though is less on why entrepreneurs were able to behave in this way *at the time* but more on why this momentum was not maintained going forward. Over time few efforts were made to contribute to the zero-carbon homes agenda by adopting Code standards, even as the NRIA became out-dated because of changes to national level Building Regulations. A window of opportunity had emerged in 2007 with the

devolution of supplementary standard setting powers where local ambition was high, political saliency nationally was high and comparatively small restrictions were placed on local authorities keen to embrace them, at least until 2012 when the *NPPF* restricted local government's ability to behave in this way, as we saw in section 3.6., closing this window considerably.

Two factors can help account for this. First, there were increasing returns associated with the NRIA that institutionalised it as the preferred approach to the provision of sustainable homes within the Council. As a recent policy there was little political or economic appetite to replace it with Code requirements, especially considering (as we will see) the scepticism that exists within the Council over the principles underlying the Code itself and considering the extent to which the NRIA suited the needs of planners at the time. These institutional practices – complacency and scepticism – constrained the range of appropriate behaviour by any policy champions keen for reform.

Second, a number of institutional rules crowded sustainability off of the political agenda, focussing attention instead on housing affordability. These include: an acute housing crisis and rigorous affordable homes requirements, a continued growth in employment and a range of growth restriction and green-belt policies. The two together – complacency and declining political saliency – quelled the focus on sustainability within the planning department, leading to a decline in expertise and ambition over time.

Each will be discussed in turn.

8.4.1. Institutional Practices: Increasing Returns, Complacency, Uncertainty and Scepticism

A process of increasing returns set in as the *NRIA* was institutionalised into various planning policies, meaning that planning policy makers missed a window of opportunity to institutionalise *CSH* targets. The *NRIA* required considerable scoping work, evidence bases, consultation and drafting and was a key electoral commitment of the Green Party and Liberal Democrats (who had 18 of the 48 possible seats at the time; Oxford City Council 2004), making the justification or incentive to remove it small:

> 'We got on to other projects [after the NRIA]. We've written two other area action plans since and numerous other supplementary planning documents. When each of these plans comes a lot of background technical work; habitat regulations and sustainability appraisals and so on need to be carried out. Sustainability has not been a priority. The West End Area Action Plan was adopted in 2008, so we had the NRIA at that point. Pretty much, the next project after the NRIA was this AAP. So chronologically the NRIA was a fresh document. We've got this to apply, we're still under 2006 Building Regulations so all those energy efficiency regulations were still applying. It didn't make sense to then update it, and the Code at that time was not the Code that had been refined over the years. Then we were reviewing the Sites and Housing Plan and we were also doing the Barton Area Action Plan. We wanted to maintain the consistent approach. This NRIA was the approach that worked in the City. We did look into the Code, and we did consider it. But we knew the NRIA worked. We knew this worked' (Interview with planning policy manager, April 2015)

Indeed, evidence from the submission and inspection of these AAPs in particular suggests that little effort was made to incorporate higher standards. Whilst the 2008 West End AAP reiterated the NRIA, the 2012 Barton AAP had removed all reference to the NRIA, instead focusing exclusively on the 20%

on-site renewable requirement, highlighting the general decrease in importance assigned to the NRIA as a sustainability standard. Interestingly, the Inspector of the West End AAP remarked that although some had suggested that Code standards be included, the Council had provided a lack of evidence or will to do such a thing. She said in her appraisal that 'it has been put to me that increased energy efficiency standards should be required for the development at the West End, but this is not supported by detailed evidence. This is a matter of detail for the Council in its consideration of planning and building control applications' (Oxford City Council 2014a, p. 27).

There were more thorough discussions on sustainable construction during the SHDPD drafting process. Three recommendations were considered by officers, either: to introduce Code requirements in advance of those nationally; to maintain the existing NRIA approach; or to maintain a 20% on-site renewable energy requirement without the NRIA or Code. It was acknowledged that a failure to update the NRIA, 'could be a missed opportunity to move the policy framework forward' and that if that were the case 'the NRIA would need to be updated as a matter of urgency' (Oxford City Council 2011a, p. 14). There was awareness of the Code and discussions on including Code requirements in plans coming forward.

Responding to an Energy Savings Trust audit recommendation that Oxford looks to specifying minimum Code levels beyond Building Regulations, planning officers commissioned viability studies into a Level 4 standard.

Despite finding that 'the majority of the sites of 10 or more homes were considered to be viable with no reduction in affordable housing [and that] Code for Sustainable Homes Level 4 [is] thought to be a sensible policy option' (Oxford City Council 2011a, p. 9), the proposal wasn't taken forward.

Instead, as we saw above, the SHDPD opted for a business as usual approach with the NRIA in place until the 2013 Building Regulations were updated nationally, after which it would be dropped from policy.

Accompanying this process of increasing returns that followed from the institutionalisation of the NRIA was a growing uncertainty and scepticism of the role of local authorities as contributors to sustainable planning policy and the Code for Sustainable Homes as a means to achieve sustainability. By the time that these Code policies were being considered for the SHDPD there was rising uncertainty about both the Code for Sustainable Homes and the entire zero-carbon homes agenda (as well as local government's role within it). The election of a new Conservative-led coalition government in 2010, publication of the NPPF in 2012 (with its accompanying restrictions on local behaviour and broadly de-regulatory overtones), delays to the step-changes to national Building Regulations (see section 3.2.), and the difficulties faced by stakeholders in defining key technical and economic elements of 'zero-carbon' meant that local planning policy makers remained hesitant to embrace such powers amidst such uncertainty.

'It's been the government's intention to phase out the Code for a while. We knew about this for a while, so we were like 'okay, lets look at what works well

in the NRIA, what we can have control over. (Interview with planning policy manager, April 2015)

This reflects scepticism the more generally to the Code for Sustainable Homes that we saw in Section 3.2., and to local authorities role within the provision of sustainable housing that grew after the publication of the NRIA. Evidence from interviews with planning policy makers suggests that the planning department disagreed with the underlying premises of supplementary standard setting for sustainability that a) local authorities should have discretion to set higher standards and b) that the CSH was the best means through which sustainability could be achieved. Conversations with those involved in policy within the planning department have indicated a degree of scepticism regarding the suitability of using local authority planning policy to push for sustainable construction standards, favouring a national level building regulation approach. One planning policy manager remarked that:

> 'Our members were very supportive of the NRIA, but the messages that we were getting from going to conferences and things was that Building Regulations – at the national level – are the best place to deal with these issues. I think the Code proved quite complicated, certainly it was quite a challenge working my way through all of the Code; (Interview with planning policy manager, April 2015).

There was little faith in the suitability of the Code amongst planners, coupled with a sense of pride in the NRIA and an aversion to casting aside what had been a very effective document in its time. The sunk costs associated with the NRIA (whether through staff training or familiarity by housing developers) precluded its abolition in the earliest stages. Tellingly, despite the evidence

that Code requirements would not affect the viability of development sites –

discussed above – there was still resistance within the planning department:

> Bearing in mind that not all of the sites that were tested were viable anyway, but a sufficient number were to make the reasoned justification for introducing a [Code] policy. I think we would have been in a situation in which very few sites were coming forward to development. I've got no evidence to show for this, it's just knowing Oxford (Interview with Planning Policy Manager, April 2015).

Yet these practices – complacency, uncertainty and scepticism – need to be

situated within the prevailing institutional rules, because they are closely

related. As Lowndes and Roberts (2013, p. 53) tell us, 'rules may specify

practices through which actors must enact the rules' and whilst there isn't an

overt specification amongst prevailing institutional rules, the practices we see

above can be better understood if we situate them within that context.

8.4.2. Economic Conditions and Institutional Rules: High House Prices , Housing Shortages, Growth Restriction and Affordable Homes Targets

Those advocating sustainable construction or tasked with legislating for it

were operating in the face of a narrative which prioritises housing affordability

and housing provision over sustainability given a growing housing crisis,

fuelled by rules that restrict housing growth and promote employment growth.

In the following section we will see that although some expansion has been

permitted in recent years, Oxford City nevertheless suffers from an acute

housing shortage that shows few signs of improving, driven by continued and

rapid employment growth and growth restriction from a surrounding greenbelt.

This has prioritised an institutional commitment to affordable homes provision,

but amongst decision makers the dominant narrative is that affordable housing and sustainable housing are mutually exclusive. In this political climate, the former has become a core focus of legislative activity at the expense of the latter, especially considering the emergent practices discussed above. Quite simply, sustainability became a less pressing legislative concern than housing affordability.

Oxford suffers from a housing shortage, shortage of available land and an accompanying shortage of affordable homes to meet ever-increasing population growth. Oxford today has the most unaffordable housing outside of London, as measured by house prices to average earnings ratios, with prices increasing steadily (Hometrack 2015). The City has been described as 'a city with London house prices and Midland wages' (Oxford City Council 2011c, p. 4). We saw in Table 5.2 that average house prices had increased by 30.1% between 2006 and 2012 (to an average of £328,625, compared to a UK average of £224,488) and were, on average, 9.1 times average earnings (compared to a UK average of 8.01).

As a result, there is a huge need for affordable housing in the city. A 2007 Housing Market Assessment for Oxfordshire estimated a shortfall for Oxford of between 1,981 and 4,884 homes per year between 2011 and 2016, taking account of the existing backlog of those requiring affordable homes. Worryingly, 'if every new home built in Oxford was affordable, we would still not meet the need. The annual need will in the future increase as the backlog

increases' (Oxford City Council 2011d, p. 35). Prices would need to drop by 15% for an average dual income family to consider housing in Oxford affordable (Oxford City Council 2011c, p. 5). Public consultation and surveys have indicated strong support for an increase in the provision of affordable homes, with 53% of residents listing the lack of affordable as their top priority for the Council in 2011 and 51% listing high house prices as a top three issue (Oxford City Council 2011c, p. 4, 2011d).

Table 8.3 below shows the situation in 2014, using data drawn from a 2014 housing market assessment commissioned by the Council.

Housing Needed Per Year (2011-2031):	A. Demographic Base + Shortfall	B. To Support Committed Economic Growth	C. To Meet Affordable Housing Need in Full	D. Range: Housing Need Per Year	E. Mid point of Range
	780	**700**	**2058**	**1200-1600**	**1400**

Table 8.3: Housing Need in Oxford City

Source: GL Hearn 2014, p. 24

The City needs 780 houses per year in the 2011-2031 period simply to meet existing shortfalls and address demographic changes (column A), plus an additional 700 associated with an employment growth strategy (column B) and 2058 to meet affordable homes requirements (assuming a 50% affordable homes requirements on development in the City). This leaves a mid-point requirement of 1400 homes per year. Yet, historical construction

figures cast doubt on the ability to achieve this projected requirement (see Table 8.4).

Year	Housing Completions	Cumulative Completions Total	Plan Target	Cumulative Plan Total
2005/06	943	943	433	433
2006/07	821	1764	433	866
2007/08	529	2293	400	1266
2008/09	665	2958	400	1666
2009/10	257	3215	400	2066
2010/11	200	3315	400	2466
2011/12	228	3543	400	2866
2012/13	213	3756	400	3266

Table 8.4: Historical Housing Completion Rates in Oxford City Council

Source: (Oxford City Council 2006b, p. 12, 2013c, p. 16)

Whilst completion totals are in line with plan targets (3756 homes compared to 3266), there are two observations. First, the number of completions are slipping when compared to plan targets. Since 2009 the council has failed to achieve the 400 required. This coincides with the removal of regional strategic planning and the introduction of the NPPF which, as we discuss in section 3.6. Second, the need for 1400 homes per year is a long way from either the 400 target in this plan cycle or the number of completions that Council has historically been achieving[52]:

> 'The level of need for housing identified is quite different from that delivered in the past. This reflects evidence that housing provision in the past has not kept

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[52] This places responsibility on neighboring local authorities, which is discussed in more detail below.

pace with that needed; the need to house a growing older population (with people living longer); and the significant drivers – particularly in terms of job creation – which are expected to influence future need for homes…this reflects the particular affordability pressures and acute need for affordable housing within the City ' (GL Hearn 2014, pp. 24–25).

This economic situation shows few signs of improving and is having a profound effect on the political landscape in Oxford City Council and the ability for of the NRIA to even be 'maintained', let alone improved or replaced with the CSH.

Yet the extent to which these constraints show signs of exacerbating (and indeed the reason for the housing crisis in the first place) is frustrated by a growth restriction strategy that has limited the extent to which the affordability and housing provision issue can be rectified and, with it, the relative political saliency of affordability.

A restrictive greenbelt has prevented growth and expansion, placing further pressure on the housing market as employment continues to grow and the further entrenchment of a narrative prioritising affordable home provision. One of the other major institutional concerns within the city – and a major contributory factor in the housing crisis – is the environmental constraints that it is subject too that serve as a brake on housing growth by restricting the amount of developable land and restricting the extent to which affordability and housing provision can be addressed. An inability to review the greenbelt has meant that this problem is yet to be alleviated, cementing the issue's place at the top of the political agenda locally. A fundamental issue is that

planners in Oxford are concerned at a lack of developable land within the City boundaries. The city is surrounded by tightly drawn city boundaries, a restrictive greenbelt that falls largely outside those boundaries, a high prevalence of flooding within the valleys of the River Thames and River Cherwell, protected views and areas of outstanding beauty and architectural heritage (Oxford City Council 2011e).

The Council recognizes this as a 'key overarching spatial issue for Oxford' (Oxford City Council 2011e, p. 18). This restricts the availability of both greenfield land (most amenable, as we saw in section 7.8., to both large scale development in order to solve housing shortages and to efficient, cost-effective sustainable construction), as well as brownfield land. Where land is developable, it is heavily skewed towards brownfield infill sites rather than more virgin green-field sites (see Oxford City Council 2013d, pp. 7–17).

> We have very little greenfield. Much of the greenfield land that's left is green-belt, flood plain, natural conservation area, public open space, historical parks and gardens, children plays areas, allotments. You know, it's already green space. We can't put the house there, even if we wanted to (Interview with Planning Policy Manager, April 2015).

Problematically, the greenbelt falls largely outside the administrative borders of the City. Instead they fall under the remit of Oxford's four neighbouring district authorities (Cherwell, West Oxfordshire, South Oxfordshire and The Vale of White Horse District Councils). This has made it difficult for the Council to undertake greenbelt review, given the political contestations involved in this kind of cross-border working (more on this below).

For many years, under the old regional planning frameworks (see section 3.5), the city was subject to restrictive growth. The South East of England Structure Plans (of which there were eight between 1979 and 2005) placed a brake on the extent to which Oxford could expand, thus limiting the voices calling for green-belt expansion:

> The County Council wants to see Oxford thrive as a first class vibrant city, modern in outlook with a diverse economy… This does not mean that Oxford should grow unchecked, so as to damage its heritage and landscape setting and increase pressure on transport and other services. Because of the substantial imbalance between jobs and workforce in Oxford, *the overall growth of employment in the city will continue to be limited. Land is available within the city to support the development of employment sectors that need to be located there*' (Oxfordshire County Council 2005, p. 4 emphasis added)

The 1996 Oxfordshire County Council Structure Plan too advocates 'general strategy to protect the environment, character and agricultural resources of the County by restraining the overall level of development' (Oxfordshire County Council 1996).

This was in spite of continued employment growth. Oxford has a long manufacturing tradition but, recently, has also become a centre for high-tech industry as a result of spin-offs from the University of Oxford and Oxford Brookes University. Oxfordshire County as a whole has 1,500 high tech firms, employing 43,000 (SQW 2013, p. 9) gathered broadly around four nodes: telecoms & computer hardware, bioscience and medical technology, physics related, and engineering & electronics (SQW 2013, p. 1). 59% of people in Oxford are educated to degree level, compared to an average of 33% for the rest of the country (SQW 2013, p. 27), and 13.4% of people work in medium

or high tech industry in Oxfordshire, compared to 9.8% nationally (SQW 2013, p. 29).

New rules have emerged that try to institutionalise a commitment to affordable homes provision, but they do so at the expense of a concern with sustainability because there is a perception amongst decision makers in the city that an increased focus on sustainability cannot be reconciled with the provision of affordable homes in a positive sum relationship, despite evidence to suggest the contrary. To respond to the growing affordability crisis the Council introduced a requirement that all new developments would need to consider affordable homes provision in the 2001 Core Strategy. Policy HS4 of the 2001 Core Strategy states that:

> 'The City Council will expect affordable housing…from any development of at least ten dwellings, that includes residential development on a site having the capacity for at least ten dwellings[53]; or on a residential site of 0.25ha or more in an area' (Oxford City Council 2005, p. 79)

This requirement was reinforced in Core Strategy Policy HS.24 (Oxford City Council 2011e, p. 111) to include a specific target requirement:

> 'Planning permission will only be granted for residential developments that provide generally a minimum of 50% of the proposed dwellings as affordable housing on all qualifying sites[54]' (Oxford City Council 2011e, p. 111).

This policy was reiterated in the 2013 SHDPD (Oxford City Council 2011c). In addition, an Affordable Housing Supplementary Planning Document, published in 2013, provided more detail about how that requirement should be

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[53] On viability, analysis commissioned by the Council suggested that a 50% requirement on developments smaller than 10 would be unviable. This analysis stated that 'the majority of sites of 10 or more dwellings are viable, where 50% of dwellings are provided as affordable homes…[but] that sites of less than 10 dwellings were generally not viable with 50% affordable housing provided on‐site' (Oxford City Council 2011d, p. 37)
[54] Sites of 10 or more homes or 0.25ha and greater.

met, including detail on exemptions, viability concerns and alternatives to direct provision (such as payment into an affordable housing fund) (Oxford City Council 2013e).

The advantages of this stringent approach to affordable housing provision is that it tries to maintain a supply of affordable housing, but given that the majority of developments provide less than 10 homes, on site provision of affordable housing will be limited (instead provided elsewhere, likely outside the City boundaries). Not surprisingly, it met with resistance from housing developers (Interview with planning policy officer, April 2015) and was challenged (unsuccessfully) at inspection (The Planning Inspectorate 2010).

Housing affordability remained at the top of the political agenda, so it is unsurprising that such a commitment to the provision of affordable homes was made. All political parties were aligned in a push for housing expansion and affordable home provision, fearful of anything that might be perceived to jeopardize that. Yet despite Council commissioned studies showing that requirements for supplementary standards, affordable housing and the 20% renewable energy rule 'would not normally make developments of 10 or more dwellings unviable' (Oxford City Council 2011d, p. 24), any sense that restrictions were being paced on development (through regulatory burden) could not be reconciled effectively with the drive for increased provision of (affordable) homes. The Council-commissioned Affordable Housing Viability Study (King Sturge 2011, p. 29) gives a good sense of this attitude:

'Oxford City Council are keen to maximize the number of affordable homes provided whilst promoting environmental awareness and reducing costs for occupiers of affordable housing. However they recognize that delivering housing at Sustainable Code for Homes Level 4 and 5 results in increased build costs. As such, they support sustainability initiatives wherever possible but appreciate that in the short to medium term, the costs may limit opportunities to deliver affordable homes which achieve the highest Code Level'.

The perception from interview respondents supports this view. Many remarked that proposals to strengthen the NRIA or introduce CSH targets would be political unattractive and unlikely to pass muster in a legislative landscape that seeks to grease the wheels of housing provision (Interview with Deputy Leader of Oxford City Council, March 2015; Interview with planning policy officer, April 2015). Legislators and officials felt comfortable with the NRIA and felt that any attempts to strengthen it would lead to a restriction in the overall housing supply, despite evidence suggesting the contrary.

There is a general agreement that Oxford City will be unable to accommodate all of its own unmet housing need, relying instead either on greenbelt review, a population decline or the cooperation of neighbours willing to accommodate large scale development in their boundaries (GL Hearn 2014, LUC 2015, p. 1). However, whilst there has been a small recent growth in the number of development sites, this has been undermined by a recent employment-growth strategy and very limited green-belt release. The City has issues with the amount of available land in the City, leading to uncertainty about how such employment growth can be accommodated within the existing city boundaries

or how existing infrastructure can cope from inter-town and city commuting, especially considering over 40,000 people per day commute across the greenbelt from neighbouring towns and villages (Oxford Civic Society 2014a, pp. 13–15). In this context it is unsurprising that affordability and provision remain so high on the agenda.

The 2006 Core Strategy (adopted in 2011) proposed a growth in housing. Responding to figures outlined in the South East Plan, the last of the regional plans, it proposed 8,000 additional dwellings over the period 2006-2026, roughly 400 per year (Oxford City Council 2011e, p. 41), distributed as follows:

Site Name	Type of Development	New Development or Regeneration?
Barton	800-1200 dwellings	New
Northern Gateway	55,000m^2 of employment development + 200 dwellings	New (greenbelt land)
West End	700-800 dwellings + retail + offices	Regeneration

Table 8.5: Major Development Sites in the 2006 Local Plan

(Source: Oxford City Council 2011e, pp. 43–57)

The remainder of the projected housing need development comes from:

Site Name	Percentage of remaining Core Strategy Housing Figures
Headington	35%
Cowley Road	13%

Cowley/Blackbird Lees	20%
Summertown	13%
City Centre	18%

Table 8.6: Housing Development Sites

(Source: Oxford City Council 2011e, pp. 51–68)

However, this land is primarily brownfield and/or inner city development. It remains the case that Oxford is subject to highly restrictive growth, with only limited signs of change.

The South East Plan did allocate a major growth point – albeit one in neighbouring authorities – in the South Oxford Strategic Development Area. It also outlined proposals for major developments at Didcot, Bicester, Wantage and Grove (within neighbouring authorities) that would contribute towards Oxford's unmet housing need (Government Office for the South East 2009, p. 250). Needless to say, there was considerable dispute surrounding the negotiations of these figures (interview with reader in planning, Oxford Brookes University, May 2015), but the strategic, regional nature of this now redundant planning regime meant that such disagreements would not prove fatal. In this regard, the plan was clear:

> 'The settlement pattern of the sub-region will change over the Plan period. Oxford itself will be allowed to grow physically and economically in order to accommodate its own needs, contribute to those in the wider region and help maintain its world-class status' (Government Office for the South East 2009, p. 251)

It was this strategic approach that did allow small parcels of land to be freed from the greenbelt specifically to meet Oxford's unmet housing need at the

Northern Gateway, Barton and the West End of the City (Oxford City Council 2011e).

Yet the election of the Conservative-led coalition signalled an end to the Regional Planning system, who replaced it instead with the NPPF and its 'Duty to Cooperate'. No longer were authorities bound by strategic plans and obliged to cooperate on housing provision. They were free instead to negotiate their own arrangements with neighbours, subject to certain requirements. Needless to say, South Oxfordshire District Council immediately withdrew from the South Oxford Strategic Development Area. Oxford would lose 4,000 potential homes, with only the Northern Gateway remaining as a major urban extension.

To add even greater pressure onto the City's housing market it is embarking upon an employment-led growth strategy with only limited provision for housing, focussed primarily around the Northern Gateway. This employment growth agenda is being heavily influenced by the Oxfordshire Local Enterprise Partnership (OxLEP) - a collection of local business leaders who decide on funding allocation and infrastructure planning in the region in dialogue with central and local governments. The City signed the OxLEP-driven Oxfordshire Growth Deal in 2007, which attracted £118m of funding for employment growth strategies focusing around innovation, enterprise, connectivity and skills (Cabinet Office 2015). OxLEP also played a central role in the January 2014 Oxford and Oxfordshire City Deal, together with the districts and the two

Universities in the City. City Deals enable 'local leaders to negotiate bespoke arrangements with government departments according to their local growth priorities' (National Audit Office 2015, p. 12). At the heart of this Deal was the creation of a 'knowledge-spine' connecting towns in the North and South of the County with Oxford in the Centre through a package of transport and communication infrastructure improvements in order to 'unleash a new wave of innovation-led growth by maximizing the area's world class assets, such as the universities…and 'big science' facilities' (Oxfordshire Local Enterprise Partnership 2014a, p. 1). Accompanying this was the promise of 19,000 new white-collar jobs, 31,000 in construction and 500 apprenticeships (Lawton Smith *et al.* 2013, p. 665).

The Deal committed to the accelerated delivery of 7,500 additional homes (Oxfordshire Local Enterprise Partnership 2014b). However, this delivery programme offered no new housing development sites beyond those already allocated in local development plans and provided few concrete tools through which the target could be realized beyond existing political arrangements and planning policy documents, the latest of which have been drafted before the City Deal and the Growth Deal. Within this plan housing allocation was effectively side-lined and asked little in the way of commitment from Local Authorities in order to reflect housing shortages associated with LEP-growth (Cabinet Office 2014). Nor did it propose any new powers or mechanisms through which growth restriction could be reformed or cross-border working could be fostered.

An illustration of this can be found when looking at the Northern Gateway development. The Northern Gateway is a major employment-led growth site of 55,000m^2 of employment development and 200 dwellings that has evolved from the Oxfordshire Growth Deal, the City Deal and the work of OxLEP and is managed through the Northern Gateway Area Action Plan. It sits on (over 10 acres of) greenbelt land which, despite opposition, was agreed for release by the Planning Inspectorate when the AAP was reviewed (Oxford City Council 2014b, p. 4, The Planning Inspectorate 2015b, pp. 11–13). Even though it is recognized as the most important development opportunity for the City, and will provide the single largest area of employment land, few accommodations have been made for the increase in population that will result (Oxford City Council 2014a, p. 2). The discrepancy between the figures for employment (55,000m^2) and housing (200 dwellings) are stark.

It remains unclear how the employment growth strategy can be reconciled in a city with an acute housing shortage, affordable homes crisis, restrictive greenbelt policies and a shortage of brownfield developable land. It is unsurprising, in this context, that the issue housing provision and affordability has remained so central to the political agenda.

8.4.3. Institutional Synchronicity

In Oxford there was a lack of rule-based synchronicity, whereby it had only recently adopted its local planning policy documents (after many years of negotiations) when supplementary standard setting powers emerged nationally. What's more, it had only recently adopted the NRIA too. Given the sunk costs in its development – whether political or economic – the Council was unwilling to include national Code type targets when it next had the opportunity on geographically bounded planning documents or in site-specific planning applications. In this sense, there was a conflict between local and national institutional sustainable planning rules that had largely emerged as a result of temporal factors.

When it comes to practice-based synchronicity there was little political willingness within the Council to embrace supplementary standards – even in spite of a high number of Green Party representatives. This was in part because of the prevalence affordability on the political agenda but also because, as a number of local officers and politicians and local industry and civic groups remarked, the planning department has a 'can't do' attitude. This manifest itself in the dismissal of voluntary aspects of planning policy – such as supplementary standard setting – which were dismissed on the basis of a shortage of economic, political or temporal resources.

What's more, its restrictive growth can be appropriated in part to the culture of 'political dissonance' between Oxford City Council and its neighbours (see

section 8.5.1. below), who are deeply resistant to the City's expansion (Valler and Phelps 2016). So, the scope for the embrace of supplementary standard setting powers was frustrated by a lack of synchronicity between those rules and prevailing local practices. Within Oxford City Council the prevailing narrative was one of affordable homes provision, with a dominant storyline in place that a focus on sustainability would come at a cost to provision of affordable homes, together with an unwillingness to risk the consequences of such innovation.

8.5. Network Dynamics: Crowding Out, Powerlessness and a Faltering Sustainability Agenda

We have seen that policy makers, planners and entrepreneurs in Oxford City Council suffered from a degree of complacency about the utility of the Code for Sustainable Homes and the challenges of responding to the paradox of employment growth in a restricted city, but there has been a determinacy thus far about the degree of agency within such an institutional context. It is not the intention of this chapter to attribute the decline of sustainability in planning on institutional factors alone. Relating back to the analytical model developed in chapter four we know that the influence of institutions and agents is dialectical and mediated through policy networks; actors are both constrained by institutions but also constitutive of them and the extent to which they are able to interact within this institutional landscape is, in part, determined by their

placement within policy networks, given the importance of these networks as institutional designers in their own right.

As we saw, in Oxford policy entrepreneurs were constrained by prevailing institutional practices and rules that prioritised employment growth and remained focused on the provision of affordable homes at the expense of a concern with sustainability. However, it is also the case that they were badly placed and resourced within the local policy network to be able to *re-design* those institutions (to include a greater formal and/or informal commitment to the principles of sustainable construction, for instance).

Within Oxford the policy network is dominated by actors pushing for either employment led growth strategy or an urban, greenbelt expansion. In both cases these groups possessed more resources than those advocating sustainable construction.

8.5.1. Pro-Growth Groups

Beyond the Council, which obviously possesses considerable resources as legislator, the Oxfordshire Local Enterprise Partnership has played an important role in structuring the approach taken to growth and development in the City. Its membership is made up of representatives from local business, chambers of commerce, leaders of the districts, City and County councils and

the two Universities[55] in the City (OxLEP 2015a) and since its inception it has institutionalized a commitment to growth:

> 'Our Strategic Economic Plan sets out our ambition for Oxfordshire to 2030 – to drive accelerated economic growth to meet the needs of our science and knowledge rich economy placing Oxfordshire at the forefront of the UK's global growth ambitions' (OxLEP 2015b, p. 3).

It has also been influential in the City Deal and formation of the Knowledge Spine, significant forces in local development. The UK government's recent focus on City-Deals and LEPs as a means to drive economic growth in cities has created a new institutional framework at the local level with a number of formal powers ascribed in particular to LEPs which broadly coalesce around the content of the City Deals (see Lowndes and Gardner 2016). These include working with central government to establish investment priorities, bidding to the Regional Growth Fund, direct investment, involvement in the development of national planning policy, local business regulation and involvement in the delivery of national infrastructure priorities (House of Commons Library 2015, p. 6). Although they lack strategic planning powers they do have considerable influence in the strategic development of the individual councils over which they are spread.

However, there is little evidence from interview respondents to suggest that sustainability is taken seriously within these discussions, again being crowded

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[55] It is interesting to note that Oxford University in particular has been urging for housing growth for many years, for many of the same reasons that the University of Cambridge made similar demands – recruiting doctoral post-doctoral researchers and support staff is becoming more difficulty with rising house prices and rents. However, unlike Cambridge there are no major development sites for the University, meaning that it has been relatively quiet on the need for sustainable construction. We will remember that in Cambridge the NW Cambridge development was University owned and there were strong incentives to build sustainably, a decision that set a precedent for development elsewhere.

out by a concern with affordability. For example, in the words of one local activist:

> 'We went to this LEP workshop and we were talking about sustainability. There was this guy from the LEP board. I said 'well, affordability versus sustainability?' and he said 'we would chose for affordability because that's the healthiest for economic growth'. They don't see it as something that can be combined, they see it as either or and that becomes the agenda (Interview with community activist, May 2015).

Oxford City Council and OxLEP have also been strong advocates of greenbelt expansion, working closely with Oxfordshire County Council and Oxford's four neighbouring local authorities. However, this relationship has been marked by considerable political dissonance, frustrating efforts to review the greenbelt in the way the Cambridge City Council was able (which arguably, *ceteris paribus,* would have created sufficient room on the political agenda for sustainability to emerge alongside affordability as policy concerns, as it did in Cambridge).

8.5.1.1. Political Dissonance

Political dissonance is defined as 'sustained, institutionalized conflict marked by contradictory visions and policy incongruity [which] may reflect fundamental differences of ideology, objectives, strategy or policy, or – more likely – a combination of some or all of these levels' (Valler and Phelps forthcoming). The relationship is characterized in Oxfordshire as such given historical tensions over the extent to which Oxford's growth should be accommodated in neighbouring authorities and whether greenbelt review should take place. Broadly, whereas Oxford is keen to expand (primarily

through a greenbelt review) its neighbours and County Council have been resistant to any such proposals.

There has been sustained conflict between Oxford City Council, it's neighbouring authorities and the County Council, 'regarding the scale and location of growth around Oxford, [with] frustratingly slow progress on approving local plans for housing and employment growth throughout the county, and a surprising ambivalence about the major infrastructure investments that the high tech business community repeatedly says it needs' (SQW 2013, p. 67)

> 'There is real antipathy between the councils. The other councils will not consider the expansion of the city. There's just complete opposition. It's really controlling the city, and preventing housing growth. It's a big scandal. The surrounding districts are implacably opposed to Oxford's growth. The County Council is swayed very strongly by the fact that there are four other district councils outside of the city and that the city is a relatively small part of the county. So, when the county is looking at where the wind is blowing, the wind will be blowing from the districts' (Interview with Reader in Planning, Oxford Brookes University, May 2015).

Central to the argument between Oxford and its neighbours is whether the greenbelt should be reviewed. The latter argues that unmet housing can be accommodated within Oxford's city-boundaries or in existing conurbations away from the city. The former argues strongly against this, citing concerns with congestion, pollution and quality of life as more people will be forced to commute across the greenbelt to work. Because Oxford's greenbelt lies largely outside of its administrative border cooperation on this matter is key if the agenda is to progress:

> It's been impossible [to consider greenbelt expansion]. There are two issues which are related. We have tightly drawn green belt and we have tightly drawn urban boundaries. So the decision on whether or not to build on the

greenbelt is one for our neighbours, Cherwell and particularly South Oxfordshire. They tend to be opposed to Oxford expansion. That's the difficulty. If it were greenbelt within the Oxford boundary then it would have been easier. You would still have to go through the planning process to free up green belt but it's that much harder if you're having to ask your neighbours' (Interview with Deputy Leader of Oxford City Council, March 2015)[56].

Much of the disagreement stems from these political differences. Between 1980 and 2000 Oxford City Council was Labour-controlled, with a mix of minority and majority leadership (with the Liberal Democrats) in the intervening period (currently with a Labour majority). The neighboring districts, on the other hand, have predominantly been Conservative controlled since their inception in 1973. As one respondent said, 'The Tory party is incredibly strong here, why would they listen to the city?' (Interview with Reader in planning, May 2015). Another said, 'you're having to ask neighbouring Tory district who don't like much house building to help you out. They're not going to do it' (Interview with Deputy Leader of Oxford City Council, March 2015). This put the council at a considerable resource disadvantage, given that it would be precluded from growing (see section 4.5.5.).

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[56] There was considerable disagreement of the status of other developments allocated to greenbelt land, particularly at the Northern Gateway. South Oxfordshire District Council and the Vale of White Horse District Council 'contend that the preparation of the [Northern Gateway] AAP conflicts with the approach of the Statement of Cooperation, which requires each local planning authority first to seek to accommodate their own objectively assessed need in full before identifying unmet need which other authorities would be asked to accommodate' (The Planning Inspectorate 2015b, p. 6). The Planning Inspector disagreed, rejecting the claims from neighboring authorities (The Planning Inspectorate 2015b, p. 7). Oxford itself makes frequent representations at inspections for neighboring districts' plans, citing concerns that they have failed to fully meet the Duty to Cooperate. For example, in response to the May 2015 inspection of Cherwell District Council's Local Plan Oxford commented that 'the spatial strategy for Cherwell has failed to test all reasonable alternatives to accommodate development despite market indicators pointing to substantial unmet need and affordability issues, particularly around Oxford' suggesting that 'Cherwell should be planning to meet its full [objectively assessed need] of 1,140 [dwellings per annum], and for a portion of Oxford's unmet OAN' (Turley 2014, p. 5). This issue that was taken up by the Planning Inspector, who called for Cherwell to 'increase the total number of new houses to 22,840, 2011 – 2031, (1,140 per year) from 16,750, 2006 – 2031 (670 per year)' (The Planning Inspectorate 2015c, p. 3).

What effect does this have on the ability to introduce sustainable construction standards? Primarily it serves to increase the saliency of housing affordability and provision on the political agenda, at the provision of concerns over sustainability. The abolition of strategic planning and the introduction of the NPPF served to shift the power dynamic within the region; it was now entirely possible for neighbouring districts to fight against either expansion plans or request to meet Oxford's un-met housing need.

However, the OxLEP has been influential in overcoming some of the political dissonance that has characterised relations between Oxford and its neighbouring districts and which has precluded green-belt expansion (thus propagating the saliency of affordability on the political agenda) (Cabinet Office 2014, p. 5). It has been useful is to play a quasi-strategic role in addressing the housing issue in the longer run by prioritizing funding and institutionalizing a more formal relationship between neighbouring authorities under the rubric of growth. It is unclear through what means it will be able to commit local authorities to particular developments or cooperation agreements, but there are signs that attitudes in the region are changing. May 2015, for example, saw the County Council announces a comprehensive review of the greenbelt, potentially signalling a (relative) decrease in political dissonance. Whilst this may reduce the political saliency of affordability, from the perspective of supplementary standard setting it has come at the wrong time. This is too little too late given that the window for supplementary standard setting has now ended.

8.5.1.2. Pro-Sustainability Groups

The two main groups pushing for sustainability during the earliest days of supplementary standard setting powers were the Green Party, which (as we saw above) was key in the initial adoption of the *NRIA* and a number of community groups. Whilst the Green Party has an obvious interest in the provision of sustainable homes there are two frustrating factors. The first is that the ruling Labour party in the city places considerably more emphasis on affordability and absolute housing provision than it does on sustainability, depriving it of political support for its objectives. Given the greater resources of the Labour party, the political impetus declined over time. The second is that they are in opposition and have a poor relationship with the planning department, who they view suspiciously. As one Green Councillor noted:

> 'There's an element of 'we know best' in the planning department. There's a bit of a 'can't do' culture which has been hanging around for a long time. Often we would propose something and we would know that the response we would get would be 'oh no, we can't do that'. I think it's a council that has coasted for far too long. It tends just to hang there unless there are people are more innovative. That leaves the council into being easily duped by consultants (Interview with Green Party Councillor, April 2015).

This likely results from and influences the declining technical expertise of the Council in the face of continued fiscal restraint as austerity-driven budget cuts have been implemented from above. The planning department is ideally placed to influence policy outcomes in the City, given its potential role as implementer and knowledge broker. However it lacked technical expertise, which precluded it from influencing policy in pursuit of sustainable ends. Again, this is a significant resource that the council lacked. For instance, there

are no staff dedicated to managing, pushing for or implementing sustainable

construction standards as there are in other parts of the Cambridge:

> 'The level of expertise on sustainable construction varies. Where the officer
> has difficulties they'll come to me. I suppose I'm the expert. That's just more
> to do with having reviewed a heck of a lot of them. The first one I looked at I
> didn't really understand it. Now, if someone gives me an *NRIA* or an energy
> statement I know what to look for…I've got a standard email that I can send
> saying 'you need to consider total energy' (Interview with planning policy
> manager, April 2015)

> If you look at what happens at council meetings, which is the most obvious
> place to see, then there is occasional mentions of the environment but it feels
> a bit like an add on. Most of the proposals would come from the Greens. Most
> people aren't listening. It's quite obvious that there's a whipping system. The
> understanding is at quite a basic level. It's the idea that 'if I mention the
> environment or sustainability or solar in a sentence that would be alright,
> won't it? It's that kind of attitude. There doesn't seem to be a willingness to
> look into it in any depth (Interview with Green Party Councillor, April 2015).

Instead expertise on particular elements of sustainable construction – for

example energy modelling, renewable energy schemes and so on – is spread

throughout the rest of the Council as a whole rather than being contained in

one department.

Outside the council two organisations are important. First, Oxford Futures – a

community organisation similar to Cambridge Futures – was tasked with

modelling future growth in the Oxfordshire region (Oxford Civic Society 2014a,

2014b). The Oxford Futures Report, compiled in 2014, makes a strong case

for a strategic approach to growth in Oxford rather than the piecemeal

approach to urban expansion that has been taken thus far. They advocated a

holistic, sustainable approach to urban expansion, drawing heavily from the

experience in Cambridge, which was used as a site of comparison by local

planners and decision makers (The Economist 2015). They recommended a

Quality Charter for Growth and a Quality Panel to inspect the design and sustainability credentials of development, very much like arrangements abound in Cambridge (Oxford Civic Society 2014b, p. 7).

Second, there is an increasingly well organised green-lobby in the City – reflecting the long concern with climate change discussed at the beginning of this chapter. There are over 40 low carbon groups in Oxfordshire, spear-headed by a Low Carbon Hub. Starting recently it is beginning to have an influence on the way that the Council approaches sustainability in the built environment. Low Carbon Oxford is a key initiative designed to respond to the emissions targets laid out in the various climate change strategies adopted by Oxford City Council in recent years.

It was launched in 2010 and is a citywide programme designed to increase the sustainability of Oxford through public-private collaboration and works closely with OxLEP to increase the limited focus on sustainability within the organisation. 31 organisations have signed up to its Low Carbon Oxford Charter (this includes public sector organisations, major employers such as BMW Mini, local transport operators and local universities and it has orchestrated significant investments in solar PV schemes, hydro-electricity schemes and funding for community groups (interview with sustainability partnerships officer, March 2015). It has led to fifteen projects, of which the most visible is the Low Carbon Hub. This is a social enterprise that seeks to lower carbon emissions in the Oxfordshire region by developing and investing

in renewable energy infrastructure and energy reduction projects (Grant Thornton 2013, pp. 4–5). Lastly, the OxFutures Fund was created in 2012 using European Union funding to contribute to the carbon emissions reduction strategies across Oxfordshire (Grant Thornton 2013, p. 5)

During initial consultation of the SHDPD, at which time the Council ran several well-attended workshops across the City to encourage community participation and collaboration, 'the overarching emphasis emerging from the public was on the need for new build developments to meet high sustainability standards' together with a sense that 'we cannot afford not to prioritize the sustainability credentials of development' (Oxford City Council 2011f, p. 11). This was mirrored internally, where councillors discussed the introduction of Code standards as a way to realize greater external recognition for Oxford City Council's approach to climate change mitigation (Oxford City Council 2010b) and where the exploitation of planning policies to realize sustainable ends was recognized as important in the Council's own Low Emission Strategy (Oxford City Council 2013a, p. 9). Despite this though, no additional action was taken.

As these organisations start to institutionalize a commitment on sustainability within broader networks we can see the balance shift between those concerned primarily with economic growth and those concerned primarily with sustainability. However, the viability restrictions embodied in the 2012 *NPPF*, the removal of local discretion to set supplementary sustainability standards in

the 2015 *Housing Standards Review* and the demise of the whole zero-carbon homes agenda in 2016 have meant that the potential for these groups to influence has become narrowed as the ability of local authorities to set higher standards became more restricted. In other words, the window of opportunity has closed.

To summarise, we can say that once the initial complacency about the NRIA wore off and recommendations started to emerge to explore Code standards or supplementary standards the deck was stacked against those advocating sustainable construction within the policy network. They had few of the necessary resources required to instigate change and those in positions of power had little need to rely on what resources they could bring to the table. More recently, a more organised and better-resourced collection of pro-sustainability groups has emerged, but at a time when supplementary standards are no longer a viable option for local authorities in the face of external rule changes. This restricted the extent to which the political saliency of affordability could be challenged in favour of a greater and concurrent concern with sustainability when the discussions on housing growth emerged. As a result, it restricted the extent to which dominant 'growth' institutions could be supplanted by policy entrepreneurs with institutions directed towards sustainability.

8.6. Conclusion

What this all meant was that the drive for sustainable construction that accompanied the publication of the NRIA faltered on the political agenda, replaced instead with a focus on housing affordability and absolute housing provision. What expertise that did exist was made redundant because of prevailing and emerging institutional rules and practices, their position within the policy network and, ultimately, by the Housing Standards Review and revocation of supplementary standard setting powers. The initial ambition still exists, albeit fragmented inside and outside the Council, but had been restricted by rules that favoured growth over sustainability, by practices which favoured the maintenance of the recent NRIA rather than its revision in light of the national zero-carbon homes agenda and, ultimately, by a lack of technical expertise. This lack of expertise is particularly important when we consider how difficult it was for those advocating sustainable construction to shift dominant rules and practices towards a focus on sustainable construction through the network that surrounded the cities growth agenda.

What is apparent is that the longer that economic conditions continue to constrain the housing market in the area the greater the extent to which affordability sits at the top of the political agenda. In this case, especially where a policy such as the *NRIA* has only just emerged, it is reasonable to expect sustainability to fall down the political agenda. So, economic conditions play a dual role. On the one hand they make it easier for the Council to justify the inclusion of sustainability construction standards and their effect on viability. On the other hand they can influence the political

agenda if the housing market becomes so buoyant that it leads to housing shortages, particularly of affordable homes, and rising house prices.

However, this chapter has reinforced two messages that run throughout this thesis. The first is that well resourced policy entrepreneurs are critical in negotiating institutional landscapes. It was because of well-resourced policy entrepreneurs that the NRIA emerged and it was the lack of well-resourced policy entrepreneurs that led in part to its demise and to sustainable construction falling off of the political radar. The second is that there is a complex interdependency between agents, networks and institutions, where agents work in networks to design new and reformed institutions but are constrained by extant institutional architectures. So, whilst entrepreneurs are the most important link, the concern over resourcefulness necessarily implies that their institutional and structural context plays a causal role. Particular network or institutional dynamics have coalesced to lower the saliency of sustainable construction (depriving them of resources in the process). Entrepreneurs were faced with an unfavourable institutional landscape and, over time, this led to a decrease in entrepreneurship as expertise decreased, complacency with the *NRIA* set in and priorities shifted elsewhere. Furthermore, those still advocating sustainable construction (whether inside or outside the Council) were badly situated within policy networks to be able to reform those institutions in pursuit of supplementary sustainable construction standards.

Chapter Nine:

Accounting for Variations in Local Contributions to Ecological Modernisation: Assessing The Findings

9.1. Introduction

Research question number two asks how we can account for variations in the contributions that local authorities make to state managed ecological modernisation. The case for a new way of thinking about local governments role in ecological modernisation was made in chapter two and the model of environmental policy capacity developed in chapter four provides the conceptual tools to answer that research question. What the last three chapters have shown is that the model of local environmental policy capacity can provide the tools required to study and account for variations and to make context-dependent conclusions.

The purpose of this chapter will be to discuss those context-dependent conclusions and to explain the variation between Oxford and Cambridge City Councils. Broadly speaking, the different trajectories taken by the two reflects their differing capacities and the way that policy entrepreneurs were able to negotiate them. The difference in trajectories the two councils took was down to the differing opportunities that policy entrepreneurs had to interact and influence the institutional context they found themselves in. The different

capacities are explained, together with the relationship between capacity and ecologic and economic rationality. The capacity of a local authority affects the extent to which the two can be reconciled in a positive sum relationship. The bulk of this chapter focuses on the model's individual components and how they differed across the two cases, as well as how the findings of the regression analysis in chapter six relate. It concludes with an assessment of the model as a tool to account for the contributions made.

9.2. Policies In Place

By the simultaneous end of both the national zero-carbon homes agenda and local standard-setting discretion in 2015 the two local authorities had very different sustainable construction standards in place and had undertaken different journeys to end up in that situation. Whereas Cambridge City Council's approach was marked by an almost continuous process of supplementary standard setting, Oxford City Council had failed to sustain an early innovativeness.

Table 9.1. summarises the main sustainable construction policies in place between 2000 and 2015 in both local authorities. Oxford had introduced stringent, supplementary standards earlier than most but had found itself on a downhill trajectory since then, with a gradual and relative weakening of its supplementary position. Cambridge on the other hand had behaved in the opposite fashion. Very little was in place when Oxford introduced the NRIA and 20% Merton Rule, save for a 10% Merton Rule type policy introduced a year after in 2006. The energy statements and checklists it also adopted in

2006 represented an innovation of sorts, but their non-binding nature restricts the extent to which we can refer to them as supplementary. However as time went on and as supplementary standard setting became institutionalized through PPS1 and Building a Greener Future in 2006 Cambridge introduced supplementary standards into a number of major planning documents. Whereas Oxford had started strong and gone downhill from there, Cambridge had started weak and gained more strength with each subsequent year.

Year(s)	Oxford City Council	Cambridge City Council	Remarks
2000-2006	20% Merton Rule type policy (2005)	10% Merton Rule type policy (2006)	Both sets of policies were focused on developments of ten or more homes. At this stage, Oxford has more stringent requirements than those in both Cambridge and at the national level.
	Sustainability Checklist (2005)	Sustainability Checklist (2006)	
	Sustainability Statement (2005)	Sustainability Statement (2006)	
	NRIA (2005)		
2007-2014	NRIA watered down in SHDPD from 2013 in favour of non-biding energy statements for residential development (2011)	Code Level 4/5 in NW Cambridge AAP (2008)	At this stage Cambridge has far more stringent requirements than those in both Oxford and at the national level. What's more, the NRIA has become largely out-dated in the face of updates to national Building Regulations and a watering down of the NRIA to a non-binding energy statement.
		Code Level 4/5 in CB1 AAP (2010)	
2015		Attempts to introduce Code Level 4 into City-wide Local Plan	Cambridge had made significant inroads into introducing City Wide Level 4 into its Local Plan, with a strong evidence base and little doubt that it would be rejected at inspection. However, national level rule changes preventing this plan from reaching fruition.

Table 9.1: Supplementary Standards in Place in Oxford and Cambridge City Councils by 2015.

The reason for these different trajectories can be attributed to their different environmental policy capacities. There was variation because there were different capacities to respond to particular circumstances and capacity was built or maintained in different ways. Cambridge had developed a capacity that focused around expertise, institutional resilience, spreading expertise across the council, political support, organizational development, financial stability and institutional synchronicity. Oxford's capacity was undermined by institutional instability, a lack in expertise over time, political dissonance, financial pressures from an overheating housing market and temporal constraints.

Whilst capacities differ between the two, there is nevertheless a latent ecological rationality in both cases – evidenced by the initial ambition in Oxford and the on-going ambition in Cambridge. Oxford, though, was increasingly unable to reconcile ecological and economic rationality in a positive sum relationship because the institutional context shifted the relative values of actor resources in the policy network. So in both cases there was an initial demand for supplementary standards, but it was realized in different ways because pro-sustainability groups or individuals were able to draw on the different capacities that were present.

What we therefore find is that environmental policy capacity affects the extent to which ecological and economic rationality can co-exist, given the complexity inherent in policy making locally.

9.3. Theorizing Local Environmental Policy Capacity: Oxford and Cambridge City Councils

The differences between the two can be seen with more careful examination. Table 9.2. below highlights the main differences across all the main elements of the model. Reading downwards it shows us the context in which policy entrepreneurs were operating and how they negotiated policy networks to interact with it.

Element of Local Environmental Policy Capacity		Oxford	Cambridge
Agency	Policy entrepreneurship	- Well resourced initially, but declining influence over time	- Well resourced initially and increasing influence over time
Institutions	Rules	- Housing growth restriction - Employment growth - NRIA adopted pre ZCH agenda - National rule changes precluded later ambition	- Housing growth restriction followed by expansion - Window of opportunity - Employment growth - Regional and national context that privileged sustainability - National rule changes precluded later ambition
	Practices	- Complacency over policies it already had in place - Uncertainty over future of zero-carbon homes agenda and Code - Increasing returns associated with NRIA - Scepticism of Code	- Ambition - Culture of innovation and sustainability - Expectation/responsibility to grow sustainably. - Commitment to sustainability within regional institutions
	Institutional change	- Gradual process of institutional drift and displacement: As the NRIA embedded itself it become entrenched and soon out-dated, with	- Gradual process of institutional layering; punctuated equilibrium emerged with the NW Cambridge AAP, which in turn paved the way for a proactive approach to

		- no one pushing for its reform.	- planning elsewhere.
	Path dependency	- The NRIA became path dependent, decreasing returns set in.	- The NW Cambridge AAP was path dependent in so much as it institutionalised an approach to sustainability within the council and within its planning documents – increased expertise, confidence, reduced developer opposition.
	Synchronicity	- Poor (bad timing, little interest in the Code)	- Good (good timing, high interest in the Code)
	Dialectics of institutions and agency	- Entrepreneurs were rule and practice 'takers' with limited scope to influence outcomes.	- Entrepreneurs were rule and practice 'takers' and 'makers'
Networks	Network actor resources	- Declining expertise of entrepreneurs, a resource drain for the council. - Those with resources to influence change (i.e. Council, OxLEP, County) were all pushing for employment growth/propagating the economic situation.	- Increasing expertise of entrepreneurs as context changes, a resource gain for the council.
	Dissonance/Congruence	- Dissonance both externally and internally	- Congruence both externally and internally
Economic Framework Conditions	Economic framework conditions (including direct and indirect economic costs)	- High levels of unaffordability and housing shortages initially, worsening over time - Helped initially to justify NRIA, but ended up dominating political agenda	- High levels of unaffordability and housing shortages initially, improving over time - Economic conditions began to fall on the political agenda, creating 'room' for sustainability.

Table 9.2. Theorising Local Environmental Policy Capacity

9.3.1. Entrepreneurs

Institutions and agents existed in a co-constitutive, dialectical relationship. Dialectical is defined here as an on-going, iterative interaction between each group. There are resonances here with the discussions on structure and

agency, where 'any approach which stresses exclusively either structure or agency has severe limitations' (Marsh and Smith 2000, p. 5). Rules and practices placed both objective and subjective limits on the range of acceptable behaviour, but the actualisation of that behaviour in turn leads to new rules and practices or reforms of existing ones. In the two cases a focus on these two factors was fruitful in highlighting differences, particularly in terms of how growth strategies were affected and how timing and the legislative process influenced the trajectory policy took.

Cambridge had internal and external policy entrepreneurs who could act as the requisite sponsors and champions who could exploit this political space in order to raise the issue of sustainability in buildings on the agenda. Sponsors devoted considerable resources to informing policy makers, recruiting expertise in the planning departments and brokering between competing interests. They were able to negotiate policy networks to engage in processes of institutional design. In terms of seizing a window of opportunity, both networks and champions were able to capitalise upon the increased focus on housing provision (both for its structuring effect on political agendas, but also the opportunity it provided to focus on how homes were built within this new political space) in order to argue that the new homes in the pipeline should be built to the highest sustainability standards. This is a message that gained particular traction in the context of green-belt land release. They were met with willing sponsors in the form of the Liberal Democrat party groups.

Cambridge was able to undertake a greenbelt review, freeing up much needed developable land and alleviating some of the more immediate concerns with addressing unmet housing need, ensuring the continued economic success of the City and addressing the housing affordability problem. What's more, it was in a position to write its local plan at an opportune moment of local devolution of supplementary discretion and was able to layer standards in an on going process of institutional reform. There were thus opportune institutional conditions for environmental concern both inside and outside the Council to be translated into supplementary standards.

Oxford, on the other hand, found it difficult to relieve the pressure on its housing market given that it had little ability to undertake greenbelt review. This kept affordability and provision on the top of the agenda. More practically, timing was not on the Council's side; it had just published its own internal NRIA before the national level devolution of powers. When it was in a position to rewrite its plans (and thus consider including supplementary CSH standards), considerable uncertainty and complacency had emerged, together with much stricter criteria on viability.

Those in Oxford City Council were well resourced initially but their influence declined over time until they failed to feature in policy networks at the same time as the policies they were advocating declined in saliency. Those in Cambridge City Council were initially well resourced and their influence

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continued over time as they met with a good reception and as the saliencies of sustainable construction increased with shifting contexts. Differences in pace and direction can be accounted for by the differing prevalence of policy entrepreneurship and the extent to which policy champions and sponsors (inside and outside the local authority) can serve to: maintain existing institutions to accommodate supplementary powers, reform existing ones that may stand in their way, to play an agenda-setting role and to act as knowledge brokers across and within policy networks. What we have seen from the discussions on Oxford and Cambridge City Councils is not just that actors are important variables in accounting for variations in trajectory, but that they act in strategic ways. Hay (2002, pp. 126–130) suggests that actors within structured contexts use their own knowledge and expertise strategically to serve their interests by working with existing structures, action that simultaneously influences those structures in an iterative process. Neither, then, is fixed and both are interdependent.

Where this level of agency becomes particularly important is in building resilience over time; sustainable homes became institutionalised over time through the work of key network actors and key policy entrepreneurs as a core strategic objective in Cambridge that in some ways guaranteed it at the very least a minimal presence on the political agenda even if institutional, economic, network or agency factors changed. For example, even in spite of a change from a Liberal Democrat to a Labour administration sustainable

homes remained firmly on the political agenda. Where this kind of agency is lacking as it was in Oxford over time the resilience is smaller.

Both Oxford and Cambridge City Councils recognized the importance of this issue. Where they differed was the extent to which political conditions favoured action – as evidenced by political dissonance across administrative boundaries in Oxfordshire. In Cambridge though, importantly, the alignment of these forces was exploited by policy entrepreneurs – in this case a champion in the form of a sustainable construction officer and Liberal Democrat councillor and a sponsor in the sense of a sympathetic Liberal Democrat party group. The senior sustainability policy officer in Cambridge City Council worked extensively with representatives from consultancy and developers and other stakeholders (including the public) in order to foster long-term trust and to both educate and listen to potential grievances. More broadly, they served as a point of contact for those interested in learning more or venting grievance. In Oxford, by comparison, the complacency that set in after the adoption of the NRIA meant that the innovation and spur of sustainability advocates declined.

9.3.2. Institutions

Institutional rules and practices set the regulatory, normative and discursive context in which behaviour of actors takes place. Policy entrepreneurs in both cases were both enabled and constrained by institutional rules and practice

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that abounded locally, regionally or even nationally. Chapter four discussed new theories of institutionalism and in doing so we saw how institutional change, design and synchronicity are conceptualized and operationalized.

In Oxford the most influential institutional rules that influenced the extent to which calls for sustainable construction were made were the restrictions on growth, the pro-employment growth strategies in place amongst local and regional authorities and the NRIA. The former two prioritised housing affordability and the provision of much needed homes on a scarce land supply, which decreased the saliency of sustainability. This was especially true because of the NRIA, which had only recently been adopted but which quickly became out-dated (and watered down). When the Council was in a better position to think about integrating Code policies the uncertainty and frequent rule changes nationally over the zero-carbon homes policy, the Code and local authorities place in sustainable planning acted as a disincentive to action.

Alongside these rules there were a number of institutional practices that made their work harder, even in spite of latent commitment to sustainability within groups within the Council. The most influential was the complacency and decreasing returns that set in following the publication of the NRIA, just prior to the publication of the Code. Perhaps because of this there was little sympathy with the Code amongst council planning policy makers. Their

immediate priority was on affordable home provision and it had a strong political steer to increase their supply.

Cambridge suffered from a similar growth restriction, but the ability to engage in major expansion on the edge of the city provided the political space for advocates of sustainable construction to institutionalise a regulatory commitment into the planning policies accompanying that growth (for example in the Northwest Cambridge AAP). They were able to capitalise upon latent and emerging demand for sustainable construction from the University, Cambridgeshire Horizons and the rising saliency of zero-carbon homes nationally. Over time, as new rules emerged, the ease with which supplementary standards could be set increased alongside expertise and experience. Alongside these rules there were also a number of practices that encouraged policy entrepreneurs. There had been a latent concern for the environment and a latent innovativeness for some time. The Code gave a name to existing ambition, meaning not just that there was an expectation that growth would be obtained as sustainably as possible but that entrepreneurs were pushing at an open door. This expectation extended beyond the council, to regional QUANGOs and local network actors, particularly the University.

Over time the institutions that were in place when supplementary standard setting powers were set changed gradually. In Oxford the sustainable construction institutions – whether that is the NRIA or the existing culture within the Council and planning department – drifted over time and became

displaced. They became displaced because of changes to national Building Regulations in line with the zero-carbon target, which rendered elements of the NRIA out of date. The culture, expertise and way of working drifted over time as a result of neglect as attention became diverted elsewhere. Cambridge's planning institutions emerged through a process of layering, where new institutions (policies, ways of working and so on) emerge and attach to existing institutions in a way that changes their structure. The way that new policies emerged that required specific Code standards gradually reformed existing planning institutions.

The Northwest Cambridge AAP itself became path dependent, as it increased the expertise and familiarity with the Code. It also created a norm or expectation for other growth sites and emerging policies. There were thus further incentives to consider Code policies. Cambridge's tradition of innovation in sustainability meant such plans were easy to justify. The dominant narrative saw housing provision and affordability and sustainability as achievable concurrently.

Conversely, in Oxford the NRIA was path dependent, given the extent to which it led to decreasing returns and a complacency. The complacency and sunk costs particularly precluded its reform. There were few incentives to consider reforming the NRIA to adopt Code policies to stay one-step ahead of national level Building Regulations, especially in light of increasing housing shortages its increasing political saliency. Over time the dominant narrative

saw sustainability and affordability as mutually exclusive and remained distrustful of the Code.

Both were influenced by temporal factors though. In many respects Cambridge had good timing; it was legislating on its precedent setting developments in the window between 2006 and 2012, where viability features less heavily in national regulation on supplementary standard setting. Oxford had just introduced its NRIA prior to the devolution of powers in 2006/7 and when more serious calls were being made for the Code the NPPF had been published and there was increasing restrictions on local behaviour alongside the rising uncertainty.

In Cambridge then there was far greater freedom for policy entrepreneurs to act as institutional designers. There was a window of opportunity presented by the growth strategy which, coupled with the prevailing norms and network dynamics, meant that they could create new institutions (new roles, policies, strategies and norms). In Oxford they had far less agency. The complacency surrounding the NRIA and the political unattractiveness of further attention of sustainability meant that the same opportunities failed to materialize.

9.3.4. Networks

The ability of entrepreneurs to influence the institutional landscape is mediated through policy networks, where the agential manifestation of

prevailing institutions and norms interact in the governance process. Context influences the relative resourcefulness of network actors and can change rapidly because of internal or external factors. Where there is support for sustainable construction within a network, or at least support for the principles of sustainability in general, policy entrepreneurs can find themselves empowered and better able to influence outcomes.

Those advocating sustainable construction standards in Cambridge City Council enjoyed strong, cross-party political support and a receptive local community. Given the economic situation, there was little viable opposition from developers. Those involved in the city's growth (the University, Cambridge Futures, the Regional Development Agencies, Cambridgeshire County Council and Cambridge City Council) were all pushing for sustainable design, either as a cost saving measure as in the case of the University or as a political means to justify greenbelt expansion.

In Oxford City Council an initial constellation of Councillors found support from the ruling Labour administration, but the distinction between the planning department and those advocating sustainable construction were clear. Whereas in Cambridge entrepreneurs were drawn from within the planning department or from the portfolio holder for planning, in Oxford proponents of change came from outside the planning department. Over time the employment growth agenda, spearheaded by pro-business groups through OxLEP and the County council and with significant legal-institutional

resources, disempowered sustainability advocates. This was in spite of an active green community in the city as a whole.

It wasn't just between green-advocates and growth-advocates that opposition emerged, the network in Oxford was marred by political dissonance such that there were disagreements between various actors, particularly over the pace and direction of Oxford's proposed city-expansion. For as long as this dissonance between Oxford and its neighbouring authorities continues to define discussions on the greenbelt the pressures on Oxford's housing market will continue to rise, further decreasing the relative saliency of sustainability, ceteris paribus. As we saw above, Cambridge saw much agreement on the principles of growth and expansion and the City Council had a particularly close relationship with its sole neighbour, allowing it to grow.

Where the network was receptive their collective resources could be deployed to add value to the proposals of entrepreneurs. For example, having support of the Cambridgeshire Horizons, the QUANGO managing the major growth sites in Cambridge, or the ruling party group increases the likelihood, ceteris paribus, that outcomes can be influenced. Where the network was not so receptive it was more difficult to draw on network actor resources, especially when changing institutional contexts are affecting them.

9.3.5. Economic framework conditions

Underpinning the institutional context, and thus the behaviour of policy networks, were economic framework conditions. Reconciling economic costs with ecological benefits is central to ecological modernisation, whether it emerges organically or through purposive state-action. In the private sector the reconciliation of economic and ecological concern is one based upon the savings associated with efficiencies. Within local government though economic concern has a Janus face. Whilst top-down enabling rules may specify a degree of economic strength – as it does with supplementary standard setting – the same strength can act as a constraint as we saw in Oxford, where housing affordability remained at the top of the political agenda.

It is not always clear the effect that economics will have, in other words. Further development of the model would seek to further integrate the idea of economic framework conditions within the context of institutions and networks to allow such flexibility and contingency. Nevertheless, what has become clear is that economics has an effect on all. The extent to which decisions can become increasingly made on the basis of economic and ecological criteria is influenced by the interaction between agents, networks and institutions in the local political economy.

What we can say though is that this presents a paradox for existing discussions on EM. As we saw in section 2.1., a core assumption of EM is

that environmental improvements can lead to economic prosperity and vice versa. However, local contributions to EM in this case were only in reality possible where economic prosperity already exists. This could be because of the wording of enabling legislation from central government or because discussions on sustainable homes often get crowded out when markets fail. However it occurs, it does seem to undermine the notion that economic and environmental prosperity can exist in a positive sum relationship. In Cambridge the market was thriving, with space to grow and continued prosperity. Oxford was prosperous, but its housing market was failing considerably.

Within Oxford the economic case for adopting supplementary planning standards had been evidenced, but the overheating of the housing market prioritized a different response. In Cambridge the dampening of the pressures caused by economic success created capacity for greater concern with the sustainable aspects of growth. The economic success of Oxford overshadowed the political agenda, primarily because the institutional architecture structuring the housing market failed to respond in the way it did in Cambridge. In both cases changes in context affected the behaviour of champions and those advocating sustainability in construction. In Oxford the economic circumstances diverted political attention and despite the fact that the resources of proponents hadn't changed their influence declined. The fact that Cambridge was able to quell some of the more immediate pressures on

its housing market through expansion presented a window through which proponents could influence outcomes.

Both cities had suffered as products of their own successes; marked increase in employment figures and a shortage of available, developable land had historically inflated house prices and reduced the number of affordable homes. In both cases housing affordability and unmet housing need have long had an ideational influence on the way that planning was approached in the city; vote-seekers responded to the issue to prioritise housing provision, planners found their agenda structured in particular ways, citizens became more focused on the issue, and so on. In both cases house-prices rose as restrictive growth was coupled with an increase in employment (whether organic, as in the case of Cambridge, or more consciously directed, as is the case in Oxford) and associated increases in population and further increase in un-met housing need. Where matters differed is the extent to which these were improving or declining. Institutional factors restricted the extent to which Oxford could make inroads to alleviating this problem. This served to keep unaffordability and housing provision at the top of the political agenda, as local decision makers scrambled to find an adequate response. Cambridge though found itself in a position where it could grow, thus alleviating this pressure and creating political room for a focus on sustainability, amongst other things.

Of course, both direct and indirect costs operate on a relative level; their effect is a product of the local political economy. Therefore, the extent to which supplementary standards are adopted is also a product of the ability of the local political economy to absorb or accommodate those costs. The regression analysis discussed in the end of chapter six highlighted that Code standard adoption was contingent in small part on the buoyancy of the local housing market. Where a housing market is growing slowly or where values are low developers are less able to absorb indirect policy costs (see section 4.6) making the local authority's job of justifying policy more difficult, thus precluding action.

At what stage do the costs become 'too much' though, such that they are unable to be accommodated? First, a policy may be perceived to be inappropriate on the basis of its economic costs. This has an agenda-setting function, restricting the range of policy proposals appropriate for political consideration. Yet perception alone isn't a deciding factor, instead it only has limited influence on defining the range of possible behaviours. It is still possible for a local authority to introduce a measure to this effect, providing a more important condition is met: costs cannot be significant enough to trigger any legal mechanisms in place that protect the integrity of economic rationality.

In the case of sustainable housing sensitivity had to be paid to the effect of supplementary standards on viability. This kind of legal mechanism served as

a filtering device for local authorities interested in implementing standards; if evidence could not be provided that would highlight a limited effect on viability then action is effectively curtailed (whether by failing to initiate the policy process in the first instance or through having it removed at inspection). Needless to say, this latter influence is only a consideration if there are explicit requirements within the supplementary standard framework that preclude such behaviour, or in other words where an overt emphasis on economic rationality is institutionalized. Thus the extent to which ecological rationality can become institutionalised into the decision making process and reconciled with economic rationality is a key determinant factor in this process.

Whilst the affordability issue is rising in Oxford it is, relatively speaking, decreasing in Cambridge as more housing comes to market. Neither the housing affordability problem nor the issue of addressing the City's unmet housing need have been 'solved' in the literal sense in Cambridge, but recent years have seen affordability and housing provision fall on the political agenda in a way that opened up room on the agenda for sustainability. Thrown into the equation were problematic timing and procedural issues in Oxford that restricted both the attractiveness of sustainability standards and the scope to actually change anything.

However, the extent to which sustainability can become incorporated in the planning realm – whether such measures may represent a significant economic cost to an industry or raise threats of a failure to meet housing need – depends on their political attractiveness in relation to other areas of focus

that may be on the political agenda. The rising relative saliency of affordability in Oxford has justified a bigger focus on affordable home provision, resulting in the 50% affordable homes requirements. This is both indicative of a bigger relative focus on the issue but also constitutive of an institutionalization of measures that only served to increase the difficultly in the future of introducing sustainable homes targets, given the more pertinent concerns with viability that emerge as a result of both a high affordable homes requirement and high sustainability standard. Cambridge was 'only' subject to a 40% requirement, which also served to increase the saliency of the idea of sustainability standards from a viability perspective.

9.4. Interaction Within Environmental Policy Capacity

It was always the intention of the model developed in this work to focus on the interconnections between agents, networks, institutions and economics. The need for that approach has been evidenced by the empirical work, which as we have seen highlights that interaction. Policy entrepreneurs sit as silent puppet masters, spotting opportunities where possible. Their involvement is therefore inevitable, but outside of their control is a world of institutions at multiple scales and powerful and well-resourced network actors within a centralized political environment. By pushing for sustainability within the council where the opportunity arises these policy entrepreneurs can influence the institutional world around them. Sometimes there is a degree of serendipity involved, whether because of a good timing or a supportive group

of advocates in the space around them. Other times work has to be done to convince the right people at the right time. A policy so specific as this needs advocates to come to fruition, especially in the earlier days of the zero-carbon homes agenda where general awareness about the Code for Sustainable Homes was more limited. In each case these entrepreneurs worked differently because they were faced with a different world around them. Without advocacy there would be no standards set. Over time the capacity for agency in Oxford declined as expertise dispersed and policies became displaced. Cambridge was dealing with numerous full-scale planning inquiries at which it was pushing for the highest available sustainability standards, so over time its expertise increased.

When successful, they don't act alone for long. A little input in the legislative process can take on a life of its own as it works it way through the Council, provided the right capacity exists elsewhere that can be evidenced. Where there is little opposition their job is easier, as it was in Cambridge. As institutions elsewhere shift the ease with which they can do this increases. They find windows of opportunity, or the opportunity to contribute to or tap into latent concern with sustainability that exists elsewhere. They are too weak to force these windows, but they can exploit them.

9.5. Conclusion

This chapter has shown is that we can indeed account for variation in the contributions that local authorities make to processes of ecological modernisation by studying the local environmental policy capacity. Doing so provides the researcher with an adaptive toolkit to study agency, institutions and structures and trace the evolution of policy. What the case studies have done is provide a rigorous application of that model. The findings from the regression analysis and case studies are in themselves useful for understanding the zero-carbon homes agenda in more detail and raise important questions for future research.

This thesis' dual empirical and theoretical contribution means attention has to divert away from the zero-carbon homes agenda back to a discussion on theory and a reflection on the environmental policy capacity model. The model has shown sufficient adaptability to respond to what is a complex and dynamic policy space, more so in political systems as centralized as that in the UK. Many elements, particularly of institutional theory, can be deployed from an integrated analytical toolbox and, given its roots in many of the agential and structural theories that inform the work on entrepreneurs and networks, it can integrate well across the model.

Table 9.2. illustrates that the model, when combined with process-tracing techniques as it has been here, can cut through the complexity to produce what is essentially a three dimensional policy world onto a two-dimensional map. The interdependencies between its various components are able to

come out clearly. The agency element of the model offers rigidity, given that agents lie at the heart of institutional design and behaviour. This dialectical relationship between agents and institutions is gaining more traction in the literature, particularly when it comes to the role of agent as purposive institutional designer (Hay and Wincott 1998, Lowndes and Roberts 2013). This thesis shows clearly the need to think more often of the way that individuals can influence institutions, rather than the other way around. Small, niche policies such as Code standards required agency-legwork, but once institutionalized into local planning regimes they have a legacy effect that works to sustain them. In Oxford this worked to its detriment as the NRIA became out-dated, but in Cambridge it allowed for a process of layering to take place as expertise increased and a logic of appropriateness emerged. In both cases though individuals or groups of individuals initiated the process, without whom outcomes would look different. When asking how we can account for variation in outcomes in this case then the answer should be clear: focus on what the policy entrepreneurs were dealing with.

Chapter Ten:

Conclusion

There is clearly an ambition within local governments to respond to the challenges of climate change. We should not forget this. The UK government has over recent decades made significant inroads, legislating and incentivizing a process of ecological modernisation across a number of sectors (Lorenzoni *et al.* 2008), but more remains to be done. The ebb and flow of politics can present setbacks, just as they did with the abolition of the zero-carbon homes agenda in 2015 by a de-regulatory agenda abound nationally. There are always then areas for improvement and local government provides a natural home for much of that work, given its centrality to many aspects of daily life.

This is already well known of course, as we saw when looking at the literature on urban climate governance. However, the case that this thesis has made is that much greater consideration is needed of the various capacities that exist within local authorities to become more inclusive in national legislative strategies directed towards ecological modernisation. One-size-fits all strategies emanating nationally certainly have a place, for example where national energy infrastructure may be required, but we saw in chapter two that the ability for ecological modernisation to become a reality is dependent upon

the ability for economic and ecological rationalities to be reconciled. Given the variation within countries on economic performance it may often be wise to devolve voluntary, supplementary powers to local authorities to contribute where possible.

The changes to the residential housing sector since 2007 have provided an ideal opportunity to investigate what happens when they are given this choice. It is up to others to investigate the impact of their involvement, but it is enough to cite the ambition that exists within England and the case studies of innovation from across the world (see Lorenzoni *et al.* 2008, Bulkeley *et al.* 2009, Bulkeley 2013 for a range of success stories). The need for this kind of investigation was well discussed in chapter two, but the means through which it would unfurl were discussed in chapter four. The model of local environmental policy capacity that was developed there attempted to strike a balance between respect for the ontological and epistemological underpinnings of ecological modernisation theory and providing the tools to map the complexity of the policy making process. The black boxing of agency within ecological modernisation theory provided inspiration for the central focus on policy entrepreneurship, championship and sponsorship that has flowed throughout this work. Yet the need to overcome the simultaneous tendency within the literature to disaggregate agents and institutions added an additional layer of nuance because it focused attention on their inter-relationship. Finally, situating entrepreneurs within the context of wider policy networks allowed a much clearer understanding of the way that institutions

constrain or enable behaviour and how agents influence existing and emerging institutions than would have otherwise been possible. This echoes Jänicke and Weidnar's work on environmental policy capacity, which as we saw in chapter four, responded to the assertion that 'successful environmental protection is brought about by a complex interaction of influences and not by a single, isolated factor, nor a favorite instrument, nor a single type of actor, nor a particular framework condition' (Janicke 1997, p. 4).

A mixed-methodology allowed the research question to extend beyond asking just *why* something occurred. By virtue of its novelty the zero carbon homes agenda has attracted only limited academic discussion and has said little about the role of local authorities, as we saw in chapter three. This required looking precisely at what their involvement looked like and how many had engaged, the subject of chapter six. The dataset that resulted though could be used to assess one of the more central claims of ecological modernisation theory: economic conditions play an important role in whether or not decisions become increasingly made on the basis of ecological concerns. Case studies alone can play an important role but an epistemologically pragmatic approach is needed when looking at the value of quantitative techniques. The goal within this thesis has been to provide an interpretation of a complex political world from a realist epistemological perspective. Any methodological technique that can provide insight into a phenomenon and which doesn't raise significant measurement or concept-indicator difficulties is welcome. The centrality of economic conditions to ecological modernisation theory and to

the model of local environmental policy capacity and the ease with which they can be measured (thus minimizing any concept-indicator problems) meant that the opportunity to statistically measure its influence was embraced.

The limits of this regression analysis though need to be stressed. As we saw in chapter five its purpose was to pave the way for the qualitative tools deployed in the two case studies. Its findings on their own tell us only part of the story and make only limited sense without the findings from Oxford and Cambridge. In many ways though the case studies alone too only tell part of the story. They show the Janus faced of economic conditions in this context; it is unusual that although a baseline of economic strength is a necessary condition given the direct and indirect costs and regulatory conditions that may accompany devolved powers, it can both enable and constrain outcomes. Whilst it is needed, it alone can't be used to accurately predict or forecast engagement with supplementary standards. Only further research will tell if the story is the same in other cases.

This concern with prediction or forecasts hints at a normative undertone in this work. Both the introduction and chapter two stressed the links between the normative and analytical dimensions of ecological modernisation theory; the strength of the former is contingent on the completeness of the latter given the roots they share. State-led approaches to ecological modernisation such as the zero-carbon homes agenda bring with them considerable risk in so much as there is no guarantee that devolved powers will be embraced. This may be

irrelevant from a political perspective, dependent on the outlook of national government at any particular time, but from an ecological perspective it is important. We have seen throughout this study the ambition that exists, whether in the literature reviews on urban climate governance or the entrepreneurs in Oxford and Cambridge.

If there were greater understanding about the factors that stood in the way or which encouraged local authorities to engage in national strategies policies could be designed more effectively, where the will exists. This isn't just about homes. The same story is likely to be repeated in a number of policy areas where local and central government are bought into close interaction, from transport to energy. Enabling powers structure local legislative behaviour, so further work should look at likely sites where that extents towards a supplementary role. The more we understand about this interaction the greater confidence we can have in how we engage local authorities in our broader national strategies.

Approaching fifty per cent of local authorities had adopted or attempted to adopt supplementary Code standards by the time such a power was revoked, as we saw in chapter six. The level of ambition seen in Cambridge and these high adoption rates suggest an ambition locally to contribute to a broader transition process. This thesis contributes to a widening of the debate on ecological modernisation, to add understanding of how local government behaves when it is given the room to do so. The cases showed the complexity

involved in negotiating an institutional landscape that presents numerous obstacles. Growth dependent planning places a much greater emphasis on the economic dimension of the ecological-economic divide and as it becomes more entrenched (Rydin 2013a) and places additional demands on those local authorities with the ambition or will to act.

But the cases do show the usefulness of the model of local environmental policy capacity as a tool to study the evolution of this process at work. In both cases latent demand for sustainability existed but both took very different directions. The level of complexity encountered wasn't fully appreciated at the outset of the research. The adaptive approach to theorization employed (and discussed in chapter five) gave resilience to the model as it evolved. The danger would be that the model was too reflective of this particular case, but the anchor provided by the orienting concepts and umbrella of institutional theory has proved useful in detaching much of the theoretical discussion away from the empirical data.

This thesis then has made two important contributions; one empirical and one theoretical. On the empirical front it has significantly increased our understanding of the zero-carbon homes agenda in its own right. There had been few previous attempts at codifying local responsibilities, even less attempts at quantifying their embrace of those responsibilities and no attempt to explain variation in the rate of that embrace. From that perspective a great deal has been learnt about the dynamics of local involvement in sustainable

homes agendas. On the theoretical front this study has made significant inroads by developing, applying and refining a conceptual model to account for local contributions to processes of EM, thus responding to the gaps highlighted there. Doing so has important ramifications for future study. When accounting for other EM processes a more comprehensive understanding of contributions can be sought, one that accurately accounts for local dynamics where necessary.

The advantage of the model of local environmental policy capacity is that it is rooted in theory that brings with it flexibility, making it adaptive to particular context. Capacity takes many forms and the model allows those forms to be assessed. So what form did it take here? We can point to one important factor in particular; empowered policy entrepreneurs within a favourable institutional architecture and economic framework conditions that can accommodate the contribution. There is much though that occurs elsewhere that is outside the reach and influence of any one individual but which nevertheless open the way for or prevent supplementary standards being set. Yet without a group advocating, little would happen.

The usefulness of the model stems from the way that it shows the relationship between economic and ecological rationality and the myriad factors that can prevent ecological concern getting a sound footing during any windows present. When applied in this case it showed us that much can stand in the way of the reconciliation of ecological and economic rationality, even in the

case of will or ambition. This is in the spirit of existing discussions on capacity in the literature on ecological modernisation where, remembering back to chapter four, it was defined as 'the objective limits to (and necessary preconditions of) successful solutions of a given type of problem, limitations beyond which failure sets in, even in cases of good luck, skill and highly motivated actors' (Janicke 1997, p. 1). Economic rationality alone does not structure outcomes, much stands in the way and it is entrepreneurs who need to realize ecological goals.

Although future studies of similar devolutions of power should be sensitive to the institutional, agential, economic and network conditions within local authorities, many of those factors are more serendipitous than others and thus are more difficult to consciously change. There are many contextual, temporal or procedural factors that are difficult to actively change in pursuit of devolved powers. For example, although it is easy to employ the necessarily level of technical expertise, if a local authority lacks temporal synchronicity with national government little can be done to instigate change. Similarly, where ambition exists but is crowded out by, say, a concern with overall housing provision and affordability, it can be difficult for even the most skilled actors to create political room where otherwise it wouldn't exist. In another example, the extent to which local authorities were able to introduce Code policies was influenced by the pre-existing nature of its housing stock and local economy, and the institutional rules that structure supplementary

standard setting which prioritize the economic concerns of developers over the ecological concerns of residents and local decision makers.

Nevertheless, we can talk in terms of a broad checklist for success to consider when devolving powers in this way. We can say that an 'ideal type' scenario is one in which, when national government devolves supplementary powers, it finds that the:

- Local government is temporally and normatively in sync with the national government.
- The political agenda has room for a focus on sustainability (related to normative synchronicity)
- High levels of championship exist, driven by an engaged civil society movement.
- Economic conditions both allow for policy to be introduced (whether through direct or indirect costs) but do not dominate political discussions such that the agenda becomes too crowded with policies designed to respond to those conditions.

Where these are the case it is much more likely that a local government will be willing and able to embrace supplementary powers. Where they don't then the response is less certain.

This doesn't mean that the model is without its limitations. There are constraints with any research that only become apparent towards the end of the research process which do not undermine the study but instead point towards further avenues for future research. Whilst the study focused on a new, fifth type of local supplementary contributions to climate governance, as discussed in section 6.3, it would be interesting to apply the model to the four

more traditional types of contribution. Doing so would subject it to greater exposure in a broader range of empirical areas.

Additionally, this study has focused on only one policy area, so the most apparent future direction would be to look at others, perhaps in a comparative manner. Transport or waste policy, areas over which local authorities have traditionally had relatively high levels of autonomy and which have undergone national-level reforms in recent years, would be likely candidates. There would likely also be gains and oortunities to refine the model further if it were applied in political systems that are not as centralized as that in England in order to understand how the two levels interact when local governments have greater autonomy and independence. These faults do little to undermine this study though, they merely point towards areas for further research.

There are also questions about the impact of local involvement on the ecological modernisation process. The most pressing concern comes from the interaction of economic strength and environmental protection. As we saw, there is a tendency within the existing literature on EM to assume that the implementation of policy directed at environmental reform is implemented 'problem free', yet there is now a second concern: local authorities may only be able to make contributions to processes of ecological modernisation (processes that the state advocates for because, as we saw in sections 2.1. and 2.2.1, they can foster economic growth) where a baseline level of economic strength prevails. Here we reach a paradox, for the state has to be

considerate of the economic effects of ecological measures it tries to induce; a sensitivity to the economic impacts of policy prevails, especially at a time of austerity and global financial uncertainty. Thus, the extent to which economic growth and environmental protection can exist in a positive sum relationship and the extent to which we can 'have it all' is diminished.

It may be the case that ecological modernisation can be good for economic growth, but as this thesis has shown, greater emphasis is needed on the role of the state in inducing such behaviour. It was argued earlier that greater emphasis is needed on explaining the role that local levels of government play in implementing and contributing to the EM agenda, but the findings presented in this thesis – particularly the realization that only those local authorities that are in a financially advantageous position are in a position to contribute to this debate – seem to undermine the 'win-win' nature of the EM debate. In the context of local contributions to the ecological modernisation of housing is contingent upon a sound economic position in the first instance. Despite claims that EM would itself lead to further economic growth in the future, a key factor affecting the extent to which EM takes place here is an advantageous financial position. There is a 'win-win' between economic growth and ecological protection, but only for those who are already winning financially in the first place.

This points towards a common criticism of EMT; that is, it is only rich, highly developed industrial nations that can 'afford' to transition to an ecological

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phase of modernity (Toke 2011). Indeed, Jänicke and Weidner consider this in the construction of the national level model of environmental policy capacity, where it is said that 'the structure of [environmental problems] as well as the capacity to respond to them is strongly influenced by economic performance' (Janicke 1997, p. 4) and when Mol talks about the dominance of economic over ecological spheres of rationality as a basis of decision making in processes of EM.

Typically this criticism has focussed on the 'cost' implied in transitioning to EM, but here we might add that this would seem to be because of the economic contingency that often underpins policy decisions. In a political system dominated by processes of networked-governance, where stakeholders have input into the policy process, economically disadvantageous policy faces considerably greater opposition. Thus, policies directed at shifting behaviour within an industry along ecologically modern lines, whether done directly through central-government regulation, or more indirectly through the devolution of – in this case – supplementary standard setting powers, are likely to reflect extant economic conditions. For example, we can point not just to the contingencies that were placed on local authorities when setting supplementary standards (i.e. the need to respect housing supply), but the difficulties central government faced when negotiating terms and conditions with stakeholders in the Zero-Carbon Hub (particularly over definitions of zero-carbon and allowable solutions).

It is difficult to say without further research the extent to which this paradox is prevalent within industry-led processes of EM (of the sort discussed by, for example, Mol (1996)), but the findings presented here do nevertheless suggest that within state-led processes of EM (which, as we saw in Section 2.3., are often overlooked in discussions on EM), action may only be possible where economic strength already prevails, regardless of the future economic benefits that such action may have. Two questions need asking: first, to what extent do local contributions to processes of ecological modernisation depend on sufficient levels of economic strength; second, to what extent does this trend exist at the national level? If it is shown in either case that extant levels of economic strength are a necessary condition (as has been the case in this study), then this undermines the theory central proposition of ecological modernisation theory discussed in Section 2.1. that growth and ecological protection and co-supporting.

Alongside this, other questions remain. At the outset of this research it wasn't known that the zero-carbon agenda would be wound down, nor that local authorities would have their discretionary powers revoked. However, given the developments that took place as the research was being conducted an interesting question emerged: what effect have local contributions had on the trajectory of the national legislative agenda? It would appear from peripheral evidence that a motivating factor in the winding down of the agenda was the fact that local authorities could set their own standards. We saw in section 3.2. that the CSH and the ZCH were both subject to criticism, from a range of

parties. Developers frequently complained of an 'uneven playing field' of standards across the country, or regulatory 'burden' as more stringent requirements for sustainability sat alongside the existing infrastructure and affordable homes requirements accompanying development. It would be interesting in future research to investigate more fully the way in which this emerged as a restrictive factor together with how and why private developers responded in the way they did.

Similarly, efforts can be made in the future to quantify the impact of local authority involvement. We have inferred in previous chapters that this kind of standard setting helps to lower technological costs, increase knowledge and expertise amongst a range of stakeholders and lead to the emergence of a new planning culture. However, it would be interesting to see more specifically the impact that they have had. What affect did local involvement have on the costs of sustainable homes, or the level of expertise, for example? Given that this kind of institutionalization of ecological concern is an important factor in processes of ecological modernisation it would be useful to more thoroughly quantify the impact they had.

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highly unlikely to achieve all they set out to do, attempts at institutional design are inevitable as political actors seek to make their values "stick" through institutional mechanisms. Such action does not only include heroic foundational moments (new constitutions, for instance) or fundamentally reform programmes, but also many disparate small actors of adjustment undertaken by strategic actors on the ground' (Lowndes and Roberts 2013, 171), Chicago.

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Appendixes

Information Sheet

Title of study

The Local Politics of Ecological Modernisation: The Case of Sustainable Homes Policy in English Local Authorities

Background of the Study

Local government has made significant inroads in recent years in legislating for the construction of sustainable homes. Powers to set local sustainable construction targets granted by central government in 2006 through Planning Policy Statement 1 have been embraced by almost 50% of local authorities in England, making them significant players in the way that the policy debate plays out at the national level – for better or worse. Unusually, then, two levels of sustainable construction standards exist: national level standards incorporated into Building Regulations and supplementary local level standards incorporated into Local Plans.

What is the purpose of the study?

As political scientists we know little about the politics that govern the decision to adopt these kinds of supplementary standards. As such, the research project that you have been invited to take part in asks what barriers and enablers stand in the way of local authorities embracing these kinds of powers. The first half of the study asks how sustainable homes policy has developed in a national and local context. The second half relies upon in-depth case studies of English local authorities to uncover barriers and enablers that both encourage and inhibit the adoption of supplementary sustainable construction standards.

Why have I been invited to take part?

You have been invited because you are, or have been, well placed within your organisation to answer questions on the capacity of the local authority to legislate in this way. You may have had little direct involvement in the adoption of the Local Plan but that is a deliberate design feature of the research.

Do I have to take part?

Your involvement is entirely voluntary, although given your knowledge of the policy area your contribution would greatly enhance the coherence and findings of the project.

What will happen to me if I take part?

If you do choose to take part you will be asked to commit to an interview, which should typically last between one and one and a half hours. This can be changed depending on your schedule however. It is typical that these interviews take place face-to-face, and this will be at a location convenient to you such as your office or a coffee shop. However it may be possible to arrange a Skype interview or telephone interview if a face-to-face interview is not possible. Interviews are likely to take place on the 2nd, 3rd, 4th or 5th of February 2015.

During the interview you will be asked questions that reflect your current position within your organization and, if relevant, the role you played in the development of the Local Plan. Questions will focus on the: key individuals and organisations involved; the political context and the capacity of the Local Authority to respond to environmental issues.

There is no prior preparation required on your part, although you may find it useful to refer to notes, diaries or records from the time (if relevant) to aid your memory. If you choose to cooperate a more detailed list of discussion topics will be forwarded to you before the interview.

Will my taking part be kept confidential?

The information that you supply and that which may be collected as part of the research project will be entered into a filing system or database. The information will be retained by the University of Birmingham and will only be used for the purpose of research, and statistical and audit purposes. By supplying this information you are consenting to the University storing your information for the purposes stated above. The University of Birmingham in accordance with the provisions of the Data Protection Act 1998 will process the information. Your contributions will be anonymized, and no personally identifiable information will be included in the research report.

How is the project being funded?

The project is being funded by the College of Social Sciences, University of Birmingham

What will happen to the results of the study?

The results of the study will form the basis of two chapters of a Ph.D. thesis, due for submission in 2016. In addition it is likely that results will be disseminated through the scientific literature in the form of peer-reviewed journal articles and single author monographs.

How can I opt-in/out of the study?

You will be contacted in a week or so by e-mail to confirm your involvement. It is at that stage that logistical details can be discussed.

Who should I contact for further information?

If you have any questions or require more information about this study, please contact Max Lempriere - the principal investigator – using the following contact details:

Max Lempriere
Department of Political Science and International Studies
10th Floor West, Muirhead Tower
University of Birmingham
Edgbaston
Birmingham
B15 2TT

Thank you for reading this information sheet and for considering taking part in this research.

Case Study Protocol

'The protocol is more than a questionnaire or instrument…The protocol is a major way of increasing the reliability of the case study research and is intended to guide the investigator in carrying out the data collection. (Yin 2003: 67).

Overarching Case Study Questions

Which actors were in the network?
What resources did they possess?
How did these resources flow across the network?
In what ways were they depended on by, particularly, councillors and officers?
What was the situative context and how was this exploited?
What institutional conditions existed?
What economic conditions existed?
What cognitive-informational conditions existed?
How was the problem framed?

Actors/Resource Exchanges/Resource Dependencies

Which actors comprised the network?
Which of those actors were the most important?
What resources did they possess?
How did councillors and officers depend upon those resources?
(How) were these resources exchanged?
What concessions were made?
Which governance strategy was employed by the local authority in the policy making process?

Situative Context:

What was the situational context in which policy was being made?
Were there any natural weather events that raised the issue of sustainability on the agenda in the previous years?
Were there any pollution crises?
Did policy-cycles between local and national level align?
Was there a sudden change in government/elected member for planning, or other 'constitutional' crisis?
How high was the issue of sustainability on the LA's agenda?
How well formed was the strategy to design, adopt and implement a sustainable construction policy prior to one of these windows opening?

Political Institutional Factors

Participative Capacity

Does local governments have high levels of participation from non-state actors?
What is the nature of this interaction?
What role do non-state actors play in the policy making process?

Integrative Capacity

Does local government have high levels of both horizontal and vertical integration between different levels of government: i.e. between junior and senior officer and between officers and elected Councillors (particularly those with responsibility for planning and the environment)?
What is the nature of this interaction?

Economic Conditions

What economic position does the construction sector hold in the local authority? Is it a big provider of jobs, etc?
What is the state of the existing housing stock? Is it already highly sustainable?
How does the local economy fare compared to its regional neighbours and those nationally?
What opportunities/scope for future development is there in the local authority? Are future projections indicating a high level of construction?

Cognitive-Informational Factors

What is the leading paradigm on environmental protection and is that compatible with the principles of ecological modernisation?

What efforts were made to increase the environmental awareness of councillors, officers, network actors and the general public?

Breakdown of Interviewees

Industry representative/consultant	9
Councillor	7
Officials	6
Academics	2
Civil society representatives	3

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