
~ Master's thesis ~

The use of City-Deals for sustainable innovation:

What can the Netherlands learn from UK experiences?

Course: Master's Thesis Innovation Sciences

Course code: GEO4-2239X
Credits: 45 EC
Date: 06 March 2017
City: Utrecht
Utrecht University

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"One of the penalties of an ecological education is that one lives alone in a world of wounds"

~ Aldo Leopold ~

Table 1: List of important abbreviations and their definition.

Abbreviation	Definition
CA / Combined Authority	A combined authority is a legal body set up using national legislation, which enables a group of two or more councils to collaborate and take collective decisions across council boundaries in the UK.
FEA / Functional Economic Area's	Economic flows often overlap local authority boundaries. This means that the functional area over which the local economy operate will not necessarily adhere to administrative boundaries. Instead Functional Economic Areas broadly correspond to sub-regions or city regions and is defined on the basis of economic activity in a specific market or sector (Department for Communities and Local Government, 2010).
LEP / Local Enterprise Partnership	39 voluntary partnerships between local authorities replaced the nine Regional Development Agencies in the UK
RDA / Regional Development Agency	Nine public bodies established for the purpose of development, primarily economic, for England's nine regions. Active between 1998 and 2010.

Acknowledgements

I would like to thank my supervisor Rob Raven for all the feedback, support and continues motivation. Rob is not only an overly competent supervisor, but also proved to be a great coach, providing me with peace of mind in times of great distress. In addition, I would like to thank the 2nd reader Frans Sengers for his helpful suggestions on the research proposal.

Having this said, I would like to express my gratitude to a multitude of organizations, people, family and friends.

PBL, The Netherlands Environmental Assessment Agency made this research possible. Special thanks go to Ton Dassen and Joost Tennekes for initiating the research and providing exceptional guidance along the different stages of the process.

The success of this research was dependent on the willingness of interviewees to share their thoughts on the UK City Deals. I appreciate the enthusiasm of all 21 interviewees in Manchester and Newcastle who welcomed me. Both those affiliated to the municipalities and researchers affiliated to the universities, did free up more of their valuable time than I could have wished for.

Mike Hodson is thanked for coordinating a great research visit to the Sustainable Consumption Institute. Marc Hudson is thanked for sharing his lifetime work on Manchester Climate Monthly. Aiden While is thanked for offering the opportunity to present the results of this research once again in the UK.

The countless casual encounters with sympathetic people made the 7 weeks in England particularly memorable. Special thanks go out to the loving AirBnB hosts and hostesses that made me temporarily feel part of their family and disclosed the 'normal', 'average' UK culture and lifestyle to me.

Saving the best for last. Friends and family have proven to be indispensable during the rollercoaster of emotions that accompany a Master's thesis. Special thanks go to my dear parents Marlies and Henk: you have provided me with all the love, care, and resources to enjoy life in a carefree fashion. Most admirable; you trusted me unconditional to navigate wherever I felt best to go. To my best friend and younger brother Vincent: Keep the rudder straight, you're going in the right direction. To my most generous and inspiring mentor Patrick: I've hit the jackpot in terms of friendship and guidance by meeting you in the most crucial phase of life.

Finally, to all friends who turn normal days into memorable days:
Thank you!

Abstract

The use of City-Deals for sustainable innovation: What can the Netherlands learn from UK experiences?

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Submitted: 6 March 2017, Utrecht University

Key words: Agenda Stad – City Deal – United Kingdom – Protected space – Niche creation – Sustainable innovation – Manchester – Newcastle

The Netherlands is developing a policy agenda around the future of Dutch cities, known as 'Agenda-Stad'. This policy program is founded on the perception that governance is more efficient and has greater impact in urban environments, than a one-size-fits-all implementation at the national level. In particular a lot of attention is concerned with the role of innovation for sustainable urban development. However, so far it is unclear how Agenda-Stad is going to create 'space' for urban sustainable innovations to flourish.

The UK National Government launched a similar policy program back in 2012 called 'City-Deals'. This research rests on the idea that the Netherlands can learn from the experiences in the UK. The research therefore explores: **"How is the English City-Deal policy of influence on the creation of 'protected spaces' for sustainable innovations and what are lessons to draw for the Dutch 'Agenda-Stad' in designing their policy program?"** It is interesting to clarify this gap in literature and investigate how tailored urban policies can be designed to stimulate the sustainable entrepreneurial potential of cities.

This research makes use of the Strategic Niche Management framework to understand how the City-Deal policy influences the creation and availability of protected spaces. Sustainable innovations require a protective space when they are promising, but not yet economically or technologically advanced enough to compete unguarded in the existing socio-technical system.

21 Interviews with local government officials and researchers were conducted in the cities of Manchester and Newcastle. This resulted in a comprehensive understanding of the effects of City-Deal policy in the UK urban environment. Results show that that the City-Deal policy in the UK did not directly contribute to the creation of 'protected spaces' for sustainable innovations, not the least because a number of contextual characteristics in the UK. Primarily the national focus on economic growth was so profound that it displaced the cities' aspirations and capabilities to lower their carbon emissions throughout the process of developing City-Deals. Various other national and local characteristic of UK governance had such an adverse effect on the creation of 'protected spaces' for sustainable innovations, that they overshadowed the positive influences of City-Deal policy. Nevertheless, this research is able to derive lessons learned from the UK case studies that can avoid similar unsatisfying outcomes for Agenda-Stad in the Netherlands.

Abstract word count: 380 words.

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1 Introduction

The Earth is facing human-induced global environmental changes. Climate change is not only a global or national issue, but it is also a profoundly local issue (Bulkeley & Betsill, 2003). 'Just as the human activities that have led to climate change are very local, so will any global response to climate change involve local action' (Wilbanks & Kates, 1998, p.612). Large urban areas¹, better known as cities, have become of increasing interest as a promising level of response towards climate change (Bulkeley & Betsill, 2003; European Commission, 2015; McCormick, 2016). The urban focus of the sustainability debate is largely caused by the fact that cities rapidly appear as concentrations of problems (Nijkamp & Pepping, 1998). Over half the global population currently lives in urban areas and this trend will continue (McCormick, 2016; PWC, 2015). Besides being major consumers of natural resources, cities and its inhabitants are major producers of pollution and waste (Nijkamp & Pepping, 1998; UNEP, 2013). These factors make the negative implications of human (over) consumption particularly evident in urban areas (Hamers, 2016; McCormick, 2016; Nijkamp & Pepping, 1998).

Hence, cities should become more sustainable (UNEP, 2013). Cities have to make a transition towards 'sustainable cities' (Barber, 2013; Bulkeley & Betsill, 2003; Bulkeley, Broto, Hodson, & Marvin, 2010; Department of the Environment Transport and the Regions, 2000; Hodson & Marvin, 2010). Technological innovation and creativity are indispensable for ensuring the sustainable future of cities (European Commission, 2010; WEF, 2015). Innovation and research is encouraged to improve energy efficiency of appliances and buildings in cities. Alternative means of transport, alternative waste treatment solutions and alternatives for scarce natural resources all rely on the development, implementation and up scaling of sustainable innovations (European Commission, 2010). The current pressure that urban areas exert on the environment gave rise to a debate on sustainable cities. This can potentially have a fundamental impact on the way people live, work, move and behave in urban areas in the future (Hamers, 2016).

Researchers, city-mayors, urban networks and politicians have argued that the inherent density in cities can be turned to an advantage (CPB & PBL, 2015) (Barber, 2013) (Clark & Clark, 2014) (McKinsey&Company, 2011) (European Commission, 2011). The argument is that urban areas possess large quantities of research institutes, inventors, commercial organisations, investors and high-educated people in close proximity to each other. This high density forms a great potential for entrepreneurship, innovation and start-ups to be developed within the city. Some of these entrepreneurs, start-ups and innovators are willing to develop; implement or scale-up technologies and services that make less use of scarce-resources and have fewer emissions i.e. incremental sustainable innovations. The sum of incremental innovations can even contribute to radical new alternatives that are fully sustainable in all sorts of ways (Abernathy & Utterback, 1978).

It is in this context that the Netherlands is developing a policy agenda around the future of Dutch cities, known as 'Agenda-Stad' (agendastad.nl, 2016b). 'Agenda-Stad' is founded

¹ Urban area is used as a synonym for city. There is no standard definition of 'urban' area (The World Bank, 2015). Each country has its own definition and collects data accordingly (United Nations, 2014).

on the perception that 'it happens' in cities (CPB & PBL, 2015) (Platform31, 2015). That is to say that governance towards more sustainable development, is considered to be more efficient and have greater impact in urban environments, than similar governance and actions being implemented at the national level (McCormick, 2016). The official term being used by policy makers is 'agglomeration economies' i.e. the benefits that arise out of sitting close together in a certain place (Sociaal Economische Raad, 2015b). The objective of 'Agenda-Stad' is "strengthening growth, innovation and quality of life in the Dutch cities" (agendastad.nl, 2016b). This includes movements towards more sustainable urban practices (Sociaal Economische Raad, 2015a).

'City-Deals' are the key instruments for achieving the objective of Agenda-Stad (agendastad.nl, 2016a). City-Deals are formal collaboration agreements between the national state, cities, firms and public organizations (agendastad.nl, 2016a). City-Deals aim to create spaces for innovation and empower local governments in those situations 'where cities encounter constraints, and innovation and breakthroughs are needed to cash in on opportunities and problems need to be resolved' (agendastad.nl, 2016b). For cities to become 'sustainable cities' and resolve problems, new ideas and solutions have to be developed and implemented. These ideas and solutions do not necessarily fit in the existing (path-dependent) framework of 'more, better and faster', but instead require an alternative (path-breaking) framework of doing things 'different' (Denktank Agenda Stad, 2015) (Rijksoverheid, 2015). City-Deals therefore revolve around creating 'space' for new ways of collaborating, facilitating and removing legislative barriers, thereby forging new paths (Sociaal Economische Raad, 2015b) (Denktank Agenda Stad, 2015). 'Agenda-Stad' is therefore considered to be a potential transformative policy.

However, it is still unclear how exactly the Dutch City-Deals are going to create space for urban sustainable innovation. This concern is shared by PBL Netherlands Environmental Assessment Agency, hereafter abbreviated as PBL. PBL is the national institute for strategic policy analysis in the fields of the environment, nature and spatial planning (PBL, 2016). PBL would like to better understand if and how City-Deals are of influence on the development of sustainable innovation in urban areas to resolve problems. PBL is the commissioning organization of this research.

Currently the City-Deals in the Netherlands are at an early stage. Because equivalent policies are lacking in the Netherlands², we shift to a different country for research on City-Deals, i.e. England, part of the United Kingdom. City-Deal policy has been implemented and delivering results for four years already in England. The UK City-Deals have also been a source of inspiration for the Dutch policies (HM Government, 2011) (agendastad.nl, 2016c). The English City-Deals consist, similar to the Dutch City-Deals, out of agreements between the National Government and local councils (agendastad.nl, 2016c) (Ward, 2015) (HM Government, 2011). Results from the first UK City-Deals should by now be crystalized and visible, given the emergence of various documents reporting on progress (KPMG, 2014; National Audit Office, 2015; O'Brien & Pike, 2015).

² The Netherlands introduced a policy program known as 'Green-Deals' in 2011 and has gained considerable experience since (Ministerie van Economische Zaken, 2015). Green-Deals support sustainable development. However, Green-Deals lack any urban focus. PBL is specifically interested in the urban component of sustainable development. The Green-Deal policy can therefore not be used to substitute for City-Deals.

This research will therefore focus on selected English cities that have negotiated City-Deals with government. These cities act as case studies. The research will help understand how City-Deal policy is of influence on sustainable innovation in the UK context. The next step is to bring about an ex ante policy advice, based on learning from the selected English case studies, on how to better design the Dutch city-deals, so that 'spaces' are being created for sustainable innovations to develop, implement and up-scale. It is herein important to note that context plays an important role in case studies and that this will be different between the countries. Nevertheless, it is expected that the design of this research can lead to helpful ex ante insights and advice. By comprehensively describing the context in which the English City-Deals have been implemented, lessons will be drawn on how the 'Agenda-Stad' policy can be (better) organized in the Netherlands.

The issue of how to promote and govern sustainable innovations in the context of transformative change has received increasing attention both in the policy arena and in social-science research, even so particular in the field of 'sustainability transitions' (Markard, Raven, & Truffer, 2012). Adaptation to human-induced change in climate has largely been envisioned as incremental adaptations to avoid disruptions of systems. For some systems however, risks or targets to achieve may be so sizeable that they require radical, transformational rather than incremental adaptations (Kates, Travis, & Wilbanks, 2012). A key idea is that sustainable innovations are often path breaking and radical in nature. They therefore do not necessarily fit in the current, unsustainable, path-dependent system (Schot & Geels, 2008). Sustainability transition research emphasises the role of niches as a source for path-breaking innovation. A defining characteristic of these niches is that they afford temporary 'protective space' for the configuration and development of such sustainable innovations (A. Smith & Raven, 2012). A protective space is required to shield sustainable innovations from the prevailing selection pressures. Within these protective spaces, niche actors can nurture the path-breaking innovation. Nurturing leads to improvement of the innovation. If sustainable innovations are able to scale-up they start contributing to regime shifts or transitions towards sustainability (A. Smith & Raven, 2012). That, at least, is the argument in the literature. This project will build upon this literature, which will be further elaborated in section 2.

The main research question addressed in this thesis can now be formulated as follows:

How is the English City-Deal policy of influence on the creation of 'protected spaces' for sustainable innovations and what are lessons to draw for the Dutch 'Agenda-Stad' in designing their policy program?

The following sub-questions guide the research towards answering the main research question:

- (1) What is the national context in which the English City-Deals have been developed?
- (2) What has been the influence of UK City-Deal policy on the creation of protective space for sustainable innovation in selected UK cities?
- (3) What lessons can be drawn from these two cases for the Agenda-Stad in the Netherlands?

The academic relevance of this research is as follows.

(1) It will contribute to the improvement of the Strategic Niche Management body of thought. It will do so by, being first to apply the framework, not in combination with typical technological or sectorial demarcations, but a geographical demarcation; the city. It is novel to apply this framework in an urban context. This research will reflect on the usefulness and potential adaptations of the Strategic Niche Management framework for urban sustainable innovation.

(2) Scientific research has been carried out on the influence of City-Deals on various economic aspects, but not on sustainability aspects.

(3) Sustainable transitions require decisive interventions from state and non-state actors because existing systems are characterized by inertia and lock-in (Markard et al., 2012). However, there is little experience with policies such as Agenda-Stad, oriented at fundamental, system-wide changes (Voß, Smith, & Grin, 2009) in (Markard et al., 2012). While Strategic Niche Management is specifically designed to address this need for 'game changing' policy interventions, actual policy rationales still rely primarily on advice from neoclassical economics, or from innovation system thinking at best (Markard et al., 2012). By analysing City-Deals through the framework of SNM, we may provide further evidence for the suitability of SNM in the formulation of policy advice towards state actors.

The research also carries societal relevance and is as follows.

[1] The research is carried out in the interest of PBL. PBL is a governmental agency that may deliver solicited or unsolicited advice to the Dutch government in designing policy programs. The Dutch government will be able to make improvements to 'Agenda-Stad' based on this study. The Agenda-Stad policy strives to enhance the quality of life in the Netherlands. A better-designed policy is therefore of societal relevance.

[2] The research provides the Dutch 'City Agenda' with helpful insights from UK practices. The lessons drawn from England may be of positive effect on the development and progress of sustainable innovations in Dutch Cities. From sustainable innovations may be expected that they contribute to human wellbeing or provide solutions to current challenges.

[3] The research brings together the insights from academia and local political leaders. While both groups can greatly benefit from showing an interest in each other's knowledge and experience, there is often no large incentive existing to do so. This research will reflect on their belief systems, disputes and agreements while also making these insights available for both groups to read and potentially draw lessons from.

The remaining part of this research is structured as follows. In section 2, relevant theories for the research are discussed. In section 3 the methodology is outlined. The context of England and the results of the interviews that answer sub question 1 & 2 are covered in section 4 to 8. Conclusions and discussions hereof are written in section 9 and answer respectively sub question 3 as well as the main research question. The research finishes with the policy implications, limitations, theoretical implications, limitations and recommendations for the Netherlands and future research.

2 THEORY

The development, implementation and up scaling of sustainable innovations contributes to the momentum of large urban changes. Large urban changes can be conceptualised as transitions in urban socio-technical systems. Therefore, first a brief understanding of transitions will be provided. Then, the focus on theories narrows and deepens to the Strategic Niche Management (SNM) framework that explicitly revolves around understanding sustainable innovations in the context of transitions. Three concepts are introduced that will be of great importance throughout the research: shielding, nurturing and empowerment. These three core concepts not only structure this section, but also the questionnaire, data analysis and discussion of the results. Third, the role of policy on these concepts is discussed. The theory section concludes with the development of a conceptual model that will inform the empirical research in this project.

2.1 Urban sustainability transitions

Transitions research is concerned with understanding major transformations in socio-technical systems such as energy and mobility, and recently also urban systems. The key argument is that current socio-technical systems are unsustainable and provide a disadvantageous selection environment for sustainable innovations (Schot & Geels, 2008). Therefore, existing socio-technical systems need to be structurally transformed, which includes change at multiple dimensions such as in markets, user preferences, policies, infrastructures, industry organisations etc. In this literature, transition is defined as *"involving far-reaching changes along different dimensions: technological, material, organizational, institutional, political, economic, and socio-cultural* (Markard et al., 2012 p.956).

Transitions typically unfold over considerable time-spans (e.g., 50 years and more). In the course of such a transition, new products, services, business models, and organizations emerge. Some innovations may complement and reinforce the existing structure while others are intended to substitute for existing ones. Technological and institutional structures will change in a gradual and incremental manner, as well as the perceptions of consumers regarding what constitutes a particular service or technology (Markard et al., 2012). Ultimately when one looks in retrofit, a fundamental, more radical change in technology, practices and behaviour may be recognized.

The current research is explicitly focused on 'cities'. The spatial scale in socio-technical transition approaches, however, remains implicit (Hodson & Marvin, 2010; Raven, Schot, & Berkhout, 2012; Truffer & Coenen, 2012). Aside from the national level, transition approaches have been somewhat limited in focusing on spatial scales. In particular, transition approaches have said little about cities or which theories on systemic transitions can contribute to understanding urban social-technical transitions (Hodson & Marvin, 2010). The consequence is that it is often unclear where transitions take place. This is perhaps surprising given that cities are sites of intense economic activities and where it is claimed that the world's cities are responsible for significantly disproportionate amounts of greenhouse gas emissions (Hodson & Marvin, 2010). This research does make use of the SNM framework to understand how sustainable innovations are affected by City-Deals within a spatial scale and how the development of multiple sustainable innovations can result in fundamental urban systemic changes.

2.2 Strategic Niche Management

SNM theory is a framework that explicitly seeks to understand and explain sustainable innovations in the context of transitions (Markard et al., 2012). Sustainable innovations are often not (yet) economically and/or technologically competitive within the existing socio-technical systems. These innovations can be described as “hopeful monstrosities” (Grin, Rotmans, & Schot, 2010). They are hopeful because they are expected to be promising technologies for the future and monstrous because their performance or affordability is yet poor (Grin et al., 2010). This is especially a problem with sustainable technologies. A lot of sustainable innovations are proven to be functioning, but they are not yet attractive when introduced on the market (Geels & Schot, 2007).

The diffusion of such sustainable innovations is not likely to take off if the system is left unregulated (Vezzoli, Ceschin, & Kemp, 2008). The basic idea behind SNM is to use niches that help create a protected path for innovations to become part of, and reconfigure an incumbent socio-technical regime.

To foster sustainable innovation on a spatial scale such as the city, it is thus necessary to create ‘protective spaces’ that allow deviating approaches to urban development from those embedded in the existing socio-technical system. Such conceptualisation resonates with the aim of the policy under research: “City-Deals aim to empower local governments in those situations ‘where cities encounter constraints, and innovation and breakthroughs are needed to cash in on opportunities and problems need to be resolved’ (agendastad.nl, 2016b).

The creation of ‘protective spaces’ holds three important theoretical dimensions: shielding, nurturing and empowerment³. A more detailed description of each dimension is provided in the subsections below. Several studies have confirmed the usefulness of this framework for understanding and governing the dynamics of protective spaces (Kern, Smith, Shaw, Raven, & Verhees, 2014; Raven, Kern, Verhees, & Smith, 2015; A. Smith & Raven, 2012; Verhees, Raven, Kern, & Smith, 2015; Verhees, Raven, Veraart, Smith, & Kern, 2012).

³ It is important, conceptually, to see these measures as contributing to protective processes evolving over time rather than seeing them as distinctive events that can be categorised as shield, nurture, or empower (Raven, Kern, Verhees, et al., 2015).

2.2.1 Shielding

Shielding is defined as 'those processes that hold at bay certain selection pressures from mainstream selection environments' (A. Smith & Raven, 2012). Path-breaking sustainable innovations are at a structural disadvantage, compared to existing path-dependent, non-sustainable practices and technologies. This is because their characteristics are too demanding in terms of their socio-technical implications in the current selection environment (A. Smith & Raven, 2012). A selection environment consists inter alia out of:

- Established **industry structures**
- Established **standards**
- Dominant **technologies and infrastructure**
- The established **knowledge base**
- The **markets and dominant user practices**
- **Public policies and political power**
- The **cultural significance attached to a specific regime**

Path-breaking sustainable innovations tend to develop in niches that shield those innovations from mainstream selection pressures (Bergh & Kemp, 2006; Climate-KIC-RIIC, 2014; Kivimaa, 2014; Markard et al., 2012; Raven, Kern, Smith, Jacobsson, & Verhees, 2015; A. Smith & Raven, 2012). Shielded niches for sustainable innovations can be actively created, or passively discovered. "Active shielding contributes to the creation of protective spaces through targeted support for a specific innovation, while passive shielding is about the mobilization of pre-existing, non-targeted spaces that nevertheless provide some form of protective shield for the specific innovation of concern" (Verhees et al., 2012). An example of a passively protected space is a remote island, where there are natural barriers that can shield a sustainable innovation from dominant infrastructure, markets, standards and culture. This research has a sole interest in active shielding because of its policy-oriented focus and because the policy is limited to eight designated cities.

2.2.2 Nurturing

Shielding can create the space for nurturing to take place. Nurturing is defined as 'those processes that support the development of the path-breaking innovation' (A. Smith & Raven, 2012). Within the nurturing concept three processes can be distinguished that are important (Schot & Geels, 2008) (A. Smith & Raven, 2012).

First, **expectations** and expectation setting are considered essential for nurturing sustainable innovations. Firms, entrepreneurs, users, policy makers etc. participate in projects based on expectations about the potential implications of these projects. The articulation of positive expectations is particularly important when technologies / innovations are still in early development. Articulation of expectations involves sharing expectations amongst actors, connecting expectations to tangible results from experiments and making expectations more specific.

Second, the construction of a social **network** is important for nurturing sustainable innovations because it facilitates interactions between stakeholders and shapes a social constituency behind the innovation. In the early phases of the innovation, the network is often fragile. A strong social network is broad and deep, which means that multiple actor types (firms, users, policy makers, scientists, etc.), including actors that can mobilise wider support, are present and network alignment is facilitated through regular interactions.

Finally, **learning** processes are crucial for successful nurturing of sustainable innovations. Learning can take place on multiple dimensions:

- Technical aspects and design specifications
- Market and user preferences
- Cultural and symbolic meaning
- Infrastructure and maintenance networks
- Industry and production networks
- Regulations and government policy
- Societal and environmental effects

Good learning processes thus focuses both on technical and social aspects. Learning should also be reflexive, which refers to questioning underlying assumptions and values.

In SNM, experimental projects such as demonstration projects or living labs are considered important arenas for nurturing sustainable innovations. When 'correctly' designed, an experimental project can facilitate all nurturing processes (Kemp, Schot, & Hoogma, 1998). Experiments can be defined as "initiatives that embody a highly novel socio-technical configuration likely to lead to substantial sustainability gains" (Berkhout et al., 2010). Experimentations, 'sustainable initiatives', 'urban living labs' and 'pilot-studies' are all considered synonyms in this research for 'local experimentation' "This relates to experimentation in specific places with local contexts, supported by local networks, and generating lessons accordingly" (A. Smith & Raven, 2012).

2.2.3 Empowerment

Empowerment, a more recent concept in the sustainability transition research, is defined as 'those processes that make niche innovations competitive within unchanged selection environments' or as 'those processes that re-structure mainstream selection environments in ways favourable to the niche' (Raven, Kern, Verhees, et al., 2015; A. Smith & Raven, 2012). Here, two definitions are used because the innovation and the system can converge in two ways.

- (1) The innovation primarily adapts to the current system,
- (2) The current system primarily adapts to the innovation.

The use of 'primarily' is important here. Fit-and-conform and stretch-and-transform are two extremes on a continuum (A. Smith & Raven, 2012). In practice, a combination of the two processes may lead to a convergence between the innovation and the socio-technical system (Raven, Kern, Verhees, et al., 2015). For example, the range of electric vehicles is gradually increasing, to conform to the accustomed range of internal combustion vehicles (Fit-and-Conform). At the same time the system is transforming towards the technology, as on-route charging facilities are under construction, city authorities adopt low-emission-zone's and consumers gradually accept a shorter range that would still suffices for 95% of their car trips.

There may also be variation in the way in which these processes take place on different dimensions. For example, fit-and-conform of the technology with existing policy paradigms, but stretch-and-transform of the infrastructures (Raven, Kern, Verhees, et al., 2015).

2.3 The role of policy on shielding, nurturing, empowering

The study of (Verhees et al., 2015 p. 818) focused on the role of policy on shielding, nurturing and empowerment. It proposed that:

(1) Policy can enable, intentionally or not, the shielding of a sustainable innovation by enabling the emergence of a dedicated community around a sustainable innovation or the realization of experiments, pilot projects, and demonstration projects.

(2) Policy can enable nurturing by contributing to e.g. the organization of learning processes within a niche, the formation of deep and heterogeneous networks, or the emergence of shared and specific expectations.

(3) Policy can empower a sustainable innovation when it is either aimed at rendering such an innovation competitive under conventional criteria and has an explicitly temporary character ('fit-and-conform') or when it enables the institutionalization of sustainable values and/or beneficial institutional or infrastructural reforms ('stretch-and-transform').

(4) Policy can constrain these developments by providing disincentives on these dimensions, or by withdrawing previous incentives.

This research will test these propositions using a qualitative case study whose methodology is described in the following section.

3 Methodology

3.1 Research Design

To perform research towards policy, it is important to go into detail and create contextual background. Therefore, a qualitative research design is chosen. Qualitative research allows obtaining a great deal of descriptive detail and enables to understand the people's interpretation of subjects (Bryman, 2012)

The aim of this research is to improve understanding on how policies may stimulate the creation of 'protected spaces' in urban areas to increase the likelihood for the development, implementation and up scaling of sustainable innovations. To better understand this relationship, the research uses concepts of existing theories on SNM deductively. Hence, the interview scheme (see appendix B) has been derived from key synthesising concepts in this framework (Bryman, 2012). The key concepts and their relations are depicted in Figure 1.

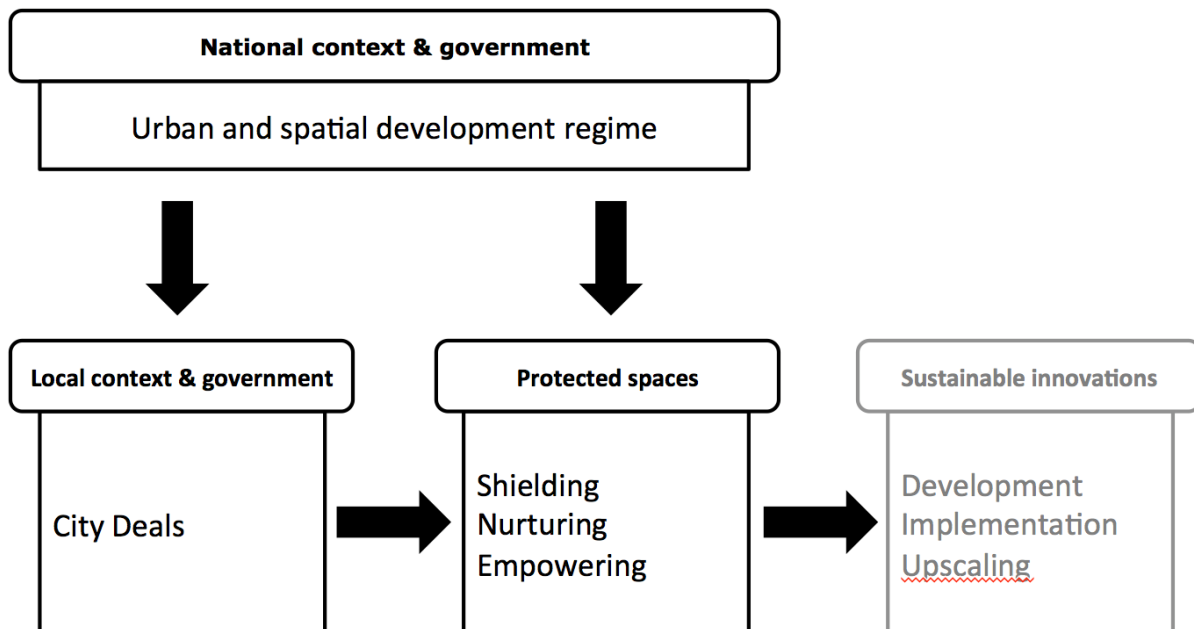


Figure 1: Conceptual model. The relationships between national context, local context, policy and protective niche creation, in the process of fostering sustainable innovation.

The primary relationship under research is how City-Deals are of influence on processes that shield, nurture and empowers sustainable innovations. The pre-established and pre-existing national context is believed to influence both the City-Deal policy and the policies' ability to create protected spaces. The reasoning for this is that policy is never in isolation but embedded in a complex set of structures, procedures, rules and institutions (Raven, 2005).

The inclusion of an English 'national context' is of great importance in this research to draw lessons for the Dutch 'Agenda-Stad'. A broad definition of National context is used, by referring to the pre-existing system of culture, standards, governance, institutions and economic activities in a country. The operationalization hereof occurs in a grounded theory fashion and is based on what interviewees regard has been of most important influence on

City-Deal policy. "National context" is also referred to as the "Urban and spatial development regime".

All the dimensions of SNM theory have a positive influence on the creation of protected spaces when considered sufficiently present. If all three dimensions: shielding, nurturing and empowerment are sufficiently present⁴ in a local (urban) environment, then it is likely that sustainable innovations are being developed, implemented and scaled up. Insights in the presence or absence of these dimensions will lead to the identification of the influence of policy on the creation of protected space. Moreover, the evaluation of these dimensions per city will make it possible to specifically depict what, if any, is hindering the creation of protected space for sustainable innovation.

The interviews will be conducted in two selected cases / cities in England. This research follows a case study design, as the aim of this study is to provide an in-depth clarification of a case. "The case is an object of interest in its own right" (Bryman, 2012). In this case the implementation of UK City-Deals i.e. the influence of UK City-Deals on sustainable innovation.

Not all cities in England are involved in the City-Deals program. 'Wave 1' formed the initial launch of the policy program, comprising the eight largest English cities outside of London (Ward, 2015) (gov.uk, 2015). These cities are also known as the Core Cities. The wave 1 cities are most experienced with the City-Deal policy and therefore of greatest value for this research. Figure 2 on page 22 displays the amount of devolution for each city expressed in economic terms, as a direct result of signing a City-Deal. From all wave 1 cities we filtered on cities that expressed a profound low-carbon focus in order to be interesting for the Dutch situation. **Manchester** and **Newcastle** fulfilled these requirements best.

Through in-depth case studies we try to understand and explain the influence of the City-Deal policy program in a contextual way. Manchester, with a community of 2.710.000 and Newcastle with 482.000 people, forms opposites in terms of population. This can bring a wider variety of results than two similar sized cities. The inclusion of an additional (third) city was not expected to deliver significant additional insights but would limit the overall depth of research, given the vast amount of resources available.

A final aim of this research is to draw lesson from the results on the UK City-Deals for Agenda-Stad in the Netherlands. To do this, the final results and findings have been presented to a board of experts for critical reflection. The experts consisted out of various Dutch representatives from the Ministry of the Interior and Kingdom Relations, Ministry of Infrastructure and the Environment, Ministry of Economic Affairs, PBL and selected researchers from Utrecht University, all familiar with urban policy and Agenda-Stad.

The experts have been able to point various differences out, but were also able to compare, place comments and formulate implications and lessons for the Netherlands. It is important to first familiarize oneself with the most important differences in the context and design of the policies. Caution should be taken when contrasting the UK City-Deal policy with the

⁴ There is no quantitative threshold for 'sufficiently present'. Rather this is to be determined by the researcher, based on qualitative responses.

Dutch Agenda-Stad policy, and even more so when deriving lessons from the UK to the Netherlands. Although there are many similarities between the two policy programs, there are as much or even more differences between the two. No matter how similar two policies will be, when compared across national borders, contextual factors will always be radically different. Hence follows a list of 8 key differences on the following page, as pointed out by the experts.

The meeting with each expert consisted out of a presentation containing a concise summary of the research, the results on the regime analysis, the results of the two case studies and the final conclusion. This section covers eleven discussion points that arose out of the subsequent conversation during these meetings. Each point starts with a finding of the UK research. Then follows how this issue relates in the Netherlands, according to these experts. An optional third part on each discussion point presents the recommendations or lessons for the Dutch situation deduced from the reflections of the experts. The names and functions of the consulted experts can be found in Appendix G on page 131.

Key Differences

1

UK City-Deals were introduced in 2012; a time of great austerity, budget cuts and a slimming of government. The Dutch City-Deals were introduced in 2016; a time of slow economic growth and existing austerity measures came to an end.

2

The UK City-Deals are primarily focused on addressing urban economic growth issues. Innovation and low carbon are optional side effects when strengthening the urban economy. Economic growth is one of the goals of the Dutch Agenda-Stad. The dominant focus lies in keeping cities dynamic, innovative and liveable. Cities are then able to take initiative and use their collective competences to design innovative and sustainable solutions, for mutual perceived complex social challenges.

3

The most valued incentive for English cities to participate in the City-Deal program was the promise that cities would gain greater independence over their financial revenue and expenditure streams.

The most important incentive for Dutch cities to participate in the City-Deal program was the promise that exceptions on rigid and sometimes hindering national regulations can be negotiated so that individual cities become empowered to develop solutions for their perceived problems.

4

The origin of the UK City-Deal program lies foremost at the national level. Cities were asked to participate in a pre-thought-out initiative, top-down. The origin of the Dutch City-Deal program lies foremost at the local level. Cities developed initiatives, which they communicated to the national level, bottom-up. The initial Dutch City-Deals however have been developed in a more top-down process, to speed up the launch of the first Dutch City-Deals.

5

The UK City-Deals led to some inter-city competition. Economic growth rates were used as measures to compare and contest cities with one another. The Dutch City-Deals led to inter-city consensus and cooperation. Agglomeration effects were used as measures to befriend cities and have them working together for the greater good and sharing knowledge.

6

The cities that agreed a UK City-Deal were allowed to form a combined authority. This enabled a group of two or more local councils to collaborate and take collective decisions. However there has been no mentioning of collaboration between councils that were not adjacent to each other. The cities that agreed a Dutch City Deal could not form combined authorities but were obliged to find partnerships with other cities across the Netherlands.

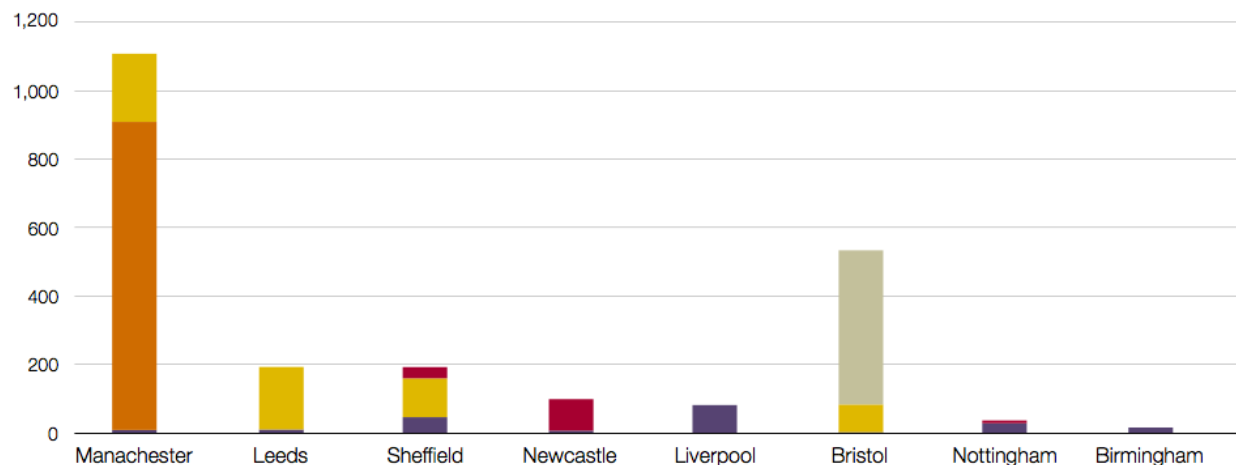
7

The UK City-Deals are focused on single cities and the invitation from National Government did not encourage inter-city cooperation. The Dutch City-Deals are not focused on individual cities but on cooperation agreements between cities, government and, businesses to work on shared challenges.

8

UK City-Deals enlarged the freedom of cities to levy local taxes. The Dutch City-Deals did not include this option.

Government funding allocation (£m)



	Manchester	Leeds	Sheffield	Newcastle	Liverpool	Bristol	Nottingham	Birmingham	Grand total
■ Tax increment financing			33	92			8		133
■ Business rates retention (estimate)						450			450
■ Transport allocation	199	183	114			81			577
■ Earn back	900								900
■ Other	9	10	46	7	82	2	29	16	200
Grand total	1,108	193	193	99	82	534	37	16	2,260

Notes

- 1 Departments fund the City Deals according to the timing of each programme. The longest programme is Manchester's 'earn back', which the government plans to pay over 30 years. The departments committed to paying for most programmes over 10 years or less.
- 2 Business rate retention (estimate) refers to Bristol's 'growth incentive', for which the government has not limited its funding commitment. A figure of £450 million is used as the midpoint of the range of the Unit's estimate of the government's financial commitment over the programme's 25 years.
- 3 Funding allocation for Liverpool City Region includes a £75 million grant for the Mayoral Development Corporation in the Liverpool City Deal.
- 4 This figure includes funding that central government committed to the deals when they were initially agreed in 2012.

Figure 2: Government departments' potential funding commitments to the deals (National Audit Office, 2015).

3.2 Data Collection

The qualitative data has been obtained by three kinds of data collection: publicly available sources including peer-reviewed articles, interviews with researchers and politicians, and the collection of grey literature.

Primarily **public sources** have been used in developing the historical timeline of events and in constructing the context for the English and Dutch City-Deal program. Although the focus of research is on the English City-Deal program and not on the Dutch City-Deal program, it is necessary to illustrate both contexts. It is namely this wider context in which the policies are operating that can explain differences in outcome and decisions that have been made. There is plenty of information available because governments have an obligation to make the enactment or revision of policies publicly known. Examples of often-used search terms are:

'Nederland' – 'Agenda Stad' – 'Devolutie' – 'Overheid' – 'City-Deals' – 'Opinie' – 'Tijdlijn' – 'Mijlpalen' – 'Lokaal' – 'Evaluatie' And: 'UK' – 'England' – 'City-Deals' – 'Devolution' – 'Government' – 'Gov.uk' – 'Wave 1' – 'Evaluation' – 'Time-line' – 'Milestones'.

The larger online search engines such as Google, Google Scholar, Scopus and LexisNexis have been used. A relatively progressive way of data collection is by tracking social media. The researcher 'liked' and 'followed' various official and unofficial Twitter, Facebook and Linked-In groups that it encountered on the web. Once a week this 'information push' has been checked for useful material. Often these messages contained a short headline followed by a link referring to the more elaborate post, opinion or article on a website. Most of these websites were already known from earlier searches on Google but often it resulted in arriving at new content posted on these websites. This method can help any researcher in any field to passively discover the latest information.

The research relied heavily on **interviews** for acquiring first-hand data from the introduction and implementation of City Deal policy in England. It would be necessary to travel to England to meet the most relevant actors on this topic. Because most relevant actors would carry a busy agenda, careful planning and selection was necessary to ensure that multiple appointments had been agreed before leaving to England.

The supervisor of this research suggested speaking with four researchers from his personal network. Three researchers promised to free-up time for an interview and all four contacts were able to name a few more contacts that they regarded as being valuable to include in this research. Such persons were indeed contacted if they were deemed knowledgeable enough about the English City-Deal program or worked for the city level government on the English City-Deal programs. The aim was to reconstruct and mimic the playing field of actors in the English situation. This has been done through contacting researchers with the request to send the names of local council officials affiliated with City-Deals and then so on. By using such a snowball process the names of relevant researchers and local politicians were collected. Appendix H indicates the exact historical course of this process in a mind map on page 132. It was ex ante expected that 10 to 15 interviews would provide a satisfying amount of information. A first trip of 3 weeks resulted already in 10 interviews, solely with researchers. A second trip of four weeks resulted in an additional 11 interviews, of which three with researchers and eight with political leaders of Manchester and Newcastle. Appointments with researchers were often quickly made and lasted on average

for about 90 minutes. Appointments with political leaders were very hard to make, because their secretaries had to be convinced that an appointment would be of mutual interest. Interviews with political leaders lasted on average 60 minutes. Appendix D – List of interviewees, on page 117 lists all interviewees. The interviewees have been categorized in four groups. Table describes how interviews have been categorized and the abbreviations that have been used. Appendix D also lists which interviewee belongs to which of the categories.

Table 2: Categorisation of interviewees. Abbreviations are used to link the quotes used throughout the research to the corresponding interviewee categorisation and interviewee, while still ensuring anonymity.

<p>Interviewees stating to be most knowledgeable on the Manchester City Deal and affiliated to a university or research institute are referred to as:</p> <p>Academic Researcher Manchester</p> <p>Abbreviations used in quotes:</p> <p>(ARM-1), (ARM-2), (ARM-3), (ARM-4), (ARM-5), (ARM-6), (ARM-7), (ARM-8), (ARM-9)</p>	<p>Interviewees stating to be most knowledgeable on the Newcastle City Deal and affiliated to a university or research institute are referred to as:</p> <p>Academic Researcher Newcastle</p> <p>Abbreviations used in quotes:</p> <p>(ARN-1), (ARN-2), (ARN-3), (ARN-4)</p>
<p>Interviewees stating to be most knowledgeable on the Manchester City Deal and affiliated to a local council or governmental body are referred to as:</p> <p>Local Council Manchester</p> <p>Abbreviations used in quotes:</p> <p>(LCM-1), (LCM-2), (LCM-3), (LCM-4), (LCM-5), (LCM-6)</p>	<p>Interviewees stating to be most knowledgeable on the Newcastle City Deal and affiliated to a local council or governmental body are referred to as:</p> <p>Local Council Newcastle</p> <p>Abbreviations used in quotes:</p> <p>(LCN-1), (LCN-2)</p>

The interview schemes had a semi-structured design in order to allow for loosely defined concepts and capture unforeseen data. The interview scheme is presented in appendix B on page 113. Along the process of conducting interviews, new insights emerged as interviewees elaborated on the topic. An example of an unexpected insight is that interviewees stressed the importance of national context in which City Deals have been implemented; economic downtime and fierce austerity measures. The structure of the report left space to describe such findings in detail. All Interviews have been digitally recorded and completely transcribed. The transcriptions can be requested for inspection. The interviewees have later been made anonymous.

Interviewees have additionally been asked to hand-over any **grey literature** that would either be hard to find or not at all available to the researcher. Through this process, many internal documents and draft-versions of reports became available. These documents have been compared with the information origination out of the public sources study and what has been stated during the interviews. By crosschecking data from multiple sources more accurate results are being produced (Yin, 2009).

3.3 Data analysis

By comparing and contrasting the results from the two case studies⁵ will answer the sub questions and consequently the main resource question.

The aim of the data analysis is to be able to form conclusions on the state of the conditions, i.e. the theoretical concepts, in both cities under research. For this reason the codes are first analysed and compared within each city, where after they are compared between cities in order to assess alignment or discrepancy.

All interviewees gave permission for the recording of the interviews. All interviews have been fully transcribed. The software program Nvivo assisted the coding process. The transcription of every interview was initially coded according to the three main dimensions used in this research: shielding, nurturing and empowering. Shielding had no further sub-dimensions, nurturing had three sub-dimensions and empowering had two sub-dimensions. For a visualisation hereof, see Figure 3 on page 26. To classify quotes from the transcript into the (sub)-dimensions, indicators have been used. Appendix A, displays the indicators for the dimensions and concepts being used. These indicators have not been taken strictly but used as a sense of reference and direction along which to look for evidence.

The public sources study, the grey literature and the response from the interviewees deliver a comprehensive answer to the first sub-question: "*What is the national context in which the English and Dutch City-Deals have been developed?*"

The first two key-concepts as displayed in Figure 1 on page 18: '*National context & government*' and '*Local context & government*' will thus be dealt with in a descriptive way (Section 5 and 6) and are therefore not included in the coding tree of Figure 3.

⁵ The case studies are the Combined Authorities of Manchester & Newcastle

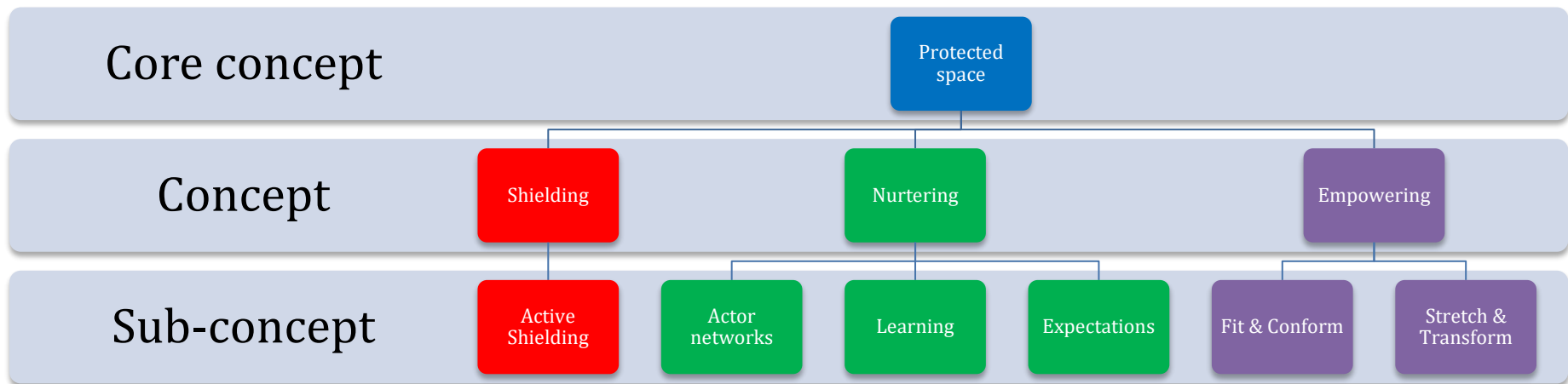


Figure 3: Coding tree with three levels of concepts. The sub-concepts are operationalized in Appendix A: Preliminary indicators, on page 111.

4 Results

The research is carried out to improve understanding on how policies can stimulate development, implementation and up scaling of sustainable innovations⁶, through the creation of 'protected spaces' in urban areas. However, the interview results indicated that the 'National context & government', which is described in the theoretical framework as the 'Urban and spatial development regime', is of far greater influence on the 'creation of space' than expected before.

Therefore, before directly turning to the interview results, first the 'National context & government' of England is discussed in section 5 and 6. Then, later on in section 7 and 8, we zoom in on the 'Local context & government' and how City-Deals are influencing the 'creation of protected space' in urban areas through shielding, nurturing and empowering activities.' The additional benefit hereof is that this will uncover the political game between the local and National Government.

⁶ Most of the quotes being used throughout this report mention shielding, nurturing and empowering activities explicitly in relation to low carbon and sustainability. Some quotes lack a specific sustainability context. However, interviewees mentioned all quotes during an interview that was explicitly framed around sustainable innovation. Therefore even these more general quotes can be considered as valued by interviewees with respect to sustainability.

5 Historical context of national UK City-Deal development

This section starts with a historical timeline of events. Interviewees mentioned these events because they had a notable influence on the cultural and political landscape in which the City-Deal policy emerged. Some historical events are added because they are considered important indirect influences on the 'creation of space' for sustainable innovations e.g. climate conferences and the changes in National Governments. A historical narrative concludes section 5.

5.1 Historical narrative of national UK City-Deal development

Table 3: Timeline of national events that have been found relevant to the development and design of the UK City-Deal policy

Year	Event
1979 – 1990	Margaret Thatcher Conservative government (BBC, 2016)
1986	Abolishment of the six elected metropolitan county councils. (The Guardian, 2013)
1990 – 1997	John Major Conservative government (BBC, 2016)
1992	United Nations Conference on Environment & Development Rio. Commonly referred to as 'Agenda 21'.
1998	Regional Development Agencies Act.
1997 – 2007	Tony Blair Labour government (BBC, 2016)
2007 – 2010	Gordon Brown Labour government (BBC, 2016)
2007	Global Financial crisis
2009	United Nations Climate Change Conference Copenhagen
2009	Climate Summit for Mayors / 'conference of mayors'
2010 – 2015	David Cameron Conservative & liberal democrat coalition government (BBC, 2016)
2010	Regional Development Agencies are abolished.
2011	National Government establishes Local Enterprise Partnerships (LEP's) to replace the Regional Development Agencies (RDA's).
2011	The ten metropolitan boroughs that comprise Greater Manchester come together to establish the first statutory Combined Authority (GMCA & AGMA, 2016).

2011	The Localism Act is signed. It enables government to devolve new powers and freedoms to local authorities. (Department for Communities and Local Government, 2011a; HMS Elizabeth II, 2011; Ward, 2015).
2011	HM Government publishes an initial menu of things that the government is willing to discuss and negotiate as part of the deal-making process to give cities greater freedoms (Gov.uk, 2011; HM Government, 2011).
2011	Launch of first wave City-Deals (Ward, 2016)
2012	General power of competence is brought into force
2012	Completed launch of first wave City-Deals. (Ward, 2015)
2014	The Chancellor and MP 'George Osborne' states that he is willing to start a conversation about 'serious devolution of powers and budgets' with any city that is willing to adopt the mayoral model of directly elected mayors. (Gov.uk, 2016)
2014	National Government announces 39 Growth Deals for the 39 LEP's. Growth Deals provide funds to LEPs for projects that benefit the local area and economy.
2015	United Nations Climate Change Conference Paris
2015 – 2016	David Cameron Conservative government (BBC, 2016)
<i>All of the following events (after May 2016) fall out of the boundaries of this research</i>	
2016	United Kingdom European Union membership referendum
2016	Theresa May Conservative government
2016	United Nations Climate Change Conference Paris is ratified

This historical narrative sets the national events of Table 3 in a broader context. It is structured along four, 10-year-periods and provides the most minimal knowledge necessary to comprehend the result sections that follow.

Period 1: The 1980's – Thatcherism

Along with Margaret Thatcher came 'neoliberal economic policies' (BBC, 2016). All of these policies were based on the belief that unrestricted competition, driven by self-interest, would lead to innovation and economic growth. (Monbiot, 2016). The economic benefits would foremost go to those that were already rich but would 'trickle-down' to the poor (Armstrong, 2010). Thatcher had an enormous impact by dismantling public services and social security, breaking of the unions and minimal corporate taxes. "The less the state regulates and taxes us, the better off we will be. Public services should be privatised, public spending should be cut and business should be freed from social control" (Monbiot, 2016 p.15). This story has shaped the United Kingdom's norms and values for around thirty-five years (Monbiot, 2016 p.15).

Thatcher went on to privatise many of Britain's previously cherished national organizations such as; British Telecom, British Gas, British Airways and British Steel (The Guardian, 2013). Along with many other decisions that affected the local level, did Thatcher abolish the system of 'elected metropolitan county councils. (The Guardian, 2013). This decision still has its effect on councils trying to work together according to interviewees:

"Basically she was a right wing economic political leader. And these [metropolitan councils] were Leftist. And her way of getting rid of all who disagreed with her was to just push them out of the way. So she got rid of all the big metropolitan areas" (ARM-9).

Period 2: The 1990's – Neoliberalism

Neoliberalism followed in the wake of Thatcher and claims that everyone is best served by maximum market freedom and minimum intervention by the state. The National Government of Prime Minister John Major continued to stimulate the economy in this realm of thinking (BBC, 2016). The focus of the government was on regional levels, as reflected in the policies that this government introduced. Examples are the stimulation of inter-area competition and the establishment of 'Regional Development Agencies' (RDA's). Interestingly, also the concept of sustainable development arose during this period due to rising climate change issue (Armstrong, 2010).

Period 3: The 2000's – Crisis

After many Conservative⁷ years came the Labour⁸ party to power with Tony Blair and Gordon Brown. Most notably attention shifted to the potential benefits of interdepartmental collaboration. This was radically different from the previously existing standard of 'silo' approaches, with clearly bounded departments in a vacuum (Armstrong, 2010). Governmental bodies emerged that dealt with social, physical, environmental and economic aspects of towns and cities. (Armstrong, 2010). Meanwhile, the concept of sustainable development became a 'cross-cutting theme' across all government departments.

⁷ Centre-right, traditional, classic, economic liberalism.

⁸ Centre-left, democratic, socialist party, originating out of the trade unions.

In late 2007, the global financial crisis led to national recession. The labour government propped up the banks and finance related companies that had suffered huge losses, with public money. This in turn led to so much public dissatisfaction with National Government that the labour party was defeated in the 2010 elections.

Period 4: The 2010's - Austerity

The conservatives, led by David Cameron, tried to rebalance treasury and reduce Britain's budget deficit by introducing large public spending cuts and austerity measures. This act of reducing government expenditure in the UK is termed a 'comprehensive spending review'.

With the shift from labour to Conservative government came a whole range of national policy changes. Some of these changes were already designed by the previous labour government and the shift of government only accelerated their implementation, or; as one of the interviewees frames it:

"The actual City-Deal's initiative in my understanding; it was in progress prior to the general election of 2010. Change of government, and then the coalition government that existed from 2010 – 2015 took on this initiative and kind of presented it as their own, but they actually inherited it from labour and it was very much a continuation of what has gone on previously" (ARM-3).

Another example of large scale, gradual change is that National Government wanted to move away from the regional levels of control to local levels of control. National Government moved from words to actions by abolishing Regional Development Agencies (RDA's) and introducing Local Enterprise Partnerships (LEP's). Locally based businesses and the local councils came together to form LEP's; whose geography more accurately reflected the functional economic areas⁹ of England (OECD, 2013).

The central argument behind these changes was that economic growth must come from cities instead of regions. Therefore the National Government devolves power, finance, flexibility and freedom to local authorities. The fragmentation that inherently came with a more localised focus is being countered by the (re-) introduction of Combined Authorities that were abolished during Thatcher when she dismantled the metropolitan county councils. Coming along with City-Deals was the 'general power of competence act' (Carter, 2015). Before, British local government could only do what the central government dictated. Initiative was not welcomed nor allowed. With this new act, local government is allowed to do anything, that it is not prohibited from doing by law. One interviewee summarises this particular period as:

"This is where it becomes messy. You got the Combined Authority, an attempt to institutionalise cooperation between the 10 local authorities [of Manchester]. Then you get the LEP's, which is businesses and local officials, and it is not quite sure how they work together. At the same time you get the City-Deals, which is National Government trying to push down on the city regional officials to say: 'Look, if you can put together a convincing

⁹ The definition of functional economic urban areas in OECD countries uses population density to identify urban cores and travel-to-work flows to identify the hinterlands whose labour market is highly integrated with the cores.

plan to us, for how you would stimulate local economic growth, then together we can start to develop a shared City-Deal, whereby we [the National Government], will give you some resources, as long as you can demonstrate that you are going to generate economic growth” (ARM-9).

Sustainable development in general started off progressively during this period with lots of promises being made and expectations being voiced. However, as England and its local authorities kept struggling with budget cuts, austerity and kept introducing economically focused incentive schemes, sustainability gradually moved away from the radar. This is illustrated by the following quote:

“Austerity and Cuts; at a local level that means that the possibilities for low carbon projects are less likely” (LCM-3).

This research takes all events into account, from the 1980’s until May 2016. Just prior to the Brexit referendum. The historical development of the UK has led to a particular configuration of the current national regime. Most notably consisting out of a strong neo-liberal oriented politics, focused on economic gain. Within this broad historical context, some key aspects are of significant influence on my cases¹⁰. These are discussed in the next section.

¹⁰ The two cases in this research are the cities of, Manchester and Newcastle

6 UK National regime analysis

The following section covers six key aspects for which the 'national regime context' happens to be of great influence on the creation of protected spaces for sustainable innovations. These key aspects have emerged inductively out of the interviews. Some national regime aspects are of direct influence on the creation of space while others are mediated or catalysed by the City-Deal policy. The following key aspects will be discussed, in the order from most to least influential aspects:

- 6.1** Economic focus
- 6.2** Changes in local government funding
- 6.3** Prolonged periods of austerity
- 6.4** Disappearance of the regional level and the emergence of Combined Authorities.
- 6.5** A change in National Government
- 6.6** Perception of sustainability by UK citizens

- 6.7** Conclusion of national regime analysis

6.1 Economic focus

UK central government has a reputation for being strongly focused on economic growth, irrespective of having a conservative or labour party in power. This notion originates from the framing of documents from the 2010 – 2015 coalition government, the framing of the City-Deals invitations and the concerns voiced by interviewees.

The strong economic focus sets the scene and the discourse for a variety of political agents to manoeuvre within. It creates, defines and set the boundaries of a certain 'space' in which other actors are expected to act within. Local government is one of such actors that find themselves positioned in a certain 'space' where economic arguments are considered to be of the greatest value. Differing arguments such as health, quality of life or environmental improvement, will only find the interest of the national level if it proves to save money in the end. The national economic focus therefore has repercussions on how local governments behave and express themselves.

Interviewees told the following about the economic focus of National Government when asked; 'How did local government react to the national call to come up with City-Deal proposals?'

"Devolution Deals and the whole agenda around city regional governance has been driven by the finance ministers; it's been driven by the treasury. That just reinforced the emphasis on economic growth" (ARM-3).

"These programs reflect a kind of philosophical view that actually intends promoting economic growth" (LCN-2).

"In the UK; economic growth forms the centre of the UK City-Deals. Economic growth is the primary reason. (...) The Dutch approach is, economic growth should come with sustainability (...) and that's quite an interesting contrast. It probably says quite a bit about of the difference in the political and discursive framing" (ARM-9).

The national economic focus is not only brought up by interviewees, but also clearly visible in the released official National Government documents. In most of these documents does the foreword start with: 'How it can contribute to, and will strengthen overall national economic growth'. For example see the following quote, taken from the document that announced the City-Deal program in 2011:

"The Coalition Government is committed to building a more diverse, even and sustainable economy. As major engines of growth, our cities have a crucial role to play. But to unlock their full potential we need a major shift in the powers available to local leaders and businesses to drive economic growth. We want powerful, innovative cities that are able to shape their economic destinies, boost entire regions and get the national economy growing" (HM Government, 2011 p.1).

This same document formed "the invitation for cities to come up with 'bold and new ideas'". The list with options that follows in this document "sets out an illustrative menu of options which we [National Government] think could have a transformative impact, and which we would be willing to explore further as part of the deal" (HM Government, 2011 p.7). This list contains 21 options that roughly fall into three categories: (1) greater freedom to invest in growth, (2) greater freedom to invest in infrastructure (3) greater freedom to invest in skills and jobs (HM Government, 2011 P.8-9). Ironically, it concludes, that "Cities should not feel constrained or limited by the ideas set out below" (HM Government, 2011 p.7).

Now of course this is probably a genuine remark made by National Government, but the tone and discourse of economic interests had already been firmly set.

The discourse setting by National Government indeed finds an audience at the local governments as they copy the economic narrative. A great example is illustrated in table 4 on page 35, where the term 'economic growth' can be found in the first paragraph of all 8 City-Deal proposals. Another great example of national discourse setting and the local anticipation hereon is reflected in the quote below from a researcher that has been interviewed:

"Before 2010, local authorities had a national target to meet, in terms of reducing carbon emissions. Things like that were driving what was going on in Greater Manchester: Because the expectation was that things would get more stringent and that there will be some form of carbon being traded between local authorities. So (...) you could see how they were probably thinking of the future economic prosperity but also trying to anticipate some sort of financial penalty and reward system. They had everything ready: There were plans ready, there were services ready... and then they threw it all in the bin. Because they [local government] saw like it's not going fast enough. And it actually then became a constraint" (ARM-1).

A focus on economic growth held by National Government in and by itself is natural and should not be worrisome. It does become alarming however when economic growth takes up such a profound focus of governments' attention that it starts to displace other important aspects of progression such as quality of life, happiness, health, education, sustainability and resources for future generations. For the UK situation it is difficult to quantify the amount of attention that is directed towards economic growth and whether or not that amount is so much that it diminishes 'space' for sustainable innovations. Local authorities and cities are easily interested in projects with a positive and strong economic case, something that new, innovative and sustainable projects have a hard time reaching or even require money in the initial years. The qualitative results from the interviews that have just been presented clearly demonstrate that the National Government wraps the City-Deal invitation in an economic discourse. The same interviews also showed that local governments pick this discourse up as they copy the same narrative in their proposals. Even local governments' sustainability aspirations have been expressed in an economic discourse by presenting sustainability as 'green growth', 'sustainable growth', 'low carbon economy' or 'green jobs' (Wave 1 Birmingham, 2012 p.24) (Wave 1 Leeds, 2012) (Wave 1 Liverpool, 2012 p.2) (Wave 1 Newcastle, 2012 p.5).

Table 4: first sentence of the first paragraph of every City-Deal-proposal with 'economic growth' manually underlined.

Birmingham	"Ours is a bold agenda for change designed to create the conditions necessary for long term <u>sustainable growth</u> ." (Wave 1 Birmingham, 2012 p.2)
Bristol	"This Deal will unlock significant <u>economic growth</u> for the Bristol city region." (Wave 1 Bristol, 2012 p.3)
Leeds	"The Leeds City Region Local Enterprise Partnership's long-term vision is to build 'a world-leading dynamic and sustainable low carbon economy that balances <u>economic growth</u> with a high quality of life for everyone." (Wave 1 Leeds, 2012 p.2)
Liverpool	"We believe that this document not only outlines our position in the North West economy but also highlights some of the opportunities we want to take forward, our approach and importantly our commitment to driving forward <u>sustainable economic resurgence</u> ." (Wave 1 Liverpool, 2012 p.2)
Manchester	"We see this as a strong platform for <u>growth</u> and a significant first step in the devolution of powers and responsibilities to Greater Manchester with further engagement later this year on a wider reform agenda." (Wave 1 Manchester, 2012 p.2)
Newcastle	"This deal sets out the steps that we have agreed to <u>unlock growth</u> in Newcastle and help <u>kick- start the economy</u> across the North East." (Wave 1 Newcastle, 2012 p.2)
Nottingham	"Nottingham has many characteristics that mark it out as a great city and provide an indication of its <u>Growth potential</u> ." (Wave 1 Nottingham: Connected, Creative, Competitive, & Nottingham., n.d. p.1)
Sheffield	"Sheffield City Region has the <u>economic growth potential</u> to lead a 21st Century UK export boom beyond the volatile EU market with a high skilled, modern manufacturing economy, combining digital innovation, world class expertise, academic research and a global brand. (Wave 1 Sheffield, 2012 p.2)

6.1.1 Conclusion economic focus

The UK National Government has been focused on economic prosperity since Margaret Thatcher came to power in 1979. National Government has set a discourse that values initiative that positively contributes to (short-term) economic growth. Local authorities feel a pressure to react to the economic discourse setting and growth narrative from National Government, in order to be valued and taken seriously. National Government considers cities as 'engines of growth', not as 'engines of sustainable innovative solutions'. Therefore local authorities frame all their City-Deal measures and aspirations in economically sound terms. Other indicators of national progression such as happiness, satisfaction, health, quality of life and sustainability are less valued by the national regime and are in danger of being further displaced by economic parameters. The strong economic focus in the UK therefore has a negative influence on the creation of space for sustainable innovations.

6.2 Changes in local government funding

National Government changed the conventional flow of financial funding to local authorities during the City-Deal policy implementation process. The changes in local government funding streams changed the financial incentive structure of local governments. Incentives are in principal designed to stimulate certain desired behaviour or discourage divergent behaviour of the recipient (Moxey, 2016). It is likely that local councils have changed their behaviour when National Government made changes to their incentive structure. National Government has likely initiated such changes to further impose their will on local government. This chapter therefore covers how the changes in local government funding streams have had their effect on 'protective spaces' for sustainable innovations.

To understand the impact of these changes on the available 'space' for sustainable innovations, three periods of time will be discussed in a logical order. Period A presents how local councils conventionally received their funding as of before 2010. Period B presents what role City-Deals played in the change of funding streams. Period C presents how academics and local officials reflect on these changes and their effects on protected spaces for sustainable innovations.

Period A: UK situation before 2010

Local councils in the UK receive their funding from two¹¹ main sources: grants from central government and council tax (Department for Communities and Local Government, 2011b). Britain's local government finance system is one of the most centralised in the world (Department for Communities and Local Government, 2011b). Table 5 on page 38 illustrates the ratio of tax set at different government levels. UK local authorities, including the city councils, therefore relied heavily upon inter-governmental transfers of grants rather than local fiscal autonomy. (O'Brien, Pike, Mackinnon, Marlow, & Robson, 2014).

The first source of finance that local governments can receive, are grants from central government. A local government can basically receive two sorts of grants: 'specific grants' or 'formula grants'. Specific grants come with restrictions on what they can be spent on. Formula grants pose no restrictions and can be used for any purpose by the local government that is sees fit (Department for Communities and Local Government, 2011b). Interviewees commonly refer to formula grants as 'non-earmarked' money. The main component of the formula grant is from "National Non-Domestic Rates". Interviewees commonly refer to this as business rates. Business rates are collected by local authorities from businesses in their areas like shops, offices, warehouses and factories, but they are transferred to central treasury to be (equally) redistributed again locally among cities (principle of solidarity) (Department for Communities and Local Government, 2011b).

This system from before 2010 means that local authorities do not have any financial incentive to promote business growth in their area, as they will not directly receive the business rates receipts from new economic development. This historical dependence on central government funding meant there was a greater incentive to design services in order

¹¹ A third source of incomes comes from other locally generated income (such as fees and charges for services) but is left out here as it has left unchanged

to secure government funding, rather than to respond to local communities' needs or align spending with citizens' service preferences. "The councils may feel they can generate better results for their area by lobbying government for more resources or demonstrating their need, rather than driving cost efficiencies or investing in local growth" (Department for Communities and Local Government, 2011b p.1). Exactly this line of (economic) reasoning laid the foundations for increased decentralisation and changes in the local government funding streams.

Table 5: Tax set at each level of government as a percentage of GDP (2011)
(O'Brien et al., 2014)

Country	Local government	Regional government	Local & regional government together	Central government	Social Security	Total
Sweden	15.9	0	15.9	22.8	5.6	44.5
Canada	3.1	12.2	15.3	12.8	2.9	31.0
Germany	3.0	7.9	10.9	11.8	14.3	37.1
Spain	3.0	7.3	10.8	9.5	11.7	31.6
United States	3.9	5.2	9.1	10.3	5.7	25.1
OECD (2010)	3.9	5.0	8.9	20.2	8.3	33.8
Italy	6.8	0	6.3	22.6	13.4	42.9
France	5.8	0	5.8	14.4	23.9	44.2
United Kingdom	1.7	0	1.7	26.9	6.7	35.5

Period B: UK situation during 2010-2011

The UK government proposed the localism agenda to devolve control over local taxation. The National Government had set itself the target that local governments should be self-funded by 2020 (Gov.uk, 2015). The following quotes by Greg Clark, the Secretary of State for Communities and Local Government and a former local councillor of Manchester describe the shift that has been going on:

"Local government will be transformed by localism. In 2010 councils were 80% dependent on central government grants. By 2020, they will be 100% funded by Council Tax, business rates and other local revenues" (Gov.uk, 2015).

"Central government's incentive structure to local authorities was about: 'We are going to cut your grants and give you new ways of earning money'. It is quite simple. If you don't create more business, you don't get the business rates. So the form of taxation that the local authorities now get is related to the number of business that there are in the area. So there is a direct incentive. The Incentive is perfect for what central government want. It makes authorities focus on economic growth" (LCN-1).

The transition period during 2010 – 2011 is described as 'Unlocking growth in cities', by means of devolving powers and finances from central to local governments (HM Government, 2011). During this period; (1) the coalition government came into power, (2) RDA's¹² were abolished, (3) LEP's¹³ were initiated, (4) Combined Authorities were introduced, (5) the localism act is being signed, and (6) the first wave of City-Deals are launched (See chapter **Error! Reference source not found.**: Timeline of national events, on page **Error! Bookmark not defined.**). Figure 4 on page 40 displays how the multitude of policy measures that have been implemented during 2010 and 2011 are positioned under the umbrella concept of 'unlocking growth in cities'.

Figure 4 on page 40 also shows that City-Deals form a part in a larger set of measures. The following quotes support this position of the City-Deals program being part of a larger transition:

"The coalition government [2010-2015] is committed, to unlock the full growth potential of our cities. (...) But to unlock their full potential, we need a major shift in the powers and levers available to local leaders and businesses to drive growth. To achieve this, the Government has launched a programme of City-Deals" (HM Government, 2011).

"There is obviously some particular documents within City-Deals but they are actually part of a wider process of devolution" (LCM-4).

Rather, City-Deals fall under a set of policies for "devolved powers and new and innovative ways of doing things that will unlock growth and deliver jobs" (HM Government, 2011).

¹² RDA stands for Regional Development Agency

¹³ LEP stands for Local Enterprise Partnerships

'Unlocking growth in cities'

Devolving powers and finances from central to local governments
'localism agenda' & 'Devolution deals'

One-size-fits-all design for cities

Tailored design for cities

Greater: powers, levers, freedoms, tools, resources, incentives, responsibilities, etc.

deal-making with 'core cities'

Public Bodies Act

Localism Act

Wave 1 City-Deals

Local leadership

business rate retention

Enterprise Zones

Regional Growth Fund

general power of competence

Local Enterprise Partnerships [LEP's]

Combined Authorities

Transport & Housing

Skills & Employment

Low Carbon

Accelerated Development Zone

Earn Back scheme

Inward investment

Enterprise support

Figure 4: Devolution policies in the UK and the positioning of City-Deals in this hierarchy

Period C: UK situation after 2010-2011:

Several important policy acts and adaptations to the boundaries of administrative spaces have been put forward that introduced various sorts of devolution as covered by Figure 4. A few years later, the City-Deal program is launched, in December 2011 and officially signed in July 2012.

City-Deals enabled councils in various ways to keep a share of the growth in local business rates within their area. This gave the eight selected city councils a strong incentive to promote local business growth in their area (Department for Communities and Local Government, 2011b). Local councils receive almost directly a share of business rates revenues from their local area instead of receiving the (non-earmarked) formula grants. Local authorities, when successfully able to stimulate local growth, would become less financially dependent on central government for their revenue stream (Department for Communities and Local Government, 2011b). Failing to grow your local economy would result in less revenue, making it even harder to invest in new growth sectors and forcing a city in a downward spiral. The City-Deals had a built in safety net for those cities that would have a hard time to improve their local growth. The baseline level of funding had been set so that at the start of the system the budget is equivalent¹⁴ to what it would have received under the grant system as of before 2010 (Department for Communities and Local Government, 2011b). From then on, local council funding can grow when the business rates in their area increase, but funding can also diminish in the case that the business rates decline. There would be no fixed upper limit on the amount that an authority could benefit under the new system (Department for Communities and Local Government, 2011b). The more any authority grows its own economy, the more funding it will receive. This national change in local government funding, introduced by City-Deals, thus radically changed the incentive structure for local governments. The following quote from an interviewee illustrates the start of this change:

"Business rates are going back to local. That's part of the devolution deal. Now that could open up scope for thinking about how you might use that revenue around low carbon. That could be quite interesting. But it could also be a very narrow minded growth (...) Keep on growing, keep on growing. And it might also be that you roll back environmental regulation because you get competition [from any of the other City-Deal cities]" (ARM-1).

This leads to the most interesting point, namely: "How the changing incentive structure (inter alia driven by City-Deals) is to be of effect on the 'space' for sustainable innovation?" The interviewees, as can be understood from their quotes, are not unanimous on this, some posse a generally positive outlook and have hope that it may create more space:

"There is some hope with the City-Deals, that it frees up some money to invest in things like the environment department. But that comes at a time that austerity has completely hollowed out the local state" (ARM-6).

¹⁴ This safety net is necessary because some cities have far more economic activity than others. If all of the eight local councils were to keep the total amount of business rates generated in their areas, some areas would receive a much larger amount of money than they would need to deliver their statutory services whilst other cities would generate much less than they require. Relative economic growth or decline from a 2010 baseline is thus what matters for cities to increase or decrease their revenue stream.

"I think we are now, literally in the last 12-months, starting to see the commercialization of the Low Carbon agenda. So where as before, it seemed to be all costly (...) now with the commercial opportunity afforded by decreasing cost, I think the economic case is starting to get easier. I have seen commercial bodies coming to us, and saying we've got this commercial product, will you work with us to deliver this? (...) So from that perspective I'm optimistic. I can see change happening quicker than it has done before" (LCM-2).

There are also many opposing views held by interviewees. They see the changing incentive structure as something that threatens the little existing 'protective space' for sustainable innovations:

"There is a big global financial crash. And therefore, at one level it's reasonable to say, 'How do we find ways of developing new forms of economic development? But it's not a particularly convincing narrative to me. This all doesn't really take account of the fact that a particular form of growth model collapsed in 2007, around finance capital. So actually, the form of economic development you might want to be thinking about now, needs to be much more grounded in places, needs to be much more attentive to local people's needs and conditions, rather than the conditions of mobile capital. But that's to challenge the rules of the game" (ARM-9).

"The policy direction of the UK government after 2010 has been Austerity and Cuts. And at a local level that means that the possibilities for low carbon projects are less likely" (LCM-3).

Some interviewees believe that the growing pressures of 'being economically competitive' as a local area, is distracting the local authority from delivering their non-statutory services. Services such as police, fire fighting, education, schools and legal aid are statutory services and local governments are required by law to have them in place. City-Deals will therefore not affect statutory services. Non-statutory services however are not required by law but are still helpful and sometimes even crucial for public in practical situations. Currently 'low carbon action taking¹⁵' is a non-statutory service and can therefore be cut away in times of austerity or increased competition.

The role of City-Deals herein is twofold. At first, City-Deals are shifting the financial income streams of the local authorities, away from steady 'national grants' towards variable, 'local tax revenue' streams. Secondly City-Deals use economic-growth-oriented metrics to calculate their future financial income. The financial funding stream for local councils is therefore made dependent on their ability to generate greater economic development. This in turn can take the attention of the local authority away from progress on other metrics, such as fossil fuel use, carbon emissions, air quality, etc. Because of this, the influence of changes in local government funding streams, through City-Deals, are not necessarily contributing to the creation of protected space for sustainable innovations. Period C, the UK situation of local government funding after 2010-2011, may in fact be of constrain on the previously existing 'space' for sustainable innovations.

¹⁵ This term encompasses all sorts of activities that a local authority can take to lower local greenhouse gases such as: retrofitting buildings, increase efficiency of public lightning, awareness programs, replacement of car and bus park for electric vehicles, solar panel subsidies etc.

6.2.1 Conclusion; changes in local government funding

The UK National Government voiced the aspiration to change the financial streams to local governments, inter alia to force cities becoming more efficient. By 2020 local authorities should be financially independent and funded by their own council tax, business rates and other local revenues. This changes the incentive structure for local authorities from a situation based on National Government grants to a situation in which local authorities have to be economically competitive because they are more dependent on their local economic growth. City-Deals are part of this wider process of devolution. The new financial streams could open up scope for thinking about the use of the revenue around low carbon. Investments in sustainable technologies however are often less economically attractive, at least in the short term than conventional fossil fuel based investments. The changes in local government funding therefore have a negative influence on the creation of space for sustainable innovations.

6.3 Prolonged periods of austerity

In 2008 the UK was hit by the most damaging financial crisis in generations and the 2010 government inherited the largest deficit since the Second World War (HM Treasury, 2014). National Government can basically react in two ways¹⁶ when faced with an economic crisis: either spend more or cut back. Spending more money will increase national deficit but can boost an economy. Cutting back money will decrease national deficit but can prolong economic downtime (M. J. Smith, 2010). The labour government at the time of the financial crisis, decided to spend extra money and increase the national deficit (Ukpublicspending, 2016). The conservative party inherited this deficit when they were elected in 2010 (M. J. Smith, 2010). The conservatives then introduced prolonged periods of austerity to restore the difference between treasury income and expenditure. The following quote from David Cameron's 'new age of austerity' speech before the elections in 2009 provides a good impression:

"There is only one way out of this mess and this is through massive change, Over the next few years, we will have to take some incredibly tough decisions on taxation, spending and borrowing – things that really affect people's lives. Make no mistake; I am very clear about how much more work there is still to be done in order to identify significant future savings" (Summers, 2009).

The national conversation shifted dramatically when the Conservatives came actually in power in 2010. Proposed budget cuts would not only be made on the national level but also on the regional and local levels as one of the many quotes explains:

"The bloody English element of UK government is making cuts. And it's telling local authorities where they're going to make those cuts. There is some translation work done locally, so local authorities have some saying where they made cuts. But there is also a lot cut they're required to make" (ARM-7).

"Critics will say 'that city-deal is merely a devolution of cuts'" (ARM-6).

City-Deals were used as a channel through which National Government was able to make large financial cuts at the local level. In order to keep local councils from protesting, National Government offered local councils the opportunity to earn back money if they could provide evidence for local economic growth. The following quotes describe this clearly:

"It's actually amazing! You know, challenging cities to grow their economies, at the same time as cutting their budgets. (...). So austerity on the one hand you get less money, but we're going to give you the opportunity to make up for this lack of money by growing your economies. And if you don't, guess what? It is your fault! And that works really well" (ARM-7).

"Central governments incentive structure to local authorities was; 'we are going to cut your grant and give you new ways of earning money. It is quite simple. If you don't create more business you don't get the business rates" (LCN-1).

¹⁶ Theoretically a third option is to keep the amount of spending equal but in practice people often expect political leaders 'to be decisive and to 'take action' no matter what.

Austerity and prolonged budget cuts are by no doubt of influence on the available 'space' for sustainable innovations. When existing budgets disappear or become strained, it will decrease or even destroy previously existing 'space' for sustainable innovations. Almost all interviewees follow this reasoning. They believe that austerity means money will be taken away from environmental targets and directed towards economic targets. Secondly interviewee's belief that austerity induces a panic reaction amongst local councils, during which they lose the attention for everything that, does not quickly contribute to economic growth.

The following selection of quotes sets this clear:

"I think low carbon environment is just nowhere on the agenda. (...) We have lost the capacity to do environmental work. (...) The capacity to think about these things is just stripped away as well. And it was stripped away because there was simply no money, cuts, austerity cuts. And then the National Government said to local council like instead of this part [of money] you get this part. Sort it out what you gonna do with it now. And they [local council] had to make the cuts. And then local council made a choice on low carbon because that was the less difficult decision to cut. Because that wasn't a statutory responsibility. But yes anything not seen as a core function is vulnerable" (ARM-1).

"The local council deserves credit for coping with cuts, but at the same time, they disregard local democracy, activism, community groups, everyone outside neo-liberal consensus. This is pathetic and tiring for people that want to give the city alternative views of what sustainability can be" (ARM-6).

There are so many more quotes available that designate the prolonged period of austerity and budget cuts as the primary reason for the lack of attention and thus the lack of 'space' for sustainable innovations, that they have been grouped together in Appendix C. A consensus on the negative influence of austerity on 'spaces' for sustainable innovations can therefore safely be made, but not without mentioning that some opposing arguments have been made. These arguments do not support a belief that austerity would be of positive influence on the creation of space, but argue for a neutral influence and are therefore interesting to include:

It's difficult because we've been set up against a period of really severe expenditure reductions cuts (...). We think the bigger cities of the North lost huge amounts of resources as a result of those cuts. But I think rather than just reacting and saying it's all terrible, the devolution and the City-Deal process has given local authorities the space and the confidence to recognize that to some extent, the future is in their own hands. They can't always go to central government. There has got to be other solutions that fit the purpose locally. We got to develop policies that help to address local issues. So in that sense I think it has helped to create a better atmosphere" (LCM-4).

6.3.1 Conclusion; prolonged periods of austerity

The UK has been hit by the global recession. The conservatives choose to introduce budget cuts and austerity measures from 2010 onwards. Such austerity measures have partly been devolved to local councils. This made both the national and local governments focus most on their mandatory functions, of which low carbon and sustainable innovations was low prioritised or absent. When existing budgets disappear or become strained, this will decrease the available 'space for sustainable innovations, or even destroy previously existing 'space'. The prolonged period of austerity therefore has a negative influence on the creation of space for sustainable innovations and has likely damaged some of the existing spaces.

6.4 Disappearance of the regional level and the emergence of Combined Authorities.

Regions, agglomerations, cities, districts, boroughs, etc. are often defined by their administrative, geographical or political demarcations. Such demarcated areas can be given the general term: 'space'. The boundaries are often rigid for longer periods of time, but can be changed, often due to political decisions. City-Deals have made changes to such spaces by altering the demarcations of administrative boundaries. To alter the boundaries of a space may seem unimportant and only interesting for administrative reasons, but it is also important for the ability to create 'spaces within spaces', such as protected spaces for sustainable innovations within cities (ARM-9). This discussion on space may seem abstract, most likely because it is most often intangible, but the following quote clarifies what is stated above:

"Ultimately what they are trying to do is to create a notion of a single urban space, characterised by a multiplicity of spaces. We can also say that there are efforts within this or these space(s), where we are trying to create low-carbon spaces. Like Oxford Road Corridor. So you got multiple ways of representing space. Singular space, multiple spaces within space, spaces that try to connect spaces, within an overall space etc. That's the representation of space" –Mike_Hodson.

The implementation of the City-Deal policy implied that a few changes had to be made to the demarcations of certain spaces (City Growth Commission, 2014; Department for Communities and Local Government, 2011a). Suddenly some spaces were either fractured¹⁷ into smaller spaces or subsumed¹⁸ into larger spaces. The impact hereof is multidimensional and should not be underestimated (ARM-9; ARM-1).

Interviewees state that the following changes to spaces had the largest impact on the sustainability agenda:

- The abolishment of the regions, (RDA's)
- The introduction of Local Enterprise Partnerships (LEP's)
- The introduction of Combined Authorities and devolution of powers to these new entities.

These changes have been of great influence on the ability to create protected spaces for sustainable innovations. This will be explained in 3 topics:

1. City-Deals lead to many subsequent changes in governance structure and this influences decision making on sustainability issues
2. City-Deals lead to the disappearance of the regional governance structure and this influences decision making on sustainability issues
3. City-Deals lead to the subsuming of the local level and this influences decision making on sustainability issues

¹⁷ I.e. The regional level fractured into multiple local levels

¹⁸ I.e. The local level was subsumed into a Combined Authority level

1. City-Deals lead to many subsequent changes in governance structure and this influences decision making on sustainability issues

Interviewees indicate that local and National Government officials can barely keep up with the many changes in administrative boundaries. Every change requires a new way of working together, which takes time. The many subsequent changes have made both the local and National Government left disoriented. The following quotes support this finding:

"The problem in one sentence is (...) the lack of a single framework for elected government. (...) So you not even let the post 2010 system find its level" (ARM-1).

"Different powers and different geographies and it is really about trying to be quite localised. This is Challenging for central government as well because they need to learn how to work with a different structure of powers. It is anarchy, it is British" (LCN-1).

"This is where it becomes messy. You got the Combined Authority, (...) you get the LEP's, (...), and it is not quite sure how they work together. At the same time you get the City-Deals, which is like National Government trying to push down on the cities" (ARM-9).

The fast pace of change has caused confusion among Local and National Government officials. With new roles, new hierarchies and new communication channels to get familiar with, it makes it harder for officials to build a collaborative space. Collaborative space in turn, is necessary for creating protective spaces around sustainable innovations as will be discussed further.

2. City-Deals lead to the disappearance of the regional governance structure and this influences decision making on sustainability issues

The model of UK government was far more vertical before City-Deals came in. Government departments were in charge of their own demarcated areas such as transport, education, skills, etc. Interviewees indicated that the ability of National Government to work across departments was very weak. There was little collaborative space. This issue led the government to support the City-Deals because it recognized that it needed a more crosscutting, place-based-approach: (LCN-2)

"City-Deals (...) I mean it's a long process of trying to encourage local areas to work more closely together. So it's about horizontal coordination of governance. Links between different local authorities" (ARM-3).

The place-based-approach that came with City-Deals has put the focus so much on cities and localities, that government decided there was no more room for the intermediate level, known as the regions and the Regional Development Agencies. The City-Deal tried to replace the missing intermediate level with initiatives such as LEP's and Greater Authorities, but interviewees indicate that until now this did not play out well:

"City-Deal is a change in the geography of economic governance. (...) Before the current government came in, we had a traditional regional development network. They were abolished, because they [the government] did not like the region idea. The current government wanted a local scale. A lot of the City-Deals ideas have been derived from the OECD work on "functional economic geographies" which are more approximate to the real economy, such as labour markets and travel-to-work-areas" (LCN-1).

"Ideally you have one National Government you have multiple regions or provinces and every city has its' own local council. Now in England there is National Government and there are local councils, Greater Authorities, LEPS but they don't really hierarchically add up" (ARM-1).

The disappearance of the regional level has important consequences for low carbon spaces. Interviewees state that larger scale sustainable innovations require a regional 'space' for successful implementation, but there is no official body for this regional space. Only small scale, local level sustainable innovations such as energy efficiency measures and housing retrofitting can settle, or benefit from an intensified local level protected space. Interviewees clarify hereon that most low carbon actions would benefit from an implementation at a regional level because low carbon measures are often hard to measure on the individual / local level, but provoke a measurable impact on a larger scale. The second line of argumentation favouring a regional implementation is that:

"The problem with environmental benefits, which I am sure you are aware of, is the agency that invests is not necessarily going to recoup themselves all of the benefits" (LCM-3).

This group of interviewees consider the region to be the best level for large-scale sustainable innovations for which it is hard to exclude free riders:

"I think you have to work at a regional level when it comes to green energy for example" (ARM-6).

Although it appears that not all interviewees agree on this point and argue that an even more localised level would benefit the low carbon measures, they seem to carry a rather large notion of a local space, exhibiting over 3 million people:

"All needs planning at a more local level. (...) Why, because that's the level you do the economic planning. And if you have to do the economic planning at that level, then it also makes sense to do a lot other things at that same level. For a lot you need to be more local

than national; you do need scale and capacity though. Scale and capacity does imply a certain amount of size, Greater Manchester is quite a good size from that point of view, 3 million people can do a lot of that sort of level" (LCM-6).

Interviewees, when confronted with this dilemma on what would be the correct scale for sustainability measures, seems able to merge the two opposing views together. Two interesting examples are given below.

The first example originates from interviewee (LCN-1) who points out that some low carbon actions appear to be better dealt with on a localised scale, while other actions turn out to benefit from a greater area, or better: a region. This interviewee provides 'retrofitting of social housing' and appointing 'low emission zones' as examples. To retrofit houses would best be done at the most local level so that it can best be adapted to each and every sub-local circumstance, thereby preventing a costly one-size-fits-all national or even regional policy. The same goes for appointing the exact area where heavily polluting diesel vehicles are banned from driving the streets. Cycling lanes, trains and trams however are best implemented at the regional level, as you can't stop the tramline from being upgraded at the edges of Manchester or even the edges of Great Manchester. You have to connect to other cities. The same goes for cycling lanes. If you want to make an environmental impact, you have to make sure that the total travel-to-work area has been equipped with cycling lanes, instead of only a particular area without any meaningful connections. The following quote provides some evidence that this idea has indeed been taken over by the City-Deal policy:

"What is really important is that within the City-Deals it is described that certain actions are only going to be devolved to certain areas. The Regeneration¹⁹ was very specific, whereas the Skills²⁰ was very broad and the whole region could benefit from it" (LCN-1).

The second example states that the UK administrative system can indeed shift further towards a more local based governing. But, as many interviewees state; 'for some you need more scale and capacity'. Then the localities should group up together, form a formal or informal collaboration agreement and then act as one around a project for a limited time. The City-Deal has in fact picked up on this idea. The ideology behind Combined Authorities and LEP's is that local authorities would easily find each other to work together on shared issues. However, there are great problems in collaborating around sustainable measures as will become clear in the next paragraph.

¹⁹ Regeneration involves the modernization and upgrading of a particular district in a city that was formerly known to be 'rough', 'dirty' and 'shady' to a place that is more secure, clean and pleasant to live in, thereby also hoping to lower criminality rates.

²⁰ Skills involves the alignment of education and skills of the unemployed inhabitants of a city with the availability of work and

3. City-Deals lead to the subsuming of the local level and this influences decision making on sustainability issues

It is common for local governments to work together on issues such as police, fire fighting and transport because they easily see an individual benefit in working together on crime and disasters. As long as the whole is greater than the sum of its parts and the positive effects are evenly spread, collaboration does not tend to lead to problems. During the labour government²¹ there was relative national stability with a clear message on low carbon and energy. Authorities faced little austerity measures and therefore they were able to work together around agendas such as low carbon energy. The local authorities had sufficient budget to set something aside for the greater good of lowering carbon and according to interviewees: *"They could all see the direction it [sustainability] travelled" (ARM-1).*

Then a new government²² came in that declared strong austerity measures, introduced the City-Deals policy and devolved tasks and responsibilities to local authorities that were previously assigned to at the regional level. Local authorities were expected to group up in Combined Authorities²³ and start working together on these greater issues. Interviewees describe this change as:

"Everything is reinvented (...). You are expecting local authorities to all work together in a combined authority. So they have got to make that work, but there are no rules for that. It is non-elected. So my problem with non-elected is that if you got all the local authorities, they are gonna want an equal vote. So if 10 local authorities all want the power of veto, and one local authority doesn't agree it's gone! Now if you look into any UN security council whatever; that doesn't work! (...) So you can never look strategically at an issue because you are always going to be driven down to the lowest common denominator" (ARM-1).

"City-Deals was a favour to Cities, The Idea of Combined Authorities, legal bodies, operating at the functional economic scale. There was already a law agreed on in 2007, which mentioned bringing together smaller local authorities to bigger local authorities" (LCN-1).

The City-Deals have fractured the local level. This is the case because even within Combined Authorities and LEP's, all individual authorities, no matter how small or big, have an equal say. This makes decision-making around issues that are not considered equally problematic or equally benefiting to every individual authority, very problematic. Interviewees point to this holdback as a primary reason for not moving forward with difficult issues around sustainability:

"This issue of horizontal coordination or joining up and not getting local authorities to work together has been quite contentious, quite problematic" (ARM-3).

²¹ From 1997 to 2010

²² From 2010 to 2015 | David Cameron | Conservative & liberal democrat coalition

²³ A type of local government institution introduced in England to improve transport, economic development and regeneration in areas that is larger than that of the individual local authority. For example Greater Manchester Combined Authority is made up of ten Greater Manchester individual councils who work with other local services to improve the city-region (GMCA & AGMA, 2016).

"They [local authorities] have not got the same interests and they are different. Trafford²⁴ is conservative whereas Manchester city²⁵ is labour. Trafford is relatively wealthy and has a different set of agenda's. So even that superficially they look the same, but they are all really quite different in terms of the challenges they face and what low carbon means to them" (ARM-1).

Local Authorities have problems to arrive on policy measures that satisfy all. The sole reason that local authorities keep coming back to the Combined Authority level is because there is national money available on this level and very little anywhere else²⁶ (ARM-3). Local authorities have a joint incentive to produce policy proposals for the entire region, as it will unlock national money. However, if one or more local authorities feel left out or get the feeling that the money will not be equally spent in their region, they will boycott the proposal.

A good example for that clarifies this issue is the proposal for congestion charge in various large UK cities. The environmental benefit hereof would be that commuters would use the public transport more often instead of their car. All localities would benefit hereof. If the Combined Authorities would introduce a congestion charge system, National Government would let the local authorities keep the financial rewards hereof. Also still on this level all localities would benefit. The Combined Authority themselves solely had to decide around what region the congestion charge would need to be paid by commuters. Logically this is foremost the area around the city centre. The city centre local council is often an advocate, as it will relief them from cars, traffic jams and local air pollution. The city centre local council would have no problem to sell the idea to its inhabitants as they live and work in the same area; the city centre. So those inhabitants would not have to pay for their daily commute. For surrounding local authorities however, it implies that they have to pay more to go to work, or use the local transport. At that time, the local transport was still troublesome and unreliable though. The result is that surrounding local authorities would feel that the city centre authority has an unfair advantage and will start to ask: What's in it for us? When the local authorities are then unable to form a plan that satisfies all, it is deemed to fail (ARM-1). This exemplifies that one obstacle can be enough to hinder the implementation of a sustainability measure.

Another example that interviewees provide has to do with sustainable waste management. The extra costs for handling municipal waste in a more sustainable way would be paid with an extra tax. This plan would only succeed if all local authorities would agree, as it requires scale and capacity to be affordable. Some local authorities had a local geography, primarily existing out of industry and offices, producing large quantities of waste, but with a small amount of inhabitants due to low amounts of households. Other local authorities had an opposite geography, with lots of households, but relatively little waste producers. A lot of inhabitants would travel during the day away from the dense household parts and work in the industrialised areas to leave their waste. If the tax would be levied on population numbers, some authorities such as the city centre would benefit because they have low

²⁴ Trafford council is one of the ten councils falling under the Greater Manchester Combined Authority

²⁵ Manchester City council is one of the ten councils falling under the Greater Manchester Combined Authority and mainly covers the inner city centre.

²⁶ Due to national austerity measures.

amounts of living residents, but lots of office and commuters producing waste. Other localities, such as commuter-towns, would need to pay more; while the majority of their waste is being produced somewhere else. This particular example of a potential dispute was solved by not dividing the tax levy per head but by kilograms waste produced per council. This gave all the councils in the combined authority a sense of fairness. Ironically the city centre council itself, thereby thus sacrificing their advantageous position, brought this solution forward.

The following quotes underline how important it is under the new governance structure formed under City-Deal policy, to have all local authorities feel included and benefit equally from (sustainable) proposals:

"It seems to be a general fact the suburbs have a different standpoint from the cities themselves" (LCM-3).

"The litmus test for any other City-Deal will be whether there is no part of your city region left behind. (...). If you leave any community behind in any of your three ambitions then it would fail. So in other words your City-Deal and your growth aspirations should bring everybody, no matter how strong or weak along with you, to create a more prosperous level of growth, to create a more shared level of inclusive growth and create a more sustainable lines of growth, that would be the key litmus test" (LCM-5).

"If you leave a partner behind or you exclude them from that, then you are failing in your mission. And if nobody is left behind, at least you have a better optimal outcome for the economy and to the environment and society. That's the way to do it" (LCM-5).

6.4.1 Conclusion; Disappearance of the regional level and emergence of Combined Authorities.

The UK National Government made multiple successive changes to the boundaries of 'spaces' such as regions and cities. Along with the City-Deal program came another set of changes to 'functional economic areas'²⁷. This fast pace of change caused confusion among national and local government officials. The regional level has been abolished, while many state that this level is indispensable for larger scale sustainability measures. The local level consists out of a multitude of local councils, which are supposed to act as one within Combined Authorities. In practice, decision-making does not occur without internal disputes. Especially decision-making around issues that are not considered equally problematic or equally benefiting to individual local councils is problematic. All three consequences stemming from the City-Deal policy make it harder to collaborate on issues such as low carbon aspirations and sustainable innovations. The adaptations to the boundaries of spaces therefore have a negative influence on the creation of space for sustainable innovations.

²⁷ Economic flows often overlap local authority boundaries. This means that the functional area over which the local economy operate will not necessarily adhere to administrative boundaries. Instead Functional Economic Areas broadly correspond to sub-regions or city regions and is defined on the basis of economic activity in a specific market or sector (Department for Communities and Local Government, 2010).

6.5 A change in National Government

A change in National Government seems to be isolated from City-Deals policy and the effect on spaces for sustainability initiatives, but is in fact highly intertwined.

In the UK, a General Election (GE) is organised at least once every 5 years. Residents in every part of the UK choose their MP (Member of Parliament). This is the person who will represent their local area (constituency) in the House of Commons for up to five years. Usually the political party that wins the most seats in the House of Commons at a general election forms the new government and its leader becomes Prime Minister (Parliament.uk, 2016). In the last 50 years the government has changed from:

- 1974 – 1979 Labour
- 1979 – 1997 Conservative
- 1997 – 2010 Labour
- 2010 – 2015 Conservative & Liberal Democrat (coalition)
- 2015 – 2016 Conservative

As the type of political party in power alternates, it most frequently adapts the policies that it inherits from its predecessor and introduces a new set of policy measures that are more in line with the realm of thought of their party. An interviewee for example explains the difference in realm of thoughts between the two parties on treasury deficit:

"The conservative government is about paying off debts and not spending. The Labour Party would have a different view and says well: 'debt is currently cheap, so you can live with a level of debt, and invest so that you create a more profitable economy'. Which can then payback the debt faster" (ARN-3).

Different political parties have different views and a different belief system on how to deal with sustainable development. Secondly they prioritise sustainability differently. The type of political party in power thus influences protective spaces for sustainable innovations as the following quotes illustrate this:

"Than 2010 a new government. All they cared about was economic growth. Coming out of recession, there was austerity, so there was less appetite for policy for green energy. So I think what progress had been made, beyond 2010 didn't feel valued in terms of those other indicators, thinking about social and environmental as well" (ARN-2).

"National politics is hugely important in a centralised country where local areas have limited room to manoeuvre. (...) You have a National Government that is pretty Lukewarm to addressing climate change or pursuing sustainability goals more generally" (ARM-3).

A change in the type of government party being in power has an immediate influence on the continuation or abandonment of low carbon policies as is illustrated by the following quotes:

"The national conversation shifted dramatically because the Conservatives are now in charge. (...) And they say, this program we've inherited from the previous government, we cut it" (ARM-8).

"The actual City-Deal's initiative in my understanding; it was in progress prior to the general election of 2010. Change of government, and then the coalition government that existed from 2010 – 2015 took on this initiative and kind of presented it as their own" (ARM-3).

It is therefore important to mention a change of government as a key national regime aspect for the creation of protected spaces, even though it seems isolated from City-Deals. First, it provides a clear example for a direct relation between the national regime and the creation of 'space' for sustainable innovations, that was not accounted for in the theoretical framework. Second, the mentioning that the City-Deal policy was in fact inherited from a previous government and then adapted to the belief system of the new government proves that even a policy such as City-Deals, which is designed for longer periods of time, is subjected to the volatility of shifts in national political power.

6.5.1 Conclusion; a change in National Government

When National Governments change, their realm of thought changes. Some policies are abolished and new ones are introduced accordingly. Every National Government prioritises sustainability differently. A change in national power has its repercussions on the local level, especially in the UK, which is highly centralised. Local authorities are largely at the mercy of national discourse setting. When National Governments change the discourse, local authorities have to take over in order to be heard. Sustainability measures have a hard time in such a volatile environment, because they demand stability and long-term policy programs to be competitive with alternatives. A change in government after a general election does not necessarily decrease the space for sustainability, but does shake things up. A change in type of National Government therefore has a neutral influence on the creation of space for sustainable innovations. However many successive changes of government make long term policy planning difficult and have a negative influence on the creation of space for sustainable innovations.

6.6 Perception of sustainability by UK citizens

A National Government acts on behalf of its citizens and it is therefore important that national policies can count on strong public support. When climate change is considered to be an urgent and pressing issue by a majority of the population in a given area, it becomes much easier for a national, regional or local government to design, discuss and implement policies around low carbon and sustainable innovations.

This research has not been designed to do research towards the social acceptance of policies that positively influence shielding, nurturing and empowering activities for sustainable innovations. However, interviewees brought up the perception of sustainability by UK citizens because they believe that the 'bloody English' hold on to a different social conception of sustainability than the Dutch and many other European citizens do.

UK citizens would respond that they value their clean streets, green spaces and parks when they were asked why they care about the environment. Their view on sustainability is localized and they are either unwilling or unaware to see the importance of a clean environment on a global scale. As long as there is no dog shit on his or her pavement, the environment is pretty much unimportant.

"If you do very localized studies about people's concerns about their environment: It will boil down to things like litter in the street or waste management. It's quite localized" (LCM-5).

The same holds for climate change and global warming, as the leader of Manchester City council makes perfectly clear:

"In terms of selling environmental policy to lots and lots of residents... try to convince people in Manchester that we're going to get a couple of degrees warmer and its bad news, it's hard work, most people think that a couple of degrees warmer, is good news" (LCM-6).

According to the interviewees in Newcastle and Manchester, citizens are less concerned about the environment but all the more so about matters such as job security and the ability to support their family. Low carbon policy measures have always been considered as a burden: 'something that costs money'. Interviewees state that especially for the lower social classes, sustainability is not something that arises their mind, as they are more worried about making it to the end of the month and trying to keep their minimum wage jobs. What strengthens this phenomenon is that elected local councillors are not directly incentivised to promote sustainability, because it does not help them getting re-elected. What does help to get the citizens' votes though is to pay attention to various insignificant local complaints and help citizens appease their little frustrations. The following quote states this very directly:

"Most local council issues are about dog-shit and potholes in the pavement. If someone is having problem with their benefits, the first person they can turn to is their local councillor. So, local councillors spend most of their time and energy trying to help people who've been fucked by the system. And the way that you get re-elected is by helping local people, with the dog shit and the traffic lights and everything. So if someone like me comes along [to those councillors] and says, climate change, global issues; it's just like fuck it" (ARM-8).

Interviewees mention three factors that can change people's attitudes to the environment and help emphasize the importance of a low carbon economy. The first factor is to increasingly sell sustainability as something that is worth pursuing, by framing it in economic terms. For example by stating that it can help people save money on gas and electricity.

Various other interviewees mention an indirect factor as their principal hope for a change in low carbon lifestyles. They believe that this is a generational issue, one that will be automatically taken care of as people leave for retirement while younger people start occupying more influential positions. The following quote puts this nicely:

"Now I think that there is a younger generation. The millennia's maybe, who are coming through, who have a different attitude (...) I think the change needs to happen in that sort of 15 – 25 years old. I think you're starting to see people; even politicians come through now who are in that bandwagon who think differently. I think anybody over that is; not everybody, but it's more difficult to make them change their mind" (LCM-2).

The third factor interviewees point to out is that investing in sustainable innovations is still considered to be more risky than conventional investments. Some of the caution may have been caused by earlier policies in the UK around energy saving. Such projects promised households large energy savings if they would invest (e.g. in isolation or high efficiency heaters) but not many of those savings estimates were ever reached (LCM-2). The news picked up on this and people became sceptical to sustainable innovations that had not been fully tested (LCM-2). Also sustainable innovations that are only economically feasible with additional government subsidies is deemed to be risky because the government has a history of lowering its feed-in-tariffs or cuts subsidies in half without prior notice. Even large-scale projects initiated by local councils have stumbled on national subsidy schemes that were suddenly discontinued. The social conception of sustainability by UK citizens is important, not only for creating public support to include low carbon aspirations in the City-Deal policy, but also in general for creating spaces around low carbon. A quote concludes:

"I think in terms of Low Carbon investment in the UK generally, and I would probably argue in Europe actually, maybe even global, is still seen as risky. Even though there are demonstration projects that show the payback period is of this amount and you'll get your money back over a certain time with interest; there is still an old guard of economic thinking, which is more likely to invest in tried and tested economic development measure than it is to invest in Low Carbon. Because low carbon is seemed riskier. I think that's starting to change. Both in the banks, and indeed in the local authorities" (LCM-2).

6.6.1 Conclusion; perception of sustainability by UK citizens

UK National and local governments have been democratically elected and work foremost on behalf of its citizens. Policy measures produced by the government therefore most commonly follow the wishes of the majority of its citizens. UK citizens tend to carry a very localized perception of sustainability and investments in sustainable innovations are considered more risky than conventional investments. This deviating perception of sustainability makes it hard for governments to convince citizens that sustainability measures need to be included in policy. The particular perception on sustainability by UK citizens therefore has a negative influence on the creation of space for sustainable innovations.

6.7 Conclusion of national regime analysis

This section covered six key aspects for which the 'national regime contexts' happens to be of great influence on the creation of protected spaces for sustainable innovations, as brought forward by interviewees. All six national regime aspects are of a negative influence on the possibility to create protected spaces for sustainable innovations. Table 6 on page 58 concludes this section with an overview and summarises the key arguments for each influence.

6.8 Discussion of national regime analysis

Table 6, and all aforementioned 'key urban and spatial development regime aspects' produced a comprehensive answer to the first sub question: *What is the national context in which the English City-Deals have been developed?*

It may seem that this section was set out to solely collect negative national aspects, but that has by no means been the objective. As stated before in section 3.1 Research Design, have the key national regime aspects emerged deductively, in a grounded theory fashion, from what interviewees regarded as most important.

Some national aspects appear to be deeply entrenched in the UK culture and history such as the strong neo-liberal economic political discourse and the particular perception of sustainability being held by UK citizens. These mind-sets appear to be quite rigid and it will not be easily changed in the favour of sustainability. The notion that rapid successive changes in National Governments influence local governments and make for an instable investment climate which negatively influences space for sustainability is also merely an observation than something that can be controlled for.

Other national aspects appear to be more recent and fluid developments such as the changes in local government funding and the austerity measures. These aspects are merely a consequence of policy and can be more easily diverted if they are indeed found to be interfering with the progression of sustainable innovation.

At this moment the national context of England forms a difficult environment for cities and urban areas to develop, implement and scale sustainable innovations.

Table 6: Influence of key urban and spatial development regime aspect on the possibility to create protected spaces for sustainable innovations

#	Key urban and spatial development regime aspect	Negative Neutral Positive	Influence on	Key argumentation
6.1	The strong economic focus in the UK has a	<u>Negative influence</u>	On the creation of space for sustainable innovations because:	<p>Short-term economic planning is in rivalry with long term sustainability planning.</p> <p>Neo-liberalism values economic indicators rather than sustainability indicators to measure progression.</p> <p>Cities are considered as 'engines of growth' instead of 'low carbon solution incubators'.</p>
6.2	The changes in local government funding have a	<u>Negative influence</u>	On the creation of space for sustainable innovations because:	<p>Incentivised short-term economic gains, which is unfavourable for sustainable investments.</p> <p>Incentivised risk-averse investments, which is unfavourable for new and partly unproven sustainable investments.</p> <p>Incentivised to satisfy conventional multinational corporations by avoiding more stringent environmental regulations.</p> <p>Incentivised a foreign capital driven growth model that is only interested in quick economic gains.</p>
6.3	The prolonged periods of austerity have a	<u>Negative influence</u>	On the creation of space for sustainable innovations because:	<p>Forced local authorities to return to their core statutory duties and close environmental and sustainable departments.</p> <p>Austerity hit hardest on sustainability budgets.</p> <p>Low carbon priorities disappeared.</p>

6.4	The fast pace of adaptations to the boundaries of space's has a	<u>Negative influence</u>	On the creation of space for sustainable innovations.	<p>Causes confusion among local officials, putting on-going sustainable projects on hold.</p> <p>The regional level disappeared, which formerly oversaw sustainability measures and their implementation.</p> <p>The newly erected Combined Authorities benefit unequally from sustainability measures, making consensus on local sustainability investments problematic.</p>
6.5	A change in type of National Government has a	<u>Slight negative influence</u>	On the creation of space for sustainable innovations.	<p>UK government is highly centralised and cities therefore have to move along with every move of National Government.</p> <p>Leads to interrupted support for sustainable policies.</p> <p>Local authorities need to acquire new support and approval for their sustainable aspirations.</p> <p>Informal collaboration between national and local officials needs to be re-learned, putting sustainable projects on a hold.</p>
6.6	The particular perception on sustainability by UK citizens has a	<u>Negative influence</u>	On the creation of space for sustainable innovations.	<p>UK citizens tend to carry a localized perception of sustainability and have little support for global sustainable projects of which the results are not directly visible in their street.</p> <p>UK citizens tend to see private low carbon investments as risky, due to historical energy saving measures not meeting their expectations.</p>

7 Results Manchester City-Deal

This section analyses the case study for the territorial governance of Greater Manchester. This section covers the 'local context' as in contrast to section 6, which covered the 'national context'. First, an historical timeline of local events is presented in Table 7, followed by an historical narrative that sets these events in context. The historical narrative prepares for the results on how the Manchester City-Deal has been of influence on shielding, nurturing and empowering activities in Manchester, which in turn influence the creation of space for sustainable innovations. Figure 5 displays the geographic location of Manchester.

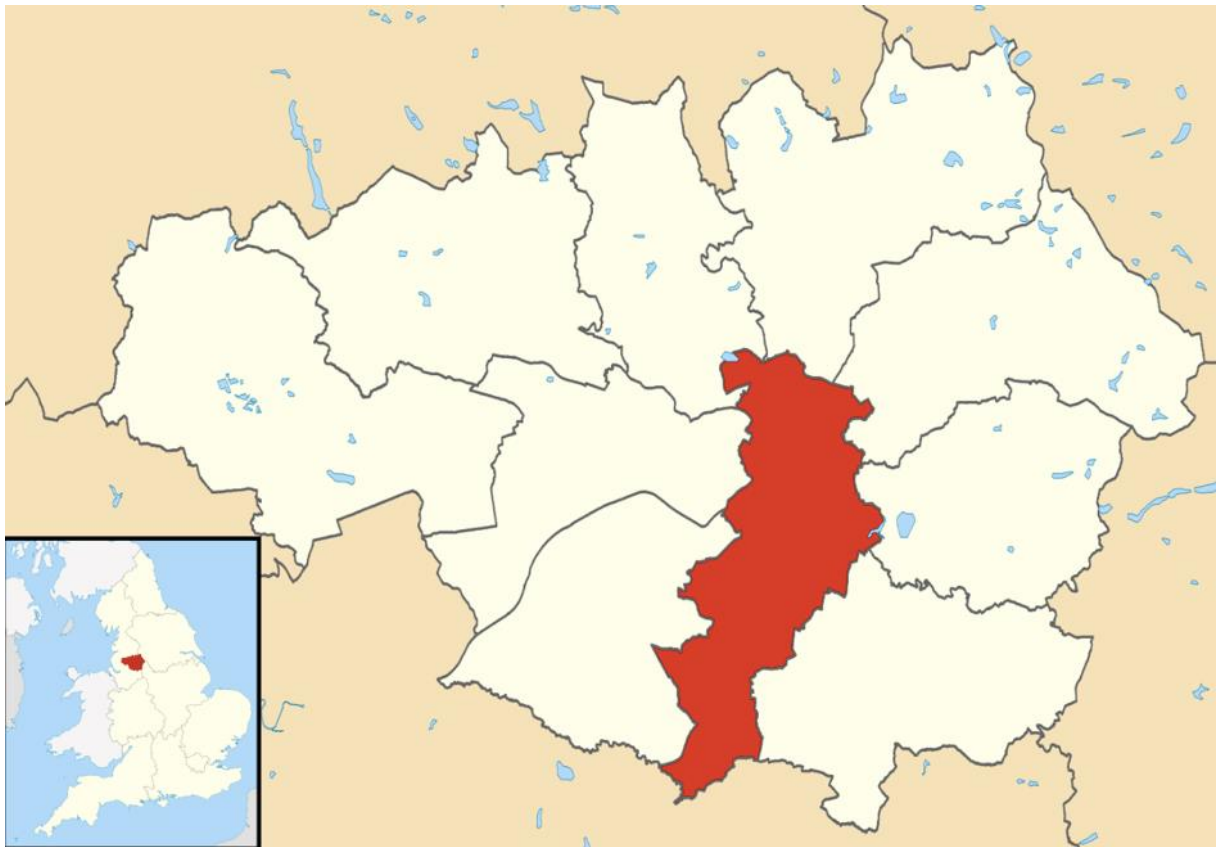


Figure 5: Manchester-city within Greater Manchester, positioned within England for orientation purposes.

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7.1 Historical Narrative Manchester City-Deal development

Table 7: Timeline of local events in Manchester that have been found relevant to the development and design of UK City-Deal policy in Manchester specifically

Year	Events that have been found relevant to the development and design of UK City-Deal policy in Manchester specifically
1994	Manchester hosts the follow up of Rio Earth Summit 1992, but is embarrassed due to their shortcomings in the preparations.
2000	Manchester signs the 'Nottingham Declaration on Climate Change'
2005	Foreign investor buys Manchester United Football club
2008	Foreign investor buys Manchester City Football club.
2009	Manchester produces the city's first ever climate change strategy 'Manchester: A Certain Future' (Manchester Climate Change Agency, 2016).
2011	China invests in Manchester Airport expansion
2011	Manchester establishes a Combined Authority
2011 April	Manchester establishes a Greater Manchester Local Enterprise Partnership (LEP)
2012 March	National Government abolishes the Northwest Regional Development Agency (RDA)
2014 Winter	1 st Devolution deal signed with Greater Manchester. (National Audit Office, 2015)
2015 Summer	2 nd Devolution deal signed with Greater Manchester. (National Audit Office, 2015)
2015 Autumn	3 rd Devolution deal signed with Greater Manchester. (National Audit Office, 2015)
2016 Winter	4 th Devolution deal signed with Greater Manchester. (National Audit Office, 2015)
2016 January	Manchester commits itself 'to become a zero carbon city by 2050' (Manchester Climate Change Agency, 2016 p.1)

A boom in offices, investments, social security and population made Manchester grow large from 1990 onwards (ARM-6). Nowadays Greater Manchester is the UK's second largest city in economic terms, playing a key role in the economic performance of the North of England (European Commission, 2013). Manchester is the major city within a wider urbanised area commonly referred to as 'Greater Manchester' (GM) or the 'Greater Manchester Combined Authority' (GMCA). Some people still use its historical name: the Association of Greater Manchester Authorities (AGMA). Irrespective of the name does this area consist out of 9 local authorities²⁸ surrounding Manchester city, totalling up to 10 individual authorities. As interviewees often pointed out:

"Manchester is not a city, but it's 10 municipalities working together. And that does matter, because the two get entangled" (ARM-8).

The local political landscape of Manchester has undergone a series of important transformations to be aware of. This can broadly be divided into four phases, each of about 10 years. The first phase being the original Greater Manchester County Council that was formed in 1974 and lasted until 1986. When the conservative national leader Margaret Thatcher came into power, she abolished the greater authorities in 1986. Most local Combined City Areas lost their single structure of partnership, cooperation and dialogue between their individual authorities. In figurative speech they 'lost their head' and were unable to form agreements on topics that exceeded the single authority areas. This was however, exactly what the Conservative Thatcher wanted; to reduce the power and self-guidance of the large Labour led cities or as an interviewee stated:

"The coherence as political entities was removed. They were all Labour and they were too much of a threat to the conservative government" (ARM-3).

The second phase arises when Manchester City officials, in contrast to other cities, red between the lines of the new regulation. They set up a new informal collaboration practice among the 10 authorities. In practise this was a continuation of the strong collaboration between the 10 authorities on strategic issues. However it was being framed toward National Government as a voluntary collaboration agreement on topics such as fire-fighting, police and the rail system. This collaboration resulted in its historical name: the Association of Greater Manchester Authorities (AGMA) and lasted from 1986 to 2011 (European Commission, 2013).

A third intermediate phase for Manchester arises with the return of Labour to national power in the late 1990s. This introduced a period of more regionally based governance. This saw the creation of RDA's, which included not just Greater Manchester but also the whole North West Region.

The fourth phase is introduced with the coalition government in 2010 and their policy initiatives, such as City-Deal and Local Enterprise Partnership (LEP). The end to the previous phase is also marked by the abolishment of the regional tier of governance, the RDA's. The region, formerly known as the highest tier of sub-national division in the UK has no officially devolved functions anymore since 2011. The term region only continues to be used for statistical and administrative purposes. Around the same time, government introduced Combined Authorities: 'additional integrated institutional arrangement enacted by statutory instrument at the sub-regional level' (European Commission, 2013). This was

²⁸ Bolton, Bury, Oldham, Rochdale, Stockport, Tameside, Trafford, Wigan, Salford.

enacted in 2011. For most large cities this idea of a combined authority and working together has long been forgotten since the abolition in 1986. But for Manchester this only meant a formalisation of their on-going collaboration that was already going on for years. This formalisation introduced its current name: the Greater Manchester Combined Authority (GMCA). Their history of working together later proves to be their most valuable asset, as can be deduced from the following sources and interviewee quotes:

"We quite laugh at times about other places that spend more time arguing between the sub components, then having one clear voice being expressed to the outside world. Some city regions couldn't even make up the name of their city region" (LCM-5).

"Greater Manchester is not internally fragmented, because of the years of voluntarily cooperation" (ARM-8).

"The main strength of GMCA is its longevity. In one form or another the local authorities within the Greater Manchester City region have had some form of governance covering the whole of this area since 1986. This has allowed a great deal of shared knowledge, trust and capacity to be developed and utilised to engage with the problems facing the area and to reach out beyond the region to establish networks and to gain access to resources.

A history of working together has been eased by a unified political landscape in the region. Greater Manchester is dominated by the Labour Party, a political party on the left of centre of the political spectrum controlling around 8 out of the 10 of the local authorities in the city region (EU Commission, 2013). The Interviewees have the impression that Manchester will stay labour:

"People born labour, vote labour and die labour. Manchester is a labour city, always has been, always will be" (ARM-6).

But the Manchester local council being labour, is not always a blessing. Some say it threatens democracy, as it is almost certain that labour will win every next local election, with no opposition to choose from. Therefore people lose their interest and the turn-up can be as low as 13% (ARM-6). The local council of Manchester city is controlled by the Labour Party and led by Sir Richard Leese. Since 2014 Labour occupied every seat with no opposition, see also table 8

Table 8 on page 64. This has led to a situation that all interviewees describe as worrying and dangerous:

"Now, you have in town hall 96 councillors, and I'll ask you a question; how many of them are Labour Party? 96 councillors, Yes. You are living, and none of the academics will call it this, but it's a single party state. Now, of course, it's not like North Korea, were Richard Leese is going to shoot me for saying that. And they have elections. But (...) we have what is called, first past the post. So, whoever gets the votes wins. There is no proportionality and the British culture is nothing like the Dutch polder system either, forget that. This is Anglo-Saxon capitalism what we're talking about here. This is winner take all" (ARM-8).

Table 8: Distribution of the 96 councillors in the Manchester city council by political party, for the years 2008 to 2016. Opposition to the dominant labour party decreased to an ultimate low in 2014 and 2015, by which all opposition was absent.

Year	Labour	Liberal Democrats	Green Party	Conservatives	Independent
2016	95	1	-	-	-
2015	96	-	-	-	-
2014	96	-	-	-	-
2013	86	9	-	-	1
2012	86	9	-	-	1
2011	75	20	-	-	1
2010	62	31	-	1	2
2009	61	34	-	1	-
2008	61	34	-	1	-

The strong focus on economy and capitalism by the national regime has been taken over by Manchester on the local level as well. When Thatcher came into power, most cities started to oppose Thatcher. Manchester however decided to accommodate and work with the government. Manchester from then on decided to play the neo-liberal game, accommodating with capitalism or as an interviewee puts it:

"There is a reason that some people accuse this local labour party as being Conservatives in disguise because some of their actions are not in charm with the labour council" (ARM-6).

Manchester being very much oriented towards economic growth has been and still is very advantageous for Manchester in terms. Manchester is very adept in the way that it tries to anticipate to national priorities and economic growth was one of them. This has led to Manchester being a master in finding subsidy. Figure 27 in Appendix E on page 129 reflects this; it shows that Manchester has been able to allocate far more money than any other city with its City-Deal proposal. Interviewees describe Manchester as:

"It knows how to play the game with National Government" (ARM-9).

"It is always at the head of the queue to be the experimenter, at every level, National, EU, Olympics, China, and America. (...) But I am not sure how you align that with more social and environmental goals. They will play the game that they can play. They won't push the alternative agenda, as they see it as a waste of time" (ARM-6).

The focus on economic growth is not only taken from National Government, Manchester always had the intrinsic motivation to become a global city. GMCA is fighting hard to position itself as being the next London. The London of the North of England.

"A lot of the rhetoric in Manchester around wanting to be the first, is the dream of attracting international investment to be a real European 2nd rang city. (...) Manchester has never seen London, Liverpool or Sheffield as its competitor. Its competition was Lyon, Barcelona and Milan" (ARM-6).

To work towards that goal of becoming a real European city meant that the airport expanding but also that Manchester had to market it as being very attractive for foreign investors. Most academic interviewees acknowledge that Manchester has become very adept in marketing itself to the outside world as being attractive and progressive on sustainability. Some interviewees even claim that the profound focus of Manchester on sustainability is a direct result of its marketing department:

"Most of the sustainability policies are marketing strategies. They're not intended to set a road map to a sustainable future. (...) It is all about Marketing. And for marketing you only need the plan, with a glossy photograph on the front, some smiling faces, some pie-charts

and some promises from the big leader, get involved! join us! That's all the council needs. You don't actually have to do it" (ARM-8).

"The Low-Carbon Hub (...) set a target to plant 20-million trees by the year 2020. And we pointed out how impossible that was. (...) And that's fine! They don't reconsider the whole point of their organization. They just change the target, because marketing is what this is all about" (ARM-8).

The desire for foreign investments is huge in Manchester. Interviewees describe that this has led to three different types of Capitalism in Manchester:

"First the American predatory capitalism, that uses leverage buy-outs of some of our most cherished institutions such as the cooperative bank, or Manchester United. Second the Chinese surplus capital, generated out of Chinese labour, which is looking for a secondary circuit of investment. This is mainly going into buildings and global infrastructure. Third the petrol wealth, which is connected with Abu Dhabi buying Manchester City (...) and a partnership with the City for a billion pound of housing in East Manchester" (ARM-4).

Interviewees state that this is a very interesting time for Manchester. Because the market based on neo-liberal terms, is finally making the city a success. Manchester is drawing in a lot of foreign capital and therefore most parts of the city are flourishing with newly build buildings, offices and shopping centres. Interviewees state that the Manchester city council, long led by the labour party, had no alternative view to neo-liberalism and market powers.

"Manchester has become the model city for neo-liberal open governance. Definitely Europe, potentially global" (ARM-6).

This has brought in many foreign investments and the city is starting to reap the financial benefits hereof, yet slowly an alternative post-market pathway is opening up in terms of labour discourse. This new pathway starts to discover that sustainability can be a driver for economy and economic opportunities. From the viewpoints of the interviewees it is either a matter of time before the decreasing costs of sustainable technologies make it competitive on itself or become welcomed by the Manchester labour council as the long-term economics of sustainability slowly become more apparent to them. The following quote concludes to this last point:

"The city is not interested in activism and contestations by the citizens because it is run by the labour party. Out of the 100 of its councillors, 100 are labour. There is no opposition and they can ignore everything. Therefore, I think that sustainability and innovation pathway is heavily shaped by and potentially hindered by its neo-liberalism. (...) Anything outside of that, which does not provide an economic opportunity or involves the private sector, is seen as some socialist, ideological, dream, and bullocks. (...) The question is how do you present Innovation and Sustainability to a neo-liberal leadership economy such as Manchester. You have to do it in a green-economy kind of way. There can be no hippie shit, no socialist shit. And that's fine, because there is plenty that can be done around green-economy, that they would be attuned to." (...) And that is for me where the City-Deals are becoming really interesting" (ARM-6).

"What you have seen over time you've seen the environmental strategy team and the council come closer, to the point now, where the policy makers and the politicians understand that actually you know you can do both green stuff and you can be a growing city" (LCM-1).

7.1.1 Summary historical narrative Manchester City-Deal

This narrative on Manchester has outlined part of its local history, local politics and sets out in what line-of-thought the local labour party has made its policy choices. All of this has shaped the landscape for the Manchester City-Deal to land in. Manchester has a reputation for being unified, having had the advantage of long-term voluntary cooperation between the 10 individual authorities. GMCA officials have always been keen to follow the steps of National Government, portrait themselves as having a single voice and are skilled in obtaining grants. In more recent years, the neo-liberalist economic focus ensured that foreign investors have become very interested in Manchester to invest in. Interviewees report that they have seen the neo-liberal economic framing of Manchester council as the greatest threat to sustainable actions however. These same interviewees report that only very recently they start to see the emergence of a new way of thinking by city officials, in which sustainability can indeed be included, as long as it makes for an economically conclusive story.

7.2 Manchester shielding, nurturing, empowering

This section presents the results of implementing City-Deal policy in Manchester.

A policy can have a stimulating or constraining effect on the occurrence of shielding, nurturing and empowering activities (Verhees et al., 2015). These activities are prerequisites for the creation of protected spaces in urban environments for sustainable innovations. (Verhees et al., 2015).

Greater Manchester has agreed on a City-Deal with central government. This package of agreements should provide Manchester with the powers and freedom to pursue their ambitions. One of the ambitions agreed on is to “establish a Low Carbon Hub, with a plan to reduce emissions by 48% by 2020” (Wave 1 Manchester, 2012 p.4). The Manchester City-Deal assumes that the carbon reduction target will not be met without their commitment to “devise, pilot and measure a pathway towards it” (Wave 1 Manchester, 2012 p.19). Manchester will create this pathway by presenting ‘a distinctive offer on low carbon’ (Wave 1 Manchester, 2012 p.19). This offer then consists of a wide variety of actions, programs, resources, partnerships and policies. The following sections will present the results from a large set of interviews and reports as to whether and how the Manchester City-Deal program contributed to the creation of protected spaces for low carbon and sustainable innovation.

The exact manner in which indicators have been used to analyse the results has already been covered in Section 2.3 ‘The role of policy on shielding, nurturing, empowering’. Appendix A presents the full list of indicators that have been used.

7.2.1 Manchester City-Deal shielding

Scientific literature made clear that policies, such as City-Deal, can enable the shielding of sustainable innovations (Verhees et al., 2015). Policy may have this effect through enabling the emergence of a dedicated community around a sustainable innovation or by the realization of experiments, pilot projects, and demonstration projects around low carbon (Verhees et al., 2015).

There is not a uniform answer available to the question whether Manchester City-Deal has improved shielding activities for sustainable innovations and low carbon. The most eye-opening insight and answer came from an interview with (ARM-7). The Manchester City-Deal, from his perspective, definitely opened up new spaces to think about sustainability. However, he places the footnote that the Manchester City-Deal also closed off some previously existing spaces, when it got rid of the previous existing policy and grant schemes. Therefore, this interviewee stresses that one can take two perspectives towards judging the overall effect of City-Deal policy on shielding. Either that City-Deal is really positive, because even from a critical point of view, it did provide some new opportunities to do things. Or, and most fascinating of all; you may find that actually there were some pretty good works being done in this field. Then City-Deal just trampled all over it, ruined the good work being done and made everyone so focused on the City-Deal that actually City-Deals made people forget about all the other stuff that was already going on before. Manchester City-Deals thereby thus merely may have reinvented a wheel and took up valuable time that could have been spent better otherwise.

This insight that one can hold two perspectives holds true for all the other views on the influence of the Manchester City-Deal on shielding, both positive and negative, expressed by the various interviewees.

Those interviewees that hold an overall positive view on the Manchester City-Deal policy ability to shield sustainable innovations; mainly mention the benefits of devolution coming along with City-Deals. In their opinion it is profoundly the intangible devolution aspects of the Manchester City-Deal that is helpful to shield sustainable innovations better. These interviewees argue that more localised decision-making powers benefit shielding of sustainable innovations, because the shielding activities can be better tailored towards local circumstances. The Greater Manchester City-Deal for instance included a 'low carbon priority' with three key elements: (Milburn et al., 2015)

- Developing a Greater Manchester Low Carbon Hub as a centre of excellence;
- Establishing an investment vehicle to finance energy efficient infrastructure; and
- Developing Memoranda Of Understanding (MOI) between Greater Manchester and key government departments

The Low Carbon Hub shields low carbon measures that fit within five local thematic programmes and would not be delivered under normal²⁹ market pressures. The investment vehicle shields low carbon measures by providing specific sector funding exclusively for

²⁹ Unshielded, non-protected space

measures that help with the electrification of transport. The MOI's³⁰ helped with changing the rules for commercial procurement towards favouring low carbon biddings. The following quote reflect their positive attitude towards the shielding capability of the Manchester City-Deal and the devolution it brings in:

"As part of the first City-Deal, we agreed as a city region to set up a low Carbon hub. So the low Carbon Board Hub is a direct result of having the first City-Deal in place. Also we had a memorandum of understanding with the department of Energy and Climate Change" (LCM-2).

On the other hand, are the more sceptic views towards the Manchester City-Deal. As in line with the insight mentioned earlier, do these interviewees tend to highlight the damage that Manchester City-Deal has done to the pre-existing system.

This previous system, as multiple interviewees explain, was primarily based on the predictable grants from central government and spent on what the local councils perceived as local needs. (See also the link with Section 6.1.3 "The influence of changes in local government funding streams"). Manchester City-Deal however made local councils focus on economic growth. This encouraged the local council to spend their money on backing 'non-risky' 'economic winners' such as airports, roads and industry rather than on shielding 'risky' 'economic losers' such as heat-networks, cycling lanes, PV or insulation (LCM-2). Therefore, these interviewees state that the Manchester City-Deal diminished the willingness of local councils to actively shield sustainable innovations that could not guarantee short-term economic rewards.

"We've had the experience where Low Carbon projects had a return on investment. But because the return on the investment isn't as much, as you can get on this project B over here [a non-low-carbon project], which is not even considered a problem, then people will want to put time and effort into project B, rather than this. So it's not the fact that the return on investment isn't there, but it might be smaller than project B. (...)? And I think there has been some examples where we haven't make the case well enough for low carbon investment that will pay back over a period of time. We haven't made the case that it's worth putting in the time and effort" (LCM-2).

"Anything outside of that, that does not provide an economic opportunity or involves the private sector is seen as some socialist, ideal dream, bullocks. And that is for me where the City-Deals are becoming really interesting" (ARM-6).

Interviewees additionally indicate that shielding of sustainable innovations should and could most easily be achieved in Manchester. Manchester they argue; is such a large city that attracts start-ups, academics and innovations no matter what. If indeed a protected place needs to be created in England where sustainable innovations can find fertile ground and protected space, it would be most easily to achieve in Manchester. The following quote illustrates this:

"I would suspect that pretty much none of the city regions are at the moment able to make a decent economic case around sustainable development. So the only one that possible could is Greater Manchester because of where it's at and it's far more developed" (ARM-1).

³⁰ Memoranda Of Understanding

Summary 7.3.1 Manchester City-Deal shielding

Interviewees broadly indicate that the Manchester City-Deal has two sorts of shielding effects. The Manchester City-Deal introduces new and better-tailored ways of shielding sustainable innovations. On the other hand does the Manchester City-Deal do damage to different, earlier existing shielding practices. This negative effect is said to be dominant. Alongside the Manchester City-Deal came considerable devolution and a stronger economic focus for local governments. This devolution appears to have benefited local shielding possibilities, but not necessarily for sustainability related projects. Overall there is not a clear, unified conception on the role of the Manchester City-Deal to shielding practices. It can only be safely stated that some space has been created where other space has disappeared and the net effect is considered to be negative.

7.2.2 Manchester City-Deal nurturing

Scientific literature made clear that policies, such as City-Deal, can enable nurturing activities for sustainable innovations (Verhees et al., 2015). Policy may have this effect through contributing to the organization of **learning** processes within a niche, the formation of deep and heterogeneous **networks**, or the emergence of shared and specific **expectations** (Verhees et al., 2015). The following three sections describe to what extent the City-Deal policy contributed to the formation of (1) shared expectations about sustainable innovation. How those expectations led to (2) the formation of new networks and collaborations and what activities contributed to (3) learning processes.

(1) Expectations

To nurture a niche successfully includes that a promising narrative surrounding the niche needs expansion through the articulation of positive expectations. Additionally, people who are seen as city leaders can make a difference by articulating their future vision. Concerning the general expectations around City-Deals, interviewees are divided. There are roughly two types of arguments to be discovered in their reasoning. The first group of argumentation stresses that City-Deals has finally started to move and is gaining momentum as we speak. The fact that low-carbon expectations are being mentioned in the City-Deal proposals is steadily bringing in a low-carbon discourse, even when disguised in economic terms such as 'green-growth' and 'low-carbon-economy'. Interviewees make the analogy with a Trojan horse:

"I think there is a kind of element of the Trojan horse around Low-Carbon development, which is interesting. What can be kind of smuggled inside, that kind of Low-Carbon discourse? (...) So, even if those changes are incremental, I think they start to change people's expectations, people's norms, people's standards" (ARN-3).

"Everyone seriously wants the city to be more liveable, more sustainable, better air quality, more green space. Its just people are operating in institutional contexts where it's quite hard to make that happen" (ARM-4).

This first group of interviewees, carrying the more optimistic view towards the expectations evolving around City-Deals, places the footnote that change has happened slower than hoped for.

A second group argues that the original City-Deal is never going to set the right expectations around future sustainable innovations. They argue that the focus has been too much oriented at economic gains. Additionally, they hold on to the belief that City-Deals are ever going to work to their full potential on sustainability when they keep their local focus and ignore the importance of a regional scale.

It's one thing to have a vision to show, and another to not let it disappear. It was about positioning and branding, the shit that Manchester is really good at" (ARM-6).

"Why are they not working on City-Deal 2.0? One that puts People and Planet first. One that believes in a green Economy. Then people might get re-energised in sustainability. The current City-Deal does not enthuse people" (ARM-6).

Interviewees also mention that successful leadership in Manchester has played a huge role for setting the expectations around sustainability and thereby nurturing sustainable innovation. All respondents, even those that have been interviewed for the Newcastle City-Deal case, indicate that 'Sir Richard Leese' and 'Sir Howard Bernstein' have been the city leaders of Manchester for so long, that their opinion and expressed expectations have become of great importance to all those actors within the GMCA:

"What came out of my thesis is how central these individuals have been in terms of organizing all authorities. (...) I mean they both held those positions for decades. Having that stability and dominance in Manchester, they are very clear who makes the decisions, how decisions are made, what principles the decisions are based on" (ARM-2).

"Richard Leese is an incredible power in Manchester. If Richard Leese wants something to happen... it probably will. And if he want's something not to happen, it probably won't" (ARM-8).

It has been these exact same leaders that eagerly wanted the City-Deals because it would bring devolution. An increase in devolution they say 'is not an end to itself, but a mechanism for delivering our plans, including those around sustainability'. Richard Leese expressed his look on City-Deals as follows:

"I think the key element of devolution is that now decisions about Greater Manchester are made in Greater Manchester by people in Greater Manchester (...) The ultimate objective is that there should be no decision about Greater Manchester made without Greater Manchester being involved and that's what we're moving towards" (LCM-6).

City-Deals and the accompanying devolution enabled Manchester to put the money where the mouth is and execute their low carbon plans more easily. Manchester City Council stated that it is better to "decide what it is that you want to do, not simply be told by a higher tier what it is you are going to do" (LCM-6). Manchester has been blessed with stability at its top level. Interviewees state that Richard Leese certainly has a personal interest in low carbon innovation, which is beneficial when it comes to nurturing sustainable innovations through expectation setting. City-Deal made their expectations even more important and easier to put to practice.

(2) Networks

Both researchers and civil servants agree with one another on the topic that the Manchester City-Deal has been a stimulating factor in the creation of networks, interaction between organisations, exchange of knowledge about side effects and best monitoring practices. The Manchester City-Deal does a great job in bringing stakeholders together. One quotes summarizes the City-Deal network creation and its influence on protective space for sustainable innovations as following:

"You have seen over time, the environmental strategy team and the council come closer, to the point now, where the policy makers and the politicians understand that actually you know you can do both green stuff and you can be a growing city" (LCM-1).

Interviewees attribute this success to the Manchester City-Deal, broadly because of three characteristics, which are more elaborated on in the following paragraph.

1. There is practically no new money involved in the City-Deal.
2. City-Deals transcends the barrier between the local and National Government.
3. City-Deals increased the use of Declaration Of Intends (DOI)

Ironically, one of the strengths of the Manchester City-Deal situation, is that there is so little money left at public authorities, as a consequence of the austerity measures, that it forces parties to partner up. These bidding parties would normally, when budgets were sufficiently large, compete with one another for a City-Deal tender to fund their individual plans. Now, as there is so little money being offered, parties take the safe route by presenting themselves as unified partners, willing to take on a project in partnership with one another and share the finances. Interviewees remark that though developing partnerships is a huge and lengthy approach, it is currently going on in a quantity that by far wasn't happening before.

The lack of money at public authorities and the little additional money offered by the City-Deal policy forces stakeholders to work in partnerships. This significantly increased the creation of networks. Most interviewees are cheerful and delighted about this effect but there is a worrying side note to be placed:

"There is so little money at public authorities that it is forcing more partnership approaches. (...) That is changing the roles for actors such as universities and large companies. They are engaging on a far more political level than they ever used to. That's interesting. (...) And if everyone [all local councils] were rich enough to fund this, it won't happen like this. It would only be the ones first in queue that would get a bunch of money independently. So I think this is very exciting and far more experimental stuff going on. It's only going on for the wrong reasons and it's not going under the ideal circumstances" (ARM-4).

Indeed, one should be careful to name the many partnerships a blessing, as it is a consequence of the little money that the City-Deal program is offering and the national austerity program. The most logical lesson following from this finding would be that a low amount of money available in devolution programmes increases the amount of network formation. However, network formation might thus be going on for the wrong reasons, while the lack of money may hinder the development of protected space for sustainable innovations in other areas than network formation.

Section 6: showed that the austerity program indeed has some negative influence on the creation of protected spaces for sustainable innovations. Section 9; conclusion and discussion will reflect deeper on this.

The second characteristic attributed to the Manchester City-Deal is that it helps overcome the immense barrier between the local and national level. Interviewees hold the opinion that there is both historical distrust between the two levels and unwillingness at the national level to devolve control. The abolishment of the regional intermediary level widened this gap between local and National Government even more:

"There is national policy and then there is local policy and there is little in between" (LCM-2).

Most interviewees said that the Manchester City-Deal has done an incredible job in overcoming this long-standing barrier³¹. More than ever does the local council feel being heard and understood by National Government as one of the quotes stresses:

"City-Deals have increased the interaction with National Government. They've given us more of a say as national policies have been developed. Particularly those policies that are going to be affecting us" (LCM-2).

Finally, the researchers and civil servants of Manchester feel that new networks have emerged between 'the North' of England where Manchester is and 'the south' of England where Westminster is positioned. The economy of the North struggled with the post-industrial transition. This resulted in large economic differences between 'the south' (rich) and 'the north' (poor). The Manchester City-Deal took all discontents away, given these quotes that describe the new connections that have been formed through City-Deal:

³¹ Interviewees often speak of network development in general, not necessarily in relation to sustainability. However, all interviewees agree that when politicians, firms and researchers come closer together in networks, it is easier to discuss and agree on policies that favour sustainability as well.

"This is what these instruments are. They are ways of creating some sort of fusion between the National and the Urban" (ARM-9).

"I think it opened the door between senior officers within the council and their relationship with officers in central government at the time just before the devolution and the asks were made, there is a lot stronger linkages and connections between officers" (LCM-5).

The third characteristic attributed to the Manchester City-Deal is that it introduced the widespread use of Declaration Of Intends (DOI's). The DOI's helped in bringing stakeholders together and keeping them together in informal networks. It may come as a surprise that such an effect of the Manchester City-Deal has been mentioned by interviewees as one of their strongest assets in negotiating environmental deals within their network. The strength of DOI's lies in its simplicity they state. Instead of a 40-page formalised contract that has passed the legal department, the DOI's were simple and clear-cut, making it easier to form networks. Local government officials appear to value the simplicity of these documents for keeping stakeholders to their environmental intentions. The following two quotes provide an interesting clarification for why these tools have proved to be so valuable for forming networks.

"With City-Deals we found it most successful that we summarized it in 10 key points and actually got the government minister to sign with our leader. That's when we found that that A4 piece of paper was actually an incredible powerful bargaining document. So when we encountered resistance during the implementation phase we're able to say hang on, your government minister signed this off, you can't just say no. (...) Instead of having a 20-page document were people could say 'well you know we're keeping to most of this', we had 10 clear points where we said 'this is our City-Deal' and any time we felt those points weren't being followed, we were able to raise and escalate the issue to a political level" (LCN-2).

"The Memorandum of Understanding was useful in starting a dialogue particularly with the Climate Change directorate" (LCM-2).

(3) Learning

The omnipresence of experimental projects i.e. pilot and demonstration projects that encompass a low carbon component, form important arenas where learning can take place. This research did not collect quantitative data hereon but rather asked the interviewees whether they felt that the amount and scope of experimentation rose or fell after the enactment of the Manchester City-Deal. An interesting finding herein is that interviewees related to the local council experience an increase in space for local experimentation; while those interviewees related to the academia, experienced a decrease in space after the Manchester City-Deal. The following quotes support this notion:

"The commitment to sustainably is relatively weak (...) I mean there are experiments with investment in kind of green technologies and things like that, but it has been at the peripheries of the [City-Deal] agenda setting" (ARM-3).

"So the first City-Deal was basically saying, Manchester wants to act as pilot for national programs. And yeah, we have many national programs that are being delivered in Manchester" (LCM-2).

Both groups of interviewees carry a foremost pessimistic view regarding the influence of the Manchester City-Deal policy on learning practices. The City-Deal brought an even more localised focus to a situation in which the regions were already abolished and Local Enterprise Partnerships were substituting Regional Development Agencies (RDA's). Interviewees indicate that with the withdrawal of the RDA's a lot of knowledge disappeared around green-economy and innovation. Just like City-Deals may have led people to forget about all the other stuff that was already going on, City-Deals may have rushed the

abolishment of the regions, without capturing the existing knowledge that the RDA's had collected over time. Again, Manchester City-Deal thereby thus merely may have reinvented the wheel. The following quote describes this situation and adds to it that even now, the City-Deal – Local Enterprise Partnerships are still not performing as well as when the RDA's were in place:

"I think these City-Deals are picking up a lot of work that was dropped by getting rid of the previously existing RDA's. The [disappearance of the] regional development agencies were a huge blow of knowledge about green-economy and innovation. And I think the UK city-Deals have still not get back up on that previous level and probably can't because it is not regional" (ARM-6).

Interviewees indicate that institutional knowledge is so incredibly quickly lost during shifts of governmental bodies that "There can be someone in the same office who is basically replicating the work that someone did six years ago" (ARM-6).

A promise of the Manchester City-Deal was that everyone who lived, studied or worked in Manchester would have received a full day 'carbon literacy training' by the end of 2013 (Manchester City Council, 2013). This initiative should have stimulated the "environmental understanding, sustainable procurement, consumer choices, and the demand for low-carbon goods and services" (Manchester City Council, 2013 p.31). However, neither The Manchester City Council nor the Manchester City-Deal have been able to deliver. Academics are having a hard time understanding why the local council does not manage to implement such a simple instrument that appears to be a great driver for learning and one that can open up a whole new space for people to find common ground on sustainable topics. See the following quote:

"The target was a million people by the end of 2013. The actual number at the moment [2016] is about 5000. We managed to force the Council to make a promise, a target, that by the end of 2014, 60 of the 96 councillors will be Carbon Literate. And by the end of 2015, they all would. The actual numbers today is about 25 and that number will decrease because some of those 25 are no longer being Councillors over the next elections" (ARM-8).

What is furthermore interesting is that many of the interviewees point to the Netherlands when they are being asked how the council is learning about sustainable practices, during the Manchester City-Deal implementation:

"When we are talking about learning, we look at the Dutch: A post-capitalist way of thinking about sustainability. That not everything has to be market-logics. That there is space in cities for Co-ops, for different economic models. The Chinese Proverb: Allow a thousand flowers to bloom, that is ultimately what a City-Deal should be about. That you should create space for that local, innovative, experiment, testing of logic" (ARM-6).

Summary 7.3.2 Manchester City-Deal nurturing

Interviewees are not unanimous about the influence of the Manchester City-Deal for nurturing practices overall. The Manchester City-Deal has positively contributed to expectation setting by naming low carbon often in its City-Deal. The Manchester City-Deal has been very good in bringing actors together and contributes to deep and heterogeneous networks. Learning processes are currently present, but only after the City-Deal partly caused a huge loss of knowledge by abolishing the regional level.

7.2.3 Manchester City-Deal empowering

Scientific literature states that policy, such as City-Deal, can assist the empowerment of a sustainable innovation under conventional criteria, or assist in the institutionalization of sustainable values and beneficial infrastructure reform (Verhees et al., 2015).

The Manchester City-Deal does not appear to benefit empowerment activities to an extent deemed satisfying to support sustainable innovations. First the City-Deal inadequately changes the socio-technical environment, e.g. institutions, infrastructures, skills and knowledge bases, in ways more favorable to sustainable innovations. Second the City-Deal does not empower sustainable innovations to grow stronger within their niches, to overcome their initial disadvantages. Third, interviewees indicate that the Manchester City-Deal policy did not made them feel more empowered to pursue sustainable innovations because it barely opened up new opportunities. Fourth, interviewees indicate that the discourse around sustainable innovations was even a bit stronger prior to the City-Deal implementation (2010) then it is now.

The small changes that City-Deals caused to the socio-technical environment³² did not lower barriers for sustainable innovations to break out of their niches and become commonplace. The Manchester City-Deals led to two institutional changes; (1) a devolution of administrative power and (2) a devolution of financial responsibility through local tax levying. The City-Deal agenda promised individual authorities greater freedom to develop tailor made policies, inter alia around sustainability. At the same time however City-Deals demanded local authorities to present an economic plan to become self-supporting and financially independent in 2020. These two institutional changes have led to conflicting issues because pursuing sustainability aspirations and economic growth aspirations is problematic for short time horizons. This is because sustainable innovations are often more costly in the beginning than the non-sustainable counterparts and only have an interesting economic payback in the longer term. This, in combination with the absence of a national framework that should have incentivized local councils to work towards their carbon reduction targets, has been unfavorable for sustainable innovations. The priorities for the local authorities have been at creating jobs, growing the local economy and coping with capacity and budget cuts. The following quotes support this notion:

"The policy environment has massively changed and therefore the creation of space at a local level is diminished. 'Put together the fact that budgets have been reduced and the supportive framework is now: expeditious solutions [quick wins], rather than solutions which meet the best practice for Climate change mitigation or materials recovery etc.' (...) So the overall space for sustainable innovation severely diminished" (ARM-3)

"Unless you create some support on top of the economic agenda, it will always be difficult for cities to think in a different way. The low carbon agenda is gone down now. So how do you create that institutional framework that gives [local authorities] the opportunity to innovate while keeping that economic stability when there are conflicting pressures? I think the City-Deal devolution underestimated this fragility of the economy and the struggle to get it to where it is" (ARM-1).

³² Stretch and transform empowerment (Kern et al., 2015).

The City-Deal policy also did not substantially assist low carbon niches in other ways than changing the socio-technical context³³. The Manchester City-Deal policy had the ambition to give extra attention to certain grassroots initiatives or bottom-up movements that favoured sustainable innovations, but failed to deliver. It is unreasonable to solely blame the Manchester City-Deal policy for not delivering the anticipated carbon reduction measures. It should rather be seen as a multitude of factors, policies and events, including national decisions that favoured the empowerment of conventional innovations over sustainable innovations. The following quotes support this notion:

"Where is innovation going to come from? Grassroots, niches etc.? I'm not particularly confident either. Because there is no support for experiments in niches. The council is not interested. There is no atmosphere where small bits of money seep from the local council. There is no institutional support to turn a niche into something more" (ARM-6).

"Where the UK has made decisions about policy, certainly since 2010, I think has mostly been backwards steps. Certainly in things like waste where there had been a tremendously forward looking approach in which I was involved (...) it became very disappointing that since 2010 so many of the developments towards sustainable waste management have been discarded in favour of cheaper cost solutions" (LCM-3).

Overall, interviewees state that the Manchester City-Deal should be looked at as a program or agenda, through which many policy ideas have been formalised that would have been put to practice anyway. The following quotes support the overall notion that City-Deal has not been able to empower sustainable innovations, nor disempowered them:

"Come on in! Bring your investment in! This is the story that decision makers in Greater Manchester are now telling for the last 25 or 30 years. I think the City-Deals is just another version of that story. They are now just telling it to National Government: 'this is what we are doing in Manchester. If you want to demonstrate how to maximise growth in a local economy? Bring your resource here, we will show you!'" (ARM-9).

"If you just take the City-Deal lens, you miss everything that already existed. When things become reframed under a City-Deal, it is essentially the same thing. Depending on how far you want to dig, that came out of another set of problems. It is difficult to determine where this stops." (ARM-9).

Summary 7.3.3 Manchester City-Deal empowering

The Manchester City-Deal has barely contributed to the empowerment of sustainable innovations, but should not be held fully accountable for not delivering up to expectations. Interviewees point out to a multitude of factors and variables in the UK that made it difficult for sustainable innovations to become empowered. Many of these variables have already been covered in the previous shielding and nurturing section. The Manchester City-Deal policy has led to some institutional change, most notably devolution, but devolution might have happened, irrespective of City-Deals. The Manchester City-Deal has not been able to significantly help existing niches to grow stronger. The City-Deal is therefore not considered a form of empowerment for sustainable innovation in Manchester. There is not a clear net positive effect and it is foremost relabelling existing sustainable narratives and green marketing of Manchester.

³³ Fit and conform empowerment (Kern et al., 2015).

7.3 Conclusion Manchester City-Deal

The historical narrative described the specific local context in which the Manchester City-Deal landed. This helped understand why shielding, nurturing and empowering activities took place, but were hardly able to positively contribute to sustainable development. Not only was the national context of influence, but also Manchester's specific local history and culture made it difficult to start creating a more sustainable path. Concerning sustainability; Manchester started off progressively as its City-Deal proposal promised 'green growth': 'measures that would increase Manchester's economy while lowering its environmental impact'. However, as Manchester kept struggling with budget cuts, economically focused national incentive schemes and diminishing human capacity; sustainability gradually moved away from the radar. The Manchester City-Deal did introduce a range of sustainable measures, but focused so much more on economic development that one should question whether the Manchester City-Deal is a sustainable agenda or an economic austerity agenda. Although the Manchester City-Deal policy did positively influence aspects that shield, nurture and empower, it was unable to form a complete recipe for successful sustainable action taking. Interviewees clarified that some 'general' conditions, both at a national and local level, need to be in order before the shielding, nurturing and empowering activities can work to their full potential. Examples of general conditions that bothered Manchester among many others were; A low level of sustainable awareness and commitment of its residents, insufficient human capacity working in sustainability departments and a political culture in which projects that do not provide an economic opportunity are seen as illusional dreams. Therefore it can be concluded that although the Manchester City-Deal did lead to some shielding, nurturing and empowering activities, there are other factors that interfere with the creation of protected spaces for sustainable development. Table 5 summarises this complete section with a list of positive and negative Manchester City-Deal effects. Section 9 will discuss these results further.

Table 9: Effects of the Manchester City-Deal policy, that are of positive, neutral or negative influence on protected spaces for the development, implementation and up scaling of sustainable innovations.

Influence on development of sustainable innovations	Manchester City-Deal policy influencing protected space for sustainable innovations.
+	The Manchester City-Deal made the local council come in closer contact with National Government. This eased the dialogue on sustainability. Manchester is now better able to express their tailored wishes for local sustainable action taking.
+	Interviewers can point to several specific shielding, nurturing and empowering activities that have at the least been accelerated by the Manchester City-Deal.
+	Intra-city collaboration between various local authorities, knowledge institutes and NGO's increased. Manchester is now better able to align stakeholders for local sustainable action taking. There is no mentioning of increasing inter-city collaboration.
-	The City-Deal enables Manchester to retain parts of its local business revenues. This made Manchester council focus on traditional, proven ways of growing the economy. At the same time Manchester council moved away from investing in risky sustainable technologies.
-	City-Deals came along with the abolishment of the Northwest region. According to interviewees are sustainable measures often best implemented at a regional scale as it provides scale & capacity, circumvents the free-rider and non-exclusion effect. Manchester now needs to work together with other cities to take over the role of the region, but this proves to be troublesome for the overburdened local councils.
-	City-Deals increase the devolution of finance. Local councils state that they are better able to get value for every dollar than the National Government can. However, local councils are currently allocating very little money to sustainability.
-	Devolution of responsibility. With the devolution of initiative, tasks and finance, also came increased responsibility, transforming the local level from a 'spending machine' into an 'earning machine'. The role of the Manchester council then shifts from spending grant money on the most pressing issues in the city to maximising business rates and minimise spending, which is harmful for sustainable projects.
-	The mind-set of Manchester's population. Both Researchers and members of the local authorities mention that Manchester council has not spend enough attention to sustainable awareness programs for its population and employees. The City-Deals did not include this either.

-	The City-Deal proposal back in 2012 was full with plans that would initiate 'green' growth, but as of 2016, very little has been implemented. While the plans on infrastructure investments and restarting the economy are being executed, the sustainable aspirations are disappearing from the radar.
-	Local councils have to work together in Combined Authorities. To decide on topics that are likely to cause un-equal benefit or pain to the multiplicity of stakeholders, such as sustainability and low carbon measures, was troublesome and caused therefore unnecessary delay.
-	The City-Deals are not as radical and innovative as the official documents from National Government want to make readers believe. A lot of environmental programs already existed and there is no actual new money involved. Existing grants have been taken away and the City-Deal policy merely offers cities the change to earn it back.
-	The City-Deal proposal exhibited a lot of so-called 'green-washing'. At the outside it looked like all measures were meant to lower greenhouse gases and energy use, but meanwhile Manchester systematically increased its airport capacity, roads, infrastructure and businesses centres. Manchester used sustainability and noncommittal low carbon targets in the City-Deal proposal therefore merely as marketing material to attract foreign investors. These foreign investors in turn invested in the most profitable sectors and do not care about local pollution or sustainability as the American, Chinese and Saudi's investors are not (directly) affected by it.

8 Results Newcastle City-Deal

This section analyses the case study for the territorial governance of Newcastle and covers the 'local context' as in contrast to section 6 that covered the 'national context'. First, an historical timeline of local events is presented in Table 10, followed by an historical narrative that sets the events in context. The historical narrative prepares for the results, on how the Newcastle City-Deal has been of influence on shielding, nurturing and empowering activities for the creation of protected space for sustainable innovations in Newcastle. Figure 6 displays the geographic location of Newcastle.



Figure 6: Newcastle upon Tyne geographically positioned within England for orientation purposes.
<https://commons.wikimedia.org/w/index.php?curid=17513514>

8.1 Historical narrative Newcastle City-Deal

Table 10: Timeline of local events in Newcastle that have been found relevant to the development and design of UK City-Deal policy in Newcastle specifically

Year	Events that have been found relevant to the development and design of UK City-Deal policy in Newcastle specifically
1956	The coal mines within the boundaries of Newcastle close until the last one in 2016 (Visitoruk, 2016).
1974	Under the Local Government Act (1972), the City of Newcastle upon Tyne becomes part of the newly created metropolitan county of Tyne and Wear.
1997	Establishment of the North-East Regional Development Agency (RDA)
2011	Establishment of the North East Local Enterprise Partnership (LEP)
2012	Newcastle City-Deal enacted
2014	North East Growth Deal
2014 April	Newcastle establishes a North East Combined Authority.

Newcastle's development as a major city owes most to its industrial heritage and the export of coal. Both Newcastle's work force and the regional economy have been exclusively dependent on heavy industry. The demand for heavy industry and industrial products declined after the Second World War. This decline in industry made an end to Newcastle's booming economy. The demise of the shipyards on the banks of the River Tyne made this very visible.

Interviewees acknowledge that in many ways, Newcastle is still trying to get its economy back on track. Some interviewees argue that Newcastle has yet still not managed to get back to the economic level from before Newcastle lost its steel, coal, shipbuilding and Heavy Industries. Other interviewees argue that Newcastle has been able to re-establish the city as a vibrant and stylish regional capital. Newcastle as a larger region is still going through a multi-decade transition from heavy industries to a more service and knowledge based economy.

The leaders of Newcastle had to find new growth sectors to rebuild their economy, re-educate its workforce, and regenerate the deprived city. Some firms in Newcastle found these new growth sectors at the time in offshore oil and gas. Currently this sector is now trying to transition itself again to offshore wind. Newcastle local council is aware that they are still dependent on a small set of sectors for its economy and workforce. The consequence is that Newcastle has a highly volatile and fragile economic base. The main employers in Newcastle are 'Myrick' the wind turbine blade testing facility, 'Nissan' where the Nissan LEAF is being produced, 'Newcastle hospital', Newcastle University, Durham University and the 'Centre for Life' a life sciences centre for IVF services and embryology (ARM-3). Interviewees summarise the Newcastle situation as:

"It's underdeveloped because there is a loss of industries and for many decades it has just never really picked up despite numerous attempts to regenerate" (ARN-1).

The modern local political landscape of Newcastle underwent a series of important transformations as well to be aware of. These can broadly be divided into four phases of about 10 years.

The first phase starts with the original 'Tyne and Wear' Metropolitan County Council. The County Council has been established in 1974 and lasted until 1986. This time-period is exactly the same for the larger cities such as Newcastle and Manchester because it was national legislation that established³⁴ and abolished³⁵ the County Councils. This combined area consisted out of five metropolitan boroughs: South Tyneside, North Tyneside, City of Newcastle upon Tyne, Gateshead and City of Sunderland. The conservative national leader Margaret Thatcher abolished the County Councils or Greater Authorities, in 1986. Larger cities, such as Newcastle, were foremost Labour led and the Conservative wanted to reduce their power and self-guidance (Monbiot, 2016):

"The coherence as political entities was removed. They were all Labour and they were too much of a threat to the conservative government" (ARM-3).

The second phase arises when, due to the abolishment of the Tyne and Wear County Council; the former 'boroughs' became five unitary authorities. The necessity to co-ordinate certain services such as transport, police, ferry and tunnel services over area's larger than individual unitary authorities, led to the situation that Newcastle actually established joint bodies. Newcastle however was only allowed to install loosely organized bodies without strategic powers, in order to abide by the rules of National Government. Interviewee's state that many aspects of working together were forgotten during this period.

A third intermediate phase arises with the return of the Labour party to national power in the late 1990's. This period is characterised by more regionally based governance structures; formally known as RDA's. The transition from the first to the second phase was primarily a fractioning of Combined Authorities to smaller unitary authorities. The transition from the second to the third phase however did the opposite and brought a larger area together; the 'North East Region'³⁶ is introduced. Newcastle upon Tyne is the largest city in the region and acts as the single point of contact for the government towards the region. The 'North East Region' should not be mistaken with the 'North West Region'³⁷, which is the region to which Manchester belongs

The fourth phase starts with the coalition government coming to national power in 2010. The new National Government abolishes the regional tier of governance; the Regional Development Agencies and introduces policy initiatives such as City-Deals, Local Enterprise Partnerships (LEP's) and Combined Authorities. Combined Authorities are 'additional

³⁴ Local Government Act 1972.

³⁵ Local Government Act 1985.

³⁶ This region consists out of the former Tyne and Wear Metropolitan County, Northumberland, County Durham and Tees Valley.

³⁷ Manchester belonged to the Northwest region and Newcastle to the Northeast region. There were 9 regions in total. The other 7 regions being: Southeast; Southwest; East-Midlands; East of England; West Midlands, Yorkshire and the Humber; London.

integrated institutional arrangements enacted by statutory instrument at the sub-regional level' (European Commission, 2013). LEP's are voluntary partnerships between local authorities and businesses (Deas, 2013). All concepts have been introduced in 2011, but it took Newcastle far longer than other cities to actually adopt the concepts. For instance, Greater Manchester was the first group of authorities to establish a Combined Authority: the GMCA in 2011. The Manchester Local Enterprise Partnerships³⁸ was established after the enactment of the combined Authority. Whereas in Newcastle (The North-East) it was the other way around. Newcastle established its Local Enterprise Partnership in 2011 and a Combined Authority in 2014. That difference has been important in terms of working relationships in the North East. So, in Manchester the LEP is very much seen as a subset of the Combined Authority, so it is the council leaders and the local authorities that have the power and it is the business interest that shape and inform on a subsidiary level. While in Newcastle and the North-East, because their LEP was established first, it is not clear who makes the decisions on what, and who should take decisions (ARN-2). Interviewees communicate the situation in Newcastle as:

"That fractioned relationship is played out in the media. There has been lots of fall-out, questioning people's legitimacy to take decisions. This is something that has been heavily criticised because it does not help building a relationship and a reputation with government to take on additional responsibilities. They are: look at these people in the Northeast; they are fighting all the time. It does not create the right one-block. It's this whole thing people say, if I want to speak with the North-East, who do I call?" (ARN-2)

8.1.1 Most recent Newcastle City-Deal developments

The ease with which Manchester was able to regroup itself does not apply to Newcastle. Manchester has always been a trailblazer, but it took Newcastle over 3 years to agree on the formation of their Combined Authority (Legislation.gov.uk, 2014). National Government eventually had to lurk Newcastle into forming a Combined Authority by promising an even greater devolution of funds and powers through the City-Deal: *"Government commits that, if the North East chooses to establish a Combined Authority, it would be regarded as a strong platform for further devolution of funding, powers and responsibilities to be delivered"* (Wave 1 Newcastle, 2012 p.15). One interviewee summarizes the situation as:

Both Manchester and Newcastle are in the North. They both have an industrial past. There are similarities, some of the challenges they fought, the Northern powerhouse, policy context. But they formed and performed alliances very differently" (ARN-2).

Interviewees state that the Newcastle City-Deal is a bit different from the other seven City-Deals. Its position and related circumstances in the far North make Newcastle stand out from other cities. This is often in negative ways. *"The city faces a number of economic and social challenges. The labor market continues to endure the legacy of inter-generational unemployment, a disproportionate number of young people not in education, employment or training, and a workforce, which does not meet all the needs of the business community* (Wave 1 Newcastle, 2012 p.4). Newcastle therefore wanted to get very specific things out of its City-Deal. Newcastle is situated in a very bad position to bargain with National

³⁸ One of the 39 Local Enterprise Partnerships in the UK.

Government as it (still) has little to offer. In fact, Newcastle's strongest asset is to threaten National Government by stating that it needs help now or otherwise the situation will only become worse and costlier. An interviewee describes this cramped situation as:

"I think it's a different set of arguments being made in Newcastle. Not so much as saying, 'we are here ready do it.' But more to say: 'If we don't do it, this population is very much at risk.' It's more the consequences of the lack of investment. (...) Newcastle and the surrounding region have some of the lowest health outcomes in the country and also, they used that long time history of deprivation and life expectancy and health outcome to kind of push government money towards the Northeast. Whereas Manchester has a much more vibrant economy and a much more diverse economy than in the North East" (ARN-3).

"Newcastle has a very different situation. It is not as good in selling itself as Manchester. It is also much smaller in terms of population, it doesn't have a lot of the arguments that Manchester has up its sleeves" (ARN-3).

The difficult circumstances in Newcastle led City-Deals focus on two important issues. The first issue is that Newcastle is not, and has never been, attractive for higher educated people to live or work. This group of people may even have been educated at Newcastle or Durham University, but once graduated, they move down south:

"Newcastle, even if it has a high income workforce, those people are not necessarily living in the city. So, we are trying to attract people into the city and that's what the key sites developments are about. (..) But even still it's very unusual for our graduates from this university to live and work in the region. They move. I am relatively unusual in terms of moving from the South of England to live here" (ARM-3).

According to the Newcastle City-Deal, this sub-group of high-educated people though is required to be present in Newcastle for economic development and bring sustainable innovations to market. *"It is vital to the strength of our economy that residents develop the knowledge, qualifications and employability skills necessary to succeed in the labor market. A strong skills base is vital for promoting the growth of our key sectors – some of which are currently citing skill-shortages as a constraint on growth. (...) We will set up a 'Skills Hub' to promote employment, career progression, apprenticeships and skill choices for individuals and firms in Newcastle and the surrounding area" (Wave 1 Newcastle, 2012 p.9).*

The second issue is the development of land. Whereas other cities experience a shortage of available land to develop, Newcastle owns lots of areas that it wishes to see developed; preferably by foreign investors. The paradox is that Newcastle as a whole is not attractive enough for investors to make a satisfying return on investment. The importance of tailor-made City-Deals becomes clear from the following quote on land development:

"London and the South East place emphasize on liberalizing the planning system to make it easier to bring forward more land for development. But that's not really an issue for us. We have got lots of land that we would like to see developed, we just don't have the ways to get the land to the point where a developer gets an economic proposition for the land to be brought forward, so that would be an example of when special policy is not really meeting the needs of the county" (LCM-4).

Interviewees state that there are two important issues that make Newcastle economically unattractive; the low skill base and the narrow commercial segments available. Interviewees indicate there is a mutual relationship between education, skills and employment availability that can strengthen or weaken each other: More highly educated people will attract more high-end businesses; more high-end businesses will attract more high-educated people. The current situation however is overall weak with little high-educated people and little high-end businesses. Second there is a relationship between the

attractiveness of the city and the willingness of investors to develop its land further. A more attractive city will attract more investments; more investments will make the city more attractive. Together these variables are able to bring Newcastle in a downward or upward spiral. Under the header of the City-Deal, Newcastle is going to work much closer with Newcastle University to develop underused areas, aiming to get into that upward spiral: *"The aim (...) is to unlock growth across the urban core, returning the area to its pre-recession economic trajectory, which had seen more rapid employment growth in Newcastle than any of the other core cities"* (Wave 1 Newcastle, 2012 p.5)

"The university is a very big player in how all this is working out in terms of land development, because it's right next to the city. But it was the only actor who really wanted the land. They have invested 56 million in it so far. And everyone knows where they got this money from" (ARN-3).

The cornerstones of the Newcastle City-Deal are:

- To create a Newcastle-Gateshead Accelerated Development Zone (ADZ) to unlock city centre growth.
- A Tax Increment Financing scheme to ring-fence business rate income and retain them locally
- Improve employment, housing, congestion, and broadband Internet coverage.
- "To establish Newcastle as a low carbon Pioneer City, working in partnership to deliver its smart city ambitions and carbon reduction target of 34% by 2020. The city will demonstrate good practice, and will receive support in accessing national and European funding, including Green Deal and heat network initiatives (Wave 1 Newcastle, 2012 p.3).

8.1.2 Summary historical narrative Newcastle City-Deal

This narrative on Newcastle outlined part of its local history, local politics and has set out in what realm of thought the city leaders have made local political choices. All of this has shaped the landscape for the Newcastle City-Deal to land in. Newcastle's reputation originates from its history in heavy machinery and engineering. Deindustrialization forced the city leadership to find new growth sectors. This has been complicated however because Newcastle is considered to be unattractive for and by investors, land developers and highly educated people. The Newcastle area is trying to get back into an upward heading economic spiral. The 2010 national coalition government made this more difficult by imposing large budget cuts to local authorities. The National City-Deal policy on the other hand offers Newcastle an opportunity to come up with new ideas that can unlock economic growth. Newcastle's City-Deal proposal is foremost aimed at increasing economic growth levels. The following section will delve deeper in the issue how the Newcastle City-Deal has been of influence on the creation of space for sustainable innovations in the urban environment.

8.2 Newcastle shielding, nurturing, empowering

This section presents the results of implementing City-Deal policy in Newcastle.

Newcastle agreed on a City-Deal with central government in 2012. A report on the 'Fiscal Devolution to Cities and City Regions' states that this package of agreements should provide Newcastle with greater powers and freedom to pursue their ambitions (O'Brien et al., 2014). One of the ambitions agreed on is "to establish Newcastle as a low carbon Pioneer City and reduce carbon emissions by over 34% by 2020, from 1990 levels" (Wave 1 Newcastle, 2012). The Newcastle City-Deal assumes that the carbon reduction target will go hand in hand with their existing primary industry sectors as it will "secure a further £500 million in private sector investment into the marine and offshore sector, with the potential to create 8,000 jobs across the North East" (Wave 1 Newcastle, 2012 p.7). Newcastle will create this pathway as City-Deals will set Newcastle 'free from the constraints of a one-size-fits-all national policy' (Wave 1 Newcastle, 2012 p.2). Newcastle will back strong local leadership to make the most of these opportunities, to secure a working city, within a strong and prosperous region. The following sections will present the results from interviews and review reports as to whether the Newcastle City-Deal program indeed contributed to the creation of protected spaces for low carbon and sustainable innovation.

The indicators for the analysis of the results have been covered in Section 2.3 'The role of policy on shielding, nurturing, empowering'. Appendix A presents the full list of indicators being used.

8.2.1 Newcastle City-Deal shielding

The Newcastle City-Deal started off with an explicit ambition for shielding sustainable innovations. The Newcastle City-Deal proposal included several commitments “to establish Newcastle as a low carbon Pioneer City” (Wave 1 Newcastle, 2012 p.7). Newcastle wants to receive national support measures for its low carbon, energy, marine and offshore sectors. It states that Tyneside has the potential to become one of the premier locations in Europe for advanced offshore renewable engineering (Wave 1 Newcastle, 2012 p.7). Newcastle City-Deal also states that it wants to support the electric vehicle sector by investing in the best electric vehicle-charging infrastructure in the country. At last the City-Deal has the objective to sustain and create green jobs, support local small and medium sized businesses, implement higher than usual building standards and drive public awareness on energy usage (Wave 1 Newcastle, 2012). So in theory there was good hope that the City-Deal would have a positive influence on the shielding of sustainable innovations. It explicitly mentioned that money was going to be invested in low carbon sectors. Especially offshore wind and electric vehicle segments would enjoy preferential treatment (Wave 1 Newcastle, 2012 p.8).

The low carbon aspirations have probably not solely been included in the Newcastle City-Deal proposal for environmental reasons because there are obvious economic incentives for Newcastle as well to mention a preferential treatment for these sectors. First there is already a strong base of offshore oil and gas sectors in Newcastle that are currently in despair due to the low oil prices. They understand that their knowledge, equipment and employees can very well be adapted towards installing offshore wind parks. Newcastle is also very prone to keep Nissan, its largest employer, satisfied. Therefore, Newcastle is bringing the electric vehicle infrastructure into the North-East of England. Aside from London, Newcastle already has the highest development in charging infrastructure (ARN-3). Secondly Newcastle seems to lack sectors that normally feel threatened by low carbon policy or lobby against it. The following quote sums this up:

“I think that maybe one of the reasons why the Low-Carbon economy is on the agenda, those offshore businesses are seeing their economy change from oil and natural gas toward this wind. And we have something called Myrick, which is new and renewable energy testing facilities, of the coast of Newcastle. And Nissan, you know they’re making the leaf here. Newcastle then pioneered the electric vehicle-charging network, (...) but that’s done in partnership with Nissan to keep Nissan here. So there are parts of the economy that get caught up in a broader Low-Carbon transition of which the city Council is aware. It doesn’t have any business sectors, which are opposing Low-Carbon transition. We don’t have the equivalent of SHELL in Amsterdam saying ‘hang on a second” (ARN-3).

The lack of opposing industry segments could also imply that shielding activities are by definition less required in Newcastle. Fact is that the Low Carbon transition would fit Newcastle’s current industry sectors very well as the following quote sets out

“We’ve got a very strong offshore sector, all be it one that’s sort of at the moment anyway more geared towards high carbon not low carbon in terms of oil and gas. But one of the things we’d hope for with the city-deal was that there would be some opportunities to turn those economic assets into areas that could take up offshore wind and things like that. Offshore wind in the UK to be honest: ‘things don’t happens as fast as we had hoped for” (LCN-2).

Interviewees state that in practice, very little of the original low-carbon ideology has come off the ground, even now after six years:

"It's quite difficult to find something that's specifically on the Low-Carbon. Even though it's quite prominent in 2012, where is its prominence now? Because it's all about business investment" (ARN-1).

Both the academics as those connected to Newcastle local council blame predominantly the National Government for Newcastle not being able to implement low-carbon measures. Interviewees provide two main reasons. First, National Government has been pretty lukewarm in reacting to Newcastle's low carbon aspirations voiced in their proposal (ARM-3). Second, the national austerity program has taken the capacity away in the local council to work on anything else then delivering their primary services (ARN-2).

National Government, at that time led by David Cameron, declared that they believed in 'big society', as opposed to 'big government'. The idea behind this is that society should do things for themselves, without the helping hand of National Government. 'Allowing charities, social enterprises and companies to provide public services, devolving power down to neighbourhoods, making government more accountable' (Cameron, 2010). It was a way of trying to ensure the public good whilst reducing the size of the state. National Government thereby framed everything around a discourse that stressed a commitment of society itself, a commitment of private companies to deliver public needs and a withdrawal of any government intervention. The shielding of sustainable innovations that the City-Deal proposed however was very much a typical governmental market intervention on a sectorial scale. The framing of Low-Carbon shielding ambitions by Newcastle city council in specific sectors did not resonate well with the conservative government. There was therefore limited support.

The reduced capacity due to the large budget cuts in cities such as Newcastle forms another important reason why Newcastle was not able to deliver the desired low-carbon results. The understaffing of Newcastle's local council became particularly evident during data collection. Firstly, academic interviewees warned that it would be very difficult to speak with people that are affiliated to the Newcastle council. Secondly, those few people that indeed responded positively to the request, indicated to have very limited time available and could only meet for half an hour. Thirdly, when the interviewees were taking place, interviewees indicated they were too busy getting the most important work done and try to save their selves from being next in line to get fired. There was very little time available for issues such as sustainability.

There simply aren't many examples where the City-Deal process has shielded sustainable innovations or held back opposing stakeholders in Newcastle. Those interviewees that have been able to react to the impact of the Newcastle City-Deal on shielding sustainable innovations even sounded downhearted:

"I don't want to pretend to you that the low carbon sustainability part was the major part of City-Deals and certainly it was probably one of the areas in City-Deal that we found hardest to progress with National Government" (LCN-2).

"We were hit very badly by the recession and the financial crash. We started to coming out of that and the priority has been about jobs and employments" (LCN-1).

"I think it's just really slipped off the agenda. If you imagine the council in terms of people who are employed; it just shrunk! So what can they do? They've got less money and less people, but they've still got this population to look after. So what're they doing? They're going to the core, what's most important for day today living. (...) Because things are so bad for everyone, things like low-carbon, sustainability is gone from the agenda" (ARN-1).

Summary 8.3.1 Newcastle City-Deal shielding

Interviewees broadly indicate that the Newcastle City-Deal possessed strong shielding initiatives during the time that Newcastle formulated its City-Deal proposal. In subsequent years however, little has been implemented. National Government did not react enthusiastic to Newcastle's proposal on low carbon measure taking and the austerity cuts diminished the capacity at the local level to implement the shielding policies themselves. Now, six years later, not much has changed except some shielding measures towards the most important employee in Newcastle: Nissan's electric LEAF production plant. The Newcastle City-Deal therefore did not significantly influence shielding activities for sustainable innovations.

8.2.2 Newcastle City-Deal nurturing

The following three sections illustrate how the Newcastle City-Deal policy may have influenced nurturing activities for sustainable innovations through: the emergence of shared and specific (1) **expectations**, the organization of (2) **learning** processes within a niche or the formation of deep and heterogeneous (3) **networks** (Verhees et al., 2015).

(1) Expectations

Concerning the expectations around the Newcastle City-Deal, interviewees are broadly optimistic. Their optimism may come as a surprise given that the previous section concluded that there was lots of ambition for low carbon initiatives, but little has been realized. The interviewees in Newcastle however indicate that inhabitants have been acquainted with a situation where poverty, low life expectancy, high unemployment, energy poverty and the feeling of not being heard are deeply ingrained since the 1980's. The situation has never been prosperous or promising so expectations are naturally low. City-Deals they believe, is indeed progressing far slower than they had expected to, but:

"Even if these changes are incremental, I think they start to change people's expectations, people's norms, people's standards (...) So we've changed the building standards. We changed how the road is given to bicycles in our planning I mean, they're all small changes. But over time, they start to change how it is that we see where the point of urban development is" (ARN-3).

Interviewees indicate that although the past performance of the Newcastle City-Deal has been low, they keep their hopes up for a more prosperous and sustainable future. The low carbon component in the City-Deal have made it possible to set bolder expectations than previous kind of discourses could. Interviewees indicate that finally; the expectation setting is not just around low carbon for the sake of sustainability, but has been set around resource efficiency. Resource efficiency usually saves money, which usually leads to other kinds of co-benefits, which the other discourses weren't able to create. Therefore, the local council is advocating it. Interviews indicate that it would be very difficult to forget the low carbon component, since the local council has so profoundly articulated its importance:

"Think of this as a process that is happening. City-Deals is one big process. The local growth deals for example are 6-year projects. (...) We only have relatively small amounts of money, but we put packages of bits together. If Central Government says that Climate Change is not important anymore then that incentive might disappear. (...) So what I am outlining is that it is a complicated, multi-level issue where the global policy on low carbon is being implemented by national regulations and it is at the local level where the innovation is coming from and the thinking is happening" (LCN-1).

Whether all the positive expectations on low carbon in Newcastle can be attributed solely to the City-Deal policy is unsure. One interviewee made a very interesting analogy. She compared the incremental changes happening in the low carbon sector, with a gearbox. "In a gear system, when you turn a gear one notch, the next gear will have to move as well, and the next, and the next etc. Therefore, even incremental changes take a lot of time, but in the end, the overall pattern has slightly changed from what it would have been before. This analogy she states, 'goes up because sustainable innovations are positioned in a wider context. She is unsure however whether:

"It is that the City-Deal gear is being shifted by another gear somewhere else, or maybe it is the City-Deal gear itself, which is shifting the other ones? And that's the question" (ARN-3).

Interviewees indicate to be unsatisfied with the leadership in Newcastle and the former Northeast region:

"There has been lots of fall-out and questioning people's legitimacy to take decisions. It does not help building a relationship and a reputation with government to take on additional responsibilities. They are: look at these people in the Northeast; they are fighting all the time. It's this whole thing people say, if I want to speak with the North-East, who do I call?" (ARN-1).

So, although promising expectations have been set during City-Deal negotiations, is it difficult for local officials in Newcastle to maintain the expectations as City officials are not taken seriously and it is unclear who makes the decisions on what. This not only hinders expectations setting aimed towards citizens but also the ability to sell their sustainable ambitions to National Government. Their lack of legitimacy makes it harder for Newcastle to take on additional environmental responsibilities. This is a key difference between the North East and Greater Manchester where leadership has been considered one of their core strengths.

(2) Networks

The Northeast lies far away from central government, not only geographically but also political. Interviewees in Newcastle argue that central government is unaware of the bitter situation in 'the far North'³⁹. Through the City-Deal making process however, the council has managed to speak more directly with Central government. This did speed up the work on various topics, including sustainability, by a factor three (LCN-2). The Newcastle City-Deal is considered a stimulating factor in the creation of networks, interaction between organisations and bringing stakeholders together. The following quote summarizes the City-Deal network creation and the influence on protective space for sustainable innovation as:

"In Newcastle, we are relatively far from London and you know; to be blunt, a lot of civil servants there [in Westminster] you know, make decisions but are not familiar with the challenges and opportunities that we have. Through a City-Deal process we managed to take a bit of shortcuts around project development (...) And that only came because of a greater recognition and understanding within government about the challenges here and what needs to be done" (LCN-2).

Newcastle's City-Deal proposed that it would be beneficial; economically, socially and environmentally, to develop unused or degraded urban areas (Wave 1 Newcastle, 2012). The Newcastle council therefore partnered with the university to collaborate and form a network on the issue of sustainable land development. Many areas in Newcastle faced a number of obstacles that inhibit further development. The university was promised that it could build a new campus in a preferential area, if it would help in planning, designing, connecting and spatially arranging the wider area that needs development. It is a bit shady though how this cooperation works as the university has already invested 56 million pounds in the development of the land, while land development is not considered the primary role of a university:

Interviewer: "Newcastle University is going to regenerate the whole area, but it's also going to build its campus into the area. So it has interest."

Interviewee: "It is doing that yeah; it's acting like a property developer too" (ARM-4).

³⁹ The North-South divide in England is not an exact line but refers to the cultural and economic differences between Southern England and Northern England. Manchester also belongs to 'the North' but Newcastle is positioned in 'the far North'.

This brought up some more interesting insights on how City-Deals have changed the previously existing network structure, based on the hierarchy of; central, regional, local, towards a situation that interviewees consider to be less transparent. The direct network formation between the local level and the central government seems to be a welcomed change, certainly by the local councils, but academics bring up the point that this may lead to backroom politics and a more disadvantageous setting for sustainable development:

"Politics has changed as well through City-Deals. Were before there was hierarchy, now with the devolution the relationship between cities and treasury became much more secretly and closed and governments didn't want cities to discuss things that have been discussed with other cities." – (ARN-2)

The fact that interviewees indicate that they feel that City-Deals has led to more secrecy and closed networks is an interesting point as the whole City-Deal agenda was set up around an ideal of greater transparency (National Audit Office, 2015). This effect is therefore of concern.

(3) Learning

Learning processes are crucial for successfully nurturing sustainable innovations. Experimental projects i.e. living labs and demonstration projects that encompass a low carbon component, form important arenas where learning can take place. In Newcastle however, interviewees state that neither experimental projects around low carbon, nor lots of learning processes have taken place.

Interviewees in Newcastle were not able to mention grass root initiatives or explicit learning activities taking place. There have been some experimental initiatives that started off with good intentions such as the "Transition Town Initiatives" and the "Combined Heat & Power Experiment". However, interviewees state that nobody kept pushing it. This has mainly to do with the lack of capacity in the local council that has been mentioned before. For example, the 'Transition Town Initiative' was rolled out from a national platform and should have delivered many protected spaces for bold, radical, sustainable ideas (ARM-3). Interviewees argue, that this program has not been picked up sufficiently by the local council because Newcastle is not in close relationship with its citizens. Therefore, those communities that did want to participate in such sustainable initiatives became lost. The following quote describes this:

"There are local governments who work very closely with their communities. (...) One of the reasons why Bristol is such an innovative city around sustainability is because it really works with its community stakeholders. Which I think is very different from Manchester and Newcastle. Which are more patriotically in their conservative power, more old-fashioned in their approach to local governments. That makes a difference in culture of politics" (ARN-3).

The 'Combined Heat & Power Experiment' in Newcastle is a similar example where the intentions have been good but implementation has been lacking behind. Newcastle always had a history of poverty, but also poverty related to energy poverty. It was the first city in the UK, where charity addressing energy poverty was established (ARN-3). Therefore, Newcastle realised how important energy security can be and embarked on a series of plans to put a combined heat & power systems in place while keeping municipal ownership. The City wanted such a system since the 1980s but failed to deliver ever since. The Newcastle City-Deal was just another policy program for the council through which they hoped to deliver their long existing heat network aspiration. And as interviewees state:

"Now, how successful that's been on the ground is another kind of question. (...) So the City-Deal in that context, is it anymore Low-Carbon or energy focus then the other projects, and in what ways is it differently so?" (ARN-3).

Summary 8.3.2 Newcastle City-Deal nurturing

The Newcastle City-Deal started out with boldly formulated ambitions around sustainability. Interviewees are convinced that the low carbon discourse will stick around this time. Some interviewees question whether it is only the City-Deal program that is contributing to the optimistic expectation setting around sustainability, or whether expectations are changing irrespectively of City-Deal policy effects. The Newcastle City-Deal process increased the formation of networks. Especially networks between local councils and central treasury. City officials welcome this development. Academics however sense a worrying effect of increased backroom politics coming along with the increase in networks. There are not many learning processes taking place in niches for sustainable innovations. The initial aspirations are high, but realizing these aspirations is lacking behind.

8.2.3 Newcastle City-Deal empowering

Policy can assist the empowerment of sustainable innovations under conventional criteria, or assist in the institutionalization of sustainable values and beneficial infrastructure reform. The Newcastle City-Deal however has not significantly empowered sustainable innovations in the Newcastle area nor has it changed the institutional context more favourable to proponents of sustainable innovation. Interviewees are loudly questioning whether the City-Deals are 'just mirroring what's going on already, or are they introducing new elements into the mix?' (ARN-3). Interviewees do think of 'City-Deals as a significant change in the way the UK is governed', but not in those areas that they deem beneficial to further empower the niches of sustainable innovations (LCN-1).

There may be one form of Empowerment that City-Deals have slightly contributed to. The City-Deal policy namely helped the Newcastle council to partly institutionalize sustainable values in the city environment. The fact that the City-Deals explicitly mentioned Newcastle as a low-carbon pioneering City created a buzz that interviewee's belief will stick around. Interviewees mention that before 2010, the local council always had to take the lead when it came to sustainable proposals and that only very recently, in late 2016, they noticed firms taking the initiative and asking the City Council to support them in their sustainable ambition.

When interviewees were asked whether the Newcastle City-Deal contributed to the empowerment of sustainable innovations they generally state that City-Deals have thus far not delivered as was anticipated for, but immediately express their optimism and hope for the future. Interviewees furthermore state that, as austerity measures will diminish, the long-term, future oriented dimension will return and City-Deals can truly assist the empowerment of sustainable innovations (ARM-1). But for now, it is still a lengthy process that has not yet delivered up to expectations.

Summary 8.3.3 Newcastle City-Deal empowering

Newcastle is trying hard to profile itself as a city that has reinvented itself after decades of decline and decay but is still the underdog in comparison to the other City-Deal cities as economic growth is very fragile and the region relies heavily on the national grant scheme. The City-Deals are momentarily not empowering sustainable innovations, simply because there is too little shielding and nurturing activities going on for empowering to be relevant. Still many contextual factors are problematic. Leadership is weak and austerity still present. Most interviewees and the general population of Newcastle stay positively minded towards the future. They argue that the Newcastle City-Deal has created a narrative around sustainability that will stick around.

8.3 Conclusion Newcastle City-Deal

Table 11: Effects of the Newcastle City-Deal policy, that are of positive, neutral or negative influence on protected spaces for the development, implementation and up scaling of sustainable innovations.

Influence on the development of sustainable innovations	Argumentation for why the Newcastle City-Deal policy was of positive, neutral or negative influence on protected spaces for the development, implementation and up scaling of sustainable innovations.
+	Newcastle council intensified its network with treasury and National Government due to the City-Deal. Newcastle can now better express their tailored wishes for local sustainable action taking.
+	Newcastle's City-Deal proposal mentions a potential to transition its offshore oil and gas to offshore wind. This sector is also interested in a gradual transition and there are no real opposing sectors in Newcastle that have a stake in remaining a fossil fuelled economy
+	City-Deals intensified intra-city cooperation and Public-Private-Partnerships. The presence of the largest multinational firms has been secured by implementing long-term sustainability measures that increased the efficiency of these firms.
0	Newcastle officials experience an increased sensation of backroom politics influencing decision-making in the wake of City-Deal making.
-	City-Deal policy took away Newcastle's existing grant system for funding and had to prove economic growth in order to make up for this loss of financials. Newcastle thereby lost the enthusiasm to invest in less economically attractive sustainable alternatives.
-	City-Deals came along with the abolishment of the Northeast region. According to interviewees are sustainable measures often best implemented at a regional scale as it provides scale & capacity, circumvents the free-rider and non-exclusion effect. National Government did not belief in the proposed sectorial support measures that Newcastle beliefs are necessary for sustainable action taking.
-	Newcastle's City-Deal proposal proclaimed that Newcastle would be pioneering on low carbon. Newcastle however has very few grassroots organisations or sustainable institutions present to get things starting.
-	City-Deal policy devolved new tasks to Newcastle council without additional resources to hire extra staff. This decreased the capacity in terms of FTE to work on sustainability and environmental measures.

9 Conclusion and discussion

The Netherlands is developing a policy agenda around the future of Dutch cities, known as 'Agenda-Stad'. This policy program is founded on the perception that governance is considered to be more efficient and have greater impact in urban environments, than similar governance being implemented at a national level. In particular, a lot of attention is concerned with the role of innovation for sustainable urban development. However, so far it is unclear how Agenda-Stad is going to create 'space' for urban sustainable innovations to bloom.

The UK National Government launched a similar policy program back in 2012 called 'City-Deals'. This policy also devolved power and finance to local leaders to shape their economic destinies, boost entire regions and work towards powerful, innovative cities. This research rests on the idea that the Netherlands can learn from experiences in the UK. The main research question was: *"How is the English City-Deal policy of influence on the creation of 'protected spaces' for sustainable innovations and what are lessons to draw for the Dutch 'Agenda-Stad' in designing their policy program?"* This question is addressed through an analysis of the national UK context and two case study cities (Manchester and Newcastle). The following conclusions can now be drawn.

The main conclusion is that the City-Deal policy in the UK did not directly contribute to the creation of 'protected spaces' for sustainable innovations, not the least because of contextual characteristics in the UK. A key contextual characteristic is that the UK City-Deal policy seemed to be a low carbon agenda from the outset ('sustainability', 'low carbon' and 'innovation' are much repeated terms in many UK press releases), but the purpose of 'short-term national economic growth' became a lot more prominent throughout the process of developing City-Deals. The National Government considers cities as 'engines of growth', not as 'engines of sustainable innovative solutions'. Consequently, local authorities framed all their City-Deal measures and aspirations in economically sound terms to please National Government and demonstrate their unprecedented economic potentials. The focus on economic growth was so profound that it displaced the cities' aspirations to lower their carbon emissions.

The second conclusion is that a number of national contextual factors have shaped the potential of City-Deals to support urban sustainable innovation in negative ways. These contextual factors include: (1) A systemic change in the funding mechanism of local government by which a significant part of local government funding has been made dependent on economic growth indicators. Cities thereby lost their enthusiasm to invest in less economically attractive, sustainable alternatives. (2) National austerity and accompanying cutback measures have been devolved to the local level as well. This made local governments return their focus solely on delivering their mandatory public services and decreased their attention and capacity for low carbon action taking. (3) Multiple subsequent changes to the boundaries of administrative spaces in England caused confusion among government officials, which had to re-learn hierarchies and procedures for decision-making. This led to disputes on issues that required much collaboration such as low carbon action taking. (4) England's highly centralised governance system, despite an increased amount of devolution, still leaves cities still at the mercy of National Government. This makes long-term urban policy planning on sustainability difficult for cities as National Government can change every 4 years. (5) UK citizens generally carry a sceptical attitude towards energy saving innovations and tend to overestimate the risks associated with sustainable alternatives. This makes it difficult for local governments to

convince citizens that it is sensible to combine sustainability in policy measures while remaining popular for re-election.

The third conclusion is that the potential of City-Deals to create protective space for sustainable urban development is depending on local circumstances that are specific to each city. In Manchester, the city council has always been Labour. This made for strong local political leadership, but there is no notable political opposition present that question's the strong neoliberal governing. Manchester's innovation and sustainability pathway is hindered by this exclusive neo-liberalism ideology. Anything that does not provide an economic opportunity is considered socialist nonsense. Therefore, even more so than on the national level, did the focus on economic growth displaced sustainability. Manchester and the Manchester City-Deal nonetheless use a lot of sustainability related terms in their communication and narratives. Sceptics argue that this has been done as a marketing strategy, with which Manchester tries to attract foreign investors. Foreign investors in turn, often seek maximum return on their investments without being bothered about the (foreign) environmental pollution. Shielding, nurturing and empowering activities that should have contributed to the creation of protected spaces for sustainable innovations have indeed been positively influenced by the City-Deal in Manchester. However, the City-Deals also trampled over many existing activities happening in Manchester and confiscated attention and resources away from them, thereby doing harm to protected spaces. The specific local circumstances in Manchester have in net effect reduced the City-Deal potential regarding sustainability.

In Newcastle, local officials work hard to get the city back into an upward spiral after de-industrialisation left Newcastle into a state of decline and impoverishment. It is therefore of no surprise that Newcastle's City-Deal is strongly incentivised to deliver economic growth and mentions sustainability as a way to access national and European funding. Although Newcastle tried hard to introduce new service-based growth sectors, its fragile economy is still depending on a very small set of technologies and a few large multinationals. It is difficult for Newcastle to introduce more stringent environmental legislation as these firms can easily threaten to leave the area if regulation would harm their revenue. The one sector that is welcoming sustainability is the offshore oil and gas industry that is native to Newcastle. This sector experiences difficult times due to low energy prices and are therefore very much willing to transform themselves into an offshore wind sector. This can form a great local potential to green the economy of Newcastle. Although promising expectations have been included by Newcastle during City-Deal negotiations (Newcastle as a low carbon Pioneer City), will realization be difficult for Newcastle because its city leaders are not taken seriously by others and it is unclear who makes the decisions on what. This hinders Newcastle's ability to sell their sustainable ambitions to National Government and take on additional environmental responsibilities.

The UK National Government anticipated that the City-Deal policy could both achieve a reduction of climate impact and cut down government spending and boost their economy, all at the same time in a few years. That is as to have best of both worlds. Although a growing economy does not necessarily mean that there is no space for sustainability, the design of the policy and contextual circumstances did leave little room for cities to create protected spaces for sustainable innovations. The design of UK City-Deal had a very strong economic discourse component and corresponding incentive scheme. Together with the specific national and local circumstances was it only destined that the UK City-Deals have been a resounding economic success, but were unable to outspread sustainability in the urban environment. If the UK National Government truly wants cities committed to

sustainable action taking, then the discourse, the narrative, the incentive scheme and many contextual factors surrounding City-Deals needs to be redrafted.

The UK City-Deals experiences can therefore not be used directly to clarify how Agenda-Stad can contribute to the creation of 'spaces' for urban sustainable innovations to bloom. Nevertheless, a number of lessons can be derived from the UK City-Deals to avoid similar unsatisfying outcomes.

9.1 Turning UK findings into Dutch recommendations.

A final aim of this research is to draw lesson and form recommendations from the results of the UK City-Deals for Agenda-Stad in the Netherlands. To do this, the final results and findings have been presented to a board of experts for critical reflection. The methodology section on page 18 describes this process in detail. This section covers 11 discussion points that arose out of the subsequent conversation during these meetings. Each point starts with a finding of the UK research. Then follows how this issue relates in the Netherlands, according to these experts. An optional third part on each discussion point presents the recommendations or lessons for the Dutch situation deduced from the reflections of the experts. The names and functions of the consulted experts can be found in Appendix G on page 131.

1 Economy focus

The overly dominant focus on economic growth at the UK national level has been reflected in the City-Deal invitation to cities and echoed in the proposals. This formed an obstruction for achieving more innovative, sustainable urban areas and restrains the transformative potential of the City-Deal policy.

The focus on economic growth similarly increased in the Netherlands under the influence of the financial and economic crisis after 2008. Economic growth is one of the many goals expressed in the Dutch Agenda-Stad. The dominant focus of the Dutch City-Deals however lies in keeping cities dynamical, innovative and liveable. Cities are then able to take initiative, and use their collective competences to design innovative and sustainable solutions, for mutual perceived complex social challenges. The Dutch City-Deal 'Roadmap Next Economy' for example aims to set up an agenda for the metropolitan region of The Hague and Rotterdam where they collaborate to be ready for the effects of the next economy. Rotterdam, a major seaport for goods examines how it can remain relevant with the introduction of the 3D printer. This example proves that economic growth is a component of City-Deals, but innovation serves as the requirement for growth and liveability to happen in a sustainable, long-term oriented fashion.

If, for any reason, Dutch national politics would persuade cities to strengthen their economies and / or become less dependent on government grants similar to the UK City-Deals, some caution is advised. To ensure that cities will not jeopardize their low carbon aspirations in favour of economic gains, preconditions can be set. For example, by ensuring that cities stick to their original sustainable goal setting. The enactment of a financial fee for cities that fail meeting target can counteract cities' initial urge to maximise economic gain at the cost of other non-financial aspects such as the emission of greenhouse gases.

2 Incentive / funding Structure

UK cities reacted vigorously to the new incentive structure that led cities to acquire revenues based on economic growth indicators. This made cities drop most of their efforts in sustainability projects and turned them to invest in proven conventional projects that promised quicker and larger returns on investment. UK cities are still highly dependent on the National Government for the gross of their financials though.

The finding that cities in the UK react so vigorously on a specific incentive structure, albeit not stimulating sustainable behaviour, is interesting as it may provide a way forward to use this to the benefit of sustainability. Section 9.4 elaborates hereon.

Dutch cities are also highly dependent on national funding and carry little capacity to generate local income. A municipality in the Netherlands acquire the gross of money through a certain distribution that does not depend on considerations other than 'good governance'. The revenue stream for Dutch councils is rather fixed and relies on stable indicators such as population and surface area (Degemeente.nl, 2017; Rijksoverheid.nl, 2012).

Experts on the Dutch City-Deal stressed that a total lack of financial incentives complicates the delivery of City-Deals in the Netherlands. In the Dutch City-Deal contracts, financial matters are avoided, as ministries would refuse to sign the deal. This condition complicated the execution phase of the deal because it was then still unclear who would pay the upfront costs. This resulted in frustration, delays and loss of enthusiasm. Not having a direct financial incentive is for some cities and stakeholders a deal breaker to renounce the City-Deal. The solution may lie in finding a middle ground.

3 Austerity Devolution

UK National Government back in 2010 introduced a national austerity program, two years before the launch of the City-Deals. The City-Deal program not only devolved power and control to cities, but also included devolution of austerity measures.

UK National Government did tell local authorities where they had to make these cuts, but there is always some translation work possible and done locally. The local government decided to make the cuts in areas that were least damaging to its own popularity, including sustainability.

Governmental budget cuts were also common in the Netherlands after the economic crisis in 2008. Municipalities did receive more money in absolute terms, but likewise, were given more tasks (mainly a devolution of healthcare provision). Therefore, less money was available for municipalities in relative terms. This also forced Dutch municipalities to prioritize tasks and may have led to cuts on sustainability. The experts noted that the limited budget cuts could be dealt with by the financial reserves and the limited amount of additional tasks could be handled next to their regular workload, making extra hours as they add a personal interest in seeing the issues being addressed. The devolution in the Netherlands thus not seemed to have stressed financial and human workload reserves to an extent deemed problematic.

Austerity measures inherently imply that municipalities have to make sacrifices. The UK City-Deal results and the assumptions of Dutch experts show that, if left unregulated, cuts may be made in areas such as sustainability, low carbon and the natural environment.

4 Disappearance of the regional level and emergence of the Combined Authorities.

In the UK, the regional level disappeared as a consequence of City-Deal policy. This regional level formerly oversaw sustainability measures and the implementation hereof. Implementation of sustainability measures at the regional level worked relatively well since it had redundant scale and capacity to overcome occasional opponents.

The City-Deals introduced Combined Authorities to narrow the divide between the national level and the local level, which was a direct result from the abolishment of the regional level. The Combined Authorities however had difficulty to form complete consensus on decisions where the individual local councils felt that pains and gains were unevenly spread across all councils. Veto voting rights worsened decision-making. Full consensus decision-making on costly measures that are of benefit to the environment is particularly difficult and Combined Authorities were therefore less able to take action than the former regional level. It is unknown whether the establishments of Combined Authorities make sustainable decision making more difficult than a total absence of both Combined Authorities and regions.

There have been no significant changes to the boundaries of administrative spaces in the Netherlands since 1848 (Thorbecke). There have always been voluntarily organised regional cooperation agreements, partly funded by National Government. Combined Authorities are not formalised in the Netherlands, but do exist in areas that experience significant shrinking of the population (Such as 'Parkstad' in Limburg) and municipalities in Utrecht and Amsterdam that see a benefit in intensified administrative cooperation. Experts add to this that the Dutch administrative system has its own specific problem because it is highly compartmentalised. This forms a problem for the Dutch City-Deals because cooperation of cities on themes quickly infringes the jurisdiction of existing ministries. This makes it difficult for City-Deals to effectively address issues that cross the interest of multiple ministries.

The abolishment of the regional level complicated the process of cooperation on sustainable related topics in the UK. This translates into a recommendation for the Dutch City-Deal policy to take proper account of the importance of the regional level.

5 National Government dominance and change

The UK National Government is centralised and cities are dependent on the willingness of National Government to invest in ambitious local sustainable projects. The UK political system revolves around two main parties that alternate each and every four or eight years. The liberals⁴⁰ and conservatives⁴¹ pose an opposite ideology on almost every aspect of governance. Cities need to weathervane along with every successive ideology of National Government to remain favorite. Cities therefore have to shift their course according to the course sailed by the National Government in power. Local policies can therefore be quickly interrupted. A city that wants to pursue an ambitious project after a change in type of National Government needs to find new support and approval for the continuation of the project because it often remains dependent on national financial support. Sustainable projects in particular are dependent on long-term commitment and investments. Shifts in type of National Government hinder the continuation of such long-term sustainable projects.

The Netherlands has a different political system where a multitude of parties are presented in parliament and two or more parties govern the nation based on a middle ground and consensus. A change in National Government is therefore just a slight deflection of course, still roughly in the same direction and not as impactful as in the UK where a change in type of government implies a 180-degree turn in vision and ideology. The changes in National Government are therefore less impactful on cities and have limited consequences on long-term sustainable action taking.

6 Perception of UK citizens

UK citizens tend to carry a localized perception of sustainability and bear little support for global sustainable projects, when there are no immediate results in their neighborhood. UK local politicians are aware that filling potholes in the road will get them reelected while addressing greenhouse gas emissions won't. Moreover, UK citizens consider private low carbon investments as risky, due to historical energy saving measures not living up to their promises.

'Localism'; the mind set that policy measures have to be particularly effective and visible at the local level is typical for the UK and less prominent in the Netherlands. Dutch energy consumers however are little aware of energy saving measures. This is reflected in the fact that Dutch households do not make all the cost-effective energy saving measures available to them. Consumers often hold on to their less efficient appliances while replacing them would make more sense in financial terms.

Agenda-Stad could include measures that inform and educate citizens can help to increase support for sustainable policy agenda's and speed up adoption and diffusion of energy saving (household) appliances.

⁴⁰ 'Labour party'

⁴¹ 'Torries party'

7 Transparencies of Deals

The actual deal making with National Government was cloudy because cities were forbidden to discuss the specific details of their City-Deal with other cities, before all cities had completed their negotiations. Radical sustainable innovations benefit from full political transparency to ward off the lobby of existing incumbents that have an interest in preserving conventional policies and technologies.

In the Netherlands, the deals seem to come about in more transparent ways because the deals are by definition made in cooperation with a multitude of cities, institutions, universities and governmental departments. This makes it more difficult to extract the Deal-making process from the transparent democratic process.

8 Green wash instead of concrete promises

The UK City-Deal proposals were loaded with plans that favoured green-growth, carbon reductions and eco-friendly investments. These plans and promises however were at the moment of signing, not guarded by measures that would penalize cities if they did not live up to their promises. It turned out after a few years that cities solely used these sustainable promises as tools to get the attention from National Government and investors.

Dutch City-Deals consist of multiple stakeholders, instead of the bilateral agreement in the UK between National Government and a Combined Authority. Signing a City-Deal as a stakeholder in the Dutch situation implied a commitment to deliver. Early withdrawing or a failure to deliver promises would damage their reputation and the relationship that stakeholders are eager to maintain. There is therefore a drive to deliver promises after the deal has been signed. Cities were also free to choose on which themes they would sign a City-Deal and did not have to compile a comprehensive agenda that encompassed all sorts of areas. The Dutch cities that choose to endeavour in sustainable action taking most likely experience a genuine urgency to do so and are intrinsically motivated to deliver results. Experts however do indicate that the City-Deals are not as concrete in the Netherlands as they are in the UK. The Dutch City-Deals are designed to keep their formulations vague so deals will not lead to commitments that cities or ministries cannot hold.

The expert panel found it too early to formulate a statement on whether green washing of Dutch City-Deals may occur because results have yet to become apparent. The UK City-Deals show that it can be wise to make cities specify what concrete actions they have in mind and guard those promises with repercussions if they do not deliver.

9 Foreign investors

Foreign investors can be a great for economic success and are probably necessary in today's global world. But foreign investors are less incentivised to lower their impact on the national environment when they are not present and living in the same country. It's the same reasoning why European multinationals are still selling their highly toxic, low-grade diesel to African countries; they'll get the economic gains, but are not affected by the local toxic fumes. UK cities have even made exceptions on social and environmental regulations to make their region more attractive for foreign investors to invest in their region, as reflected in their City-Deal proposals.

This critique is recognized in the expert panel but the Dutch City-Deals are not considered to make any impact on direct foreign investments and is therefore deemed irrelevant. There is one Dutch City-Deal termed 'Warm Welcome for Talent' where customer journeys are being developed for foreign starting entrepreneurs to identify barriers and opportunities in the Netherlands. The overall aim is to create a more appealing environment for starting foreign entrepreneurs. However, there is no mentioning of foreign investments to be made. The only Dutch cities that are historically focused on attracting foreign investors are Amsterdam and Rotterdam.

Foreign investors are important for cities and nations to flourish. They deserve a warm welcome, but it would be unwise to make them feel at comfort by locally loosening national environmental regulations.

10 Intra- and inter-city cooperation

The UK City-Deals increased intra-city cooperation between various governmental and commercial organizations and has been fruitful for the development of protected spaces for sustainable innovations. However, the UK City-Deals did not mention any instance of inter-city cooperation between different Combined Authorities. City-Deals intensified inter-city competition. National Government even welcomed the economic inter-city competitive mentality and kept using economic indicators to compare and contest cities with one another. Inter-city cooperation on sustainability related topics was not possible nor found attractive by cities or National Government.

The Dutch City-Deals are made in cooperation with a multitude of cities, institutions, universities and governmental departments. Collaboration is always preferred over competition by cities and National Government. Dutch City-Deals also empowers cities to distinguish themselves by strengthening those areas that the cities are already good at, instead of strengthening areas only for the sake of economic growth.

11 Carbon Literacy Project

Manchester required its local council staff members to follow and complete a Carbon Literacy Program. This project is the direct result of Manchester's climate change action plan, which in turn is the result of Manchester's City-Deal aspirations. This program is an online course that teaches people the basic understanding of climate change, the carbon impacts of our activities, and enables them to make informed choices about the most energy and resource efficient and lowest carbon options available. Although Manchester was unable to force even a fraction of its staff to follow the course and still very few citizens enrolled, the idea carries great potential and is one of those concrete examples that can be taken over by the Netherlands.

None of the Dutch City-Deals includes an educational program that teaches the basis of environmental awareness. Experts are enthusiastic about the idea and like the practical

feasibility of it. However, they doubt whether carbon literacy training for city officials would change their political rationality because of a more comprehensive understanding of greenhouse gases. A suggestion is that a Carbon Literacy program becomes mandatory for city officials if they want to remain having a vote over sustainability related topics. To make the Carbon Literacy Program a mandatory aspect of City-Deals however can undermine the bottom-up approach that the Dutch National Government is aiming to stimulate.

9.2 Reflection on the application of the SNM framework with a spatial demarcation instead of a sectorial demarcation.

This research adopted the Strategic Niche Management (SNM) as the primary framework for organizing the questionnaire and the data coming out of the interviews. SNM theory is conventionally used in combination with a sectorial or technological demarcation. In this research however, SNM theory was not used in combination with a specific technological demarcation. The variable under research was rather the progression of all sorts of sustainable innovations, i.e. innovations in mobility, energy, water, waste, food, etc. A geographical demarcation was added: The city.

The SNM framework sufficed and was able to organise most findings in a framework that enabled easy analysis of data. SNM theory was developed to cope with the policy challenge of nurturing sustainable innovations (Schot & Geels, 2008). Therefore, internal analysis of crucial niche processes such as expectation setting, learning and network building was dominant (Schot & Geels, 2008). However, SNM theory was unable to fully explain how transitions and regime-shifts came to be. Internal niche developments are not the only important factor. External factors also play a crucial role. 'This conclusion led to a search for conceptualisations that linked niche internal and external processes' (Schot & Geels, 2008 p. 545). Particularly, the Multi-Level Perspective (MLP) proved useful for contextualising SNM. Links with local, national, regime and landscape levels proved important to understand the dynamics in niche creations. In this research, the inclusion of national context & government, guaranteed to take external influences into account.

The influence of national context however was found to be far greater than anticipated. Because the researchers were asked to focus on a particular City-Deal, either in Manchester or in Newcastle, only local context was believed to be of relevance to the City-Deal policy. It was expected that interviewees would only mention some specific national events, favouring or disfavouring the City-Deal policy, when they were asked to think of any. Interviewees regularly started the interview by commenting that the UK City-Deals could and should only be researched when also being aware of the national context. The interviews argued that City-Deals did not just happen, but are the results of a multiplicity of events and coincidences that go over 30 years back in time. The effects of City-Deal implementation also carried further than the local level. Interviewees therefore insisted to explain which events they deemed are of crucial influence to the development of the final UK City-Deal policy in 2012.

This research followed up on the interviewees' advice and included the events mentioned by interviewees in the historical narratives at the beginning of section 5, 7 and 8. The national context appeared to be of such profound influence on the design and influence of City-Deals, that it was decided to dedicate an entire section (Section 6), on six key aspects that interviewees found to be of greatest (negative) influence on the creation of protected spaces for sustainable innovations. The grouping and selection of these key aspects happened in a grounded theory fashion.

SNM theory includes a contextual description by including insights from the MLP theory. MLP theory makes a distinction between the;

- (internal) niche level
- (external) interaction with the regime level and
- (external) interaction with the landscape level.

This research showed that the use of the SNM framework, applied to a geographically demarcation, is not that much different than a sectorial demarcation. Both internal and external influences can be recognised. SNM theory was able to structure the more direct and internal influences of City-Deal policy on the creation of protected spaces for sustainability. The six key-aspects that proved to be of greatest influence on City-Deal policy and the creation of protected spaces can be organised under the regime level and landscape level of MLP theory.

It is interesting to do more research on how the SNM framework and the MLP framework can be used or adapted to research with a spatial demarcation or lacking sectorial demarcation.

9.3 Limitations

The main limitation of this research is its external validity in terms of generalizability of the findings. The selected cases are both positioned in the North of England, which tends to be less economically developed than the South of England. The research therefore focused specifically on the implications for the case studies under research and tried to refrain from generalizing findings to the other cities in England. To generalize findings beyond England was even more complex. England is a non-typical nation as it adopts both European and North-American characteristics. This research did try to compare the English and the Dutch City-Deal situation. The research design therefore aimed to highlight these differences instead of concealing them. This enabled careful comparisons, while taking both differences in policy outline and contextual differences into account. Future research that undertakes international comparison of urban policy measures is also advised to stress differences and limitations rather than neglecting them as two nations will inevitably carry contextual differences and policies will never be exact copies.

Another limitation of this research is that Manchester has been slightly over-represented in terms of interviewees and in the resulting data. It was very hard to speak with civil servants from Newcastle. The civil servants that did respond to the invitations stated that they had very little capacity left over since the devolution of austerity measures forced them to reduce their workforce while the City-Deal policy brought devolution of additional tasks and responsibilities. Manchester city is twice as large as Newcastle upon Tyne in terms of population and the commitment of the Mayor of Manchester to take part in the research opened doors to many new contacts. Future research is advised to include a more southerly located city that participated in the Wave 1 City-Deal project such as Bristol or Birmingham. Bristol should be of particular interest for future research because it was mentioned 47 times by researchers as the city having "a very ambitious programme around

the environment and low carbon, probably way ahead of other core cities." Bristol was also least affected by the economic crisis and austerity compared to the other 7 core cities. It is even more interesting that Bristol did not show up in the preliminary literature review as a pioneer on low carbon. Appendix F on page 130 for example shows that low-carbon was a non-existent theme in its City-Deal proposal. Bristol does indeed not mention sustainability or low-carbon in any of its City-Deal documents, but was apparently able to make great sustainable action steps without the use of the City-Deal policy. This finding strengthens the suggestion made earlier that SNM theory could benefit from the inclusion of contextual descriptions. Bristol's City-Deal did not mention sustainability, but the city is considered a low-carbon pioneer. In the case of Bristol, only the right contextual information can help researchers understand whether there is a causality between City-Deals and sustainable innovations or whether there are other factors more prominently influencing sustainable development.

An inherent limitation to qualitative research, which makes use of in-depth, semi-structured interviews, is that they represent the view of a small set of individuals. In total 21 interviewees agreed to take part in the research. The distribution of age and gender was well spread. All interviewees though were European, highly educated, high income and open-minded people. This does not necessarily limit the validity of the research but it is nevertheless possible that the average citizen in the city of Manchester or Newcastle has a deviating view on the effect of City-Deal policy on sustainability than the researchers and local councillors included in this research. Future research on the effects of policy measures could circumvent this possible bias by triangulating data. E.g. local councillors of both cities stated that their citizens carry a very localised view on sustainability, which makes sustainable action taking more difficult for the municipality. This result could then either be fact-checked with existing data or by including some randomly selected citizens in the interview list. The same goes for the remarks made by researchers who stated that the regional level was a better level for sustainable action taking than the smaller Combined Authorities because they lacked scale and capacity. Such observations can also be checked with existing data from different reports or through the inclusion of interviewees who previously worked at the regional level. The fact that all respondents proved knowledgeable, sympathetic and without preconceived views, together with the elaborate consultation of existing reports ensured that best possible practice was carried out.

9.4 Recommendations for future research

Earlier on in section 9.3 various starting points for future research have been mentioned. What came as most striking in this research however was the immediate and fierce response of municipalities to the changes in their incentive structure for their yearly revenues. In the case of the UK City-Deals, municipalities reacted to an incentive scheme that was based on indicators of economic growth. Local councils swiftly moved their investments away from more risky, less proven and less attractive long term projects, towards less risky, more proven and rewarding short-term ventures. It is the remarkable swift and powerful reaction of municipalities in this case that is most interesting.

In the case of the UK, the incentive scheme was contra-productive for the creation of protected spaces for sustainable innovations. It is reasonable to think however, that municipalities will react in the same compelling way to an incentive scheme based on different indicators. It would therefore be interesting for future research to examine whether municipalities could be persuaded to increase their investments in risky, unproven, long-term sustainable, low-carbon projects, if an incentive structure is put in place that rewards such action taking. Second, it is interesting to research how such incentives would look like specifically and whether they can trigger a similar immediate reaction of municipalities as the economic growth based incentives. Third, it would be interesting to research whether such an investment scheme will work exactly the other way around and can lead to cities jeopardizing on their investments in conventional high-carbon projects that have always assured them with positive returns on investment and whether that is deemed satisfying. Fourth, it would be interesting to research whether it is feasible to implement such an 'urban sustainability incentive structure' in the Netherlands.

This could provide an opportunity to introduce a system where the yearly revenue of municipalities depends on local sustainability improvement indicators. If implemented correctly, Dutch cities could earn on lowering their emissions and the national level has a relatively easy, cheap and straightforward way to meet national carbon reduction targets.

10 Appendices

10.1 Appendix A: Indicators

Concept	Indicators	Description	Look for evidence of...
[1] Shielding			
Active Shielding	<ul style="list-style-type: none"> - Early research efforts - Basic research funding - Dedicated research program - Experimentation - Demonstration - Proof of concept - Pilot studies 	<ul style="list-style-type: none"> - Policy holds off pressures from mainstream selection environments - Policy enables experimentation, demonstration, proof of concept, pilot studies and 	Policy enables: <ul style="list-style-type: none"> - Experimental projects - Temporary rule exemptions - Explicit articulation of 'bounded' projects - Explicit articulation of 'temporary' projects - Tolerating 'poor' economic performance - Tolerating 'poor' technological performance - Investment subsidies - Private initiative subsidies - Allowing new business models
[2] Nurturing			
Articulation of visions and expectations	<ul style="list-style-type: none"> - Converging expectations - Expectations being shared by many actors - Expectations are substantiated by empirical results (tangible) - Expectations are specific enough to provide guidance (does not allow for interpretation) 	<ul style="list-style-type: none"> - Policy enables the emergence of shared and specific converging expectations 	Policy enables: <ul style="list-style-type: none"> - Articulation of technical aspects - Articulation of design specifications - Articulation of required adjustments - Articulation on scope of learning - Articulation on initial limitations - Articulation of the future market - Articulation of consumer needs and requirements - Articulation of necessary institutional change - Articulation of necessary legislation change - Articulation of changing role for government - Articulation of cultural and psychological meaning - Articulation of symbolic meaning to technology - Articulation of the infrastructure and maintenance network to be developed - Articulation of complementary technologies
Social network building	<ul style="list-style-type: none"> - People who represent organizations should be able to mobilize commitment and 	<ul style="list-style-type: none"> - Policy that enables the formation of actor networks 	Policy enables: <ul style="list-style-type: none"> - Emergence of academic network - Emergence of industrial network - Emergence of trade organizations

	resources within their own network - Involvement of relative outsiders		- Emergence of citizen groups - Emergence of environmental groups - Local governance engages in local affairs such as network management.
Learning processes	- First-order learning (accumulation of data and facts) - Second-order learning (Assumptions and cognitive frames)	- Policy that enables the organization of learning processes within a niche	Policy enables: - Learning by searching - Learning by doing (not everything can be planned for) - Learning by using - Learning by interacting - Learning economies - Technical learning - Feasibility learning - Social learning - Learning about problems, needs and possibilities - Learning about social desirability
[3] Empowering			
Fit and conform	- Shielding gradually deconstructed	- Policy enables shielded innovation to scale up under existing selection criteria - Global actor networks work towards niche competitiveness within unchanged selection environments	Policy enables: - R&D efforts targeting lower costs - R&D efforts targeting performance improvements - Increasing competitiveness of innovation under conventional criteria
Stretch and transform	- Shielding gradually institutionalized	- Policy enables a change in existing selection criteria for shielded innovation to scale up - Global actor networks work towards changes in mainstream selection environments	Policy enables: - Public institutional reforms - Private institutional reforms - Changes in regulatory frameworks - Changes in organisational networks - Infrastructural change - Institutionalisation of sustainability related values and norms - Increasing competitiveness of innovation by reforming criteria

Figure 7: Operationalization of key-concept, for analysis of protective space from: (Kern, Verhees, Raven, & Smith, 2015; Raven, Kern, Verhees, et al., 2015; A. Smith & Raven, 2012; Verhees et al., 2015, 2012)

Appendix B – Interview scheme

The questionnaire will foremost follow the structure of the SNM theory. First interviewees will be asked to provide a brief history of the Wave 1 City-Deals, followed by what they consider to be the most recent news on the subject. This is in order to comfort the interviewee and control for their level of knowledge on the subject. Second the interviewee will be asked a few general questions. These questions should have the interviewee talk about what the influence is of City-Deals on actions taken from the local council in the light of sustainable innovations. List of questions grouped by concept.

A: Introductory questions

A1: Can you provide a brief history on the City-Deals program for this city? And specify herein at what moment the City-Deal policy became of relevance to your professional work.

A2: What are according to you, the latest issues, developments and results on City-Deals?

A3: Is the City-Deal policy of help to the city council in their promotion of sustainable innovations?

A3: How? / Why not?

A4: Is the City-Deal policy of any advantage to the city council in their promotion of experiments, pilot-, or demonstration projects for sustainable innovations / initiatives?

A4: How? / Why not?

A5: Is the City-Deal policy of any constraining effect to the city council in their promotion of sustainable innovations?

A: Introductory questions aimed to better understand context

A6: What are for this city the most prevalent struggles?

A7: What is for this city the most prevalent sustainability related struggle?

A8: What are for this city sustainability related concerns being voiced by the city's population?

A9: What are for this city sustainability related wishes being voiced by the city's population?

B: Protected Space – Shielding

B1: Is the City-Deal policy of help to the city council, in their promotion of sustainable innovations to survive the early years of development?

B1: How? / Why not?

B2: Is the City-Deal policy of help to the city council, in their promotion of early research efforts for sustainable innovations?

B2: How? / Why not?

B3: Is the City-Deal policy of help to the city council, to help protect local initiatives and experiments against existing firms and stakeholders?

B3: How? / Why not?

B4: Is the City-Deal policy of help to the city council, to temporarily get around existing national regulations when grassroots movements ask to do so?

B4: How? / Why not?

C: Protected Space – Nurturing

C1: Is the City-Deal policy of help to the city council, to support further development of sustainable innovations?

C1: How? Can you provide supportive examples?

D: Protected Space – Nurturing – Actor network

D1: Is the City-Deal policy of help to the city council, to develop networks where sustainable entrepreneurs can find each other and discuss their work?

E: Protected Space – Nurturing- Learning

E1: Is the City-Deal policy of help to the city council, to organize learning processes within sustainable innovation networks?

E1: How? / Why not? Can you provide learning process examples?

F: Protected Space – Nurturing – Expectation

F1: Is the City-Deal policy of help to the city council, to express their expectations and vision towards certain sustainable innovations?

F1: How? / Why not?

F2: Is the City-Deal policy of help to the city council, to formulate a more concrete and wider shared sustainable future vision?

F2: How? / Why not?

G: Protected Space - Empowering

G1: Is the City-Deal policy of help to the city council, to render sustainable innovations competitive under conventional criteria?

G1: How? / Why not? Can you provide an example?

G2: Is the City-Deal policy of help to the city council, to reform institutions and infrastructure more favourable to sustainable innovations?

G2: How? / Why not? Can you provide an example?

G2: Is the City-Deal policy of help to the city council, to institutionalize sustainable values in the city environment?

10.2 Appendix C – Collection of arguments that support the notion of austerity being of primary influence for the lack of attention and thus the lack of ‘space’ for sustainable innovations.

"Than 2010 a new government. All they cared about was economic growth. There was austerity, we need to reduce deficit, coming out of recession, we need to address economic growth, so there was less appetite for policy for green energy, so I think what progress had been made, beyond 2010 didn't feel valued in terms of those other indicators, thinking about social and environmental as well. I think more recently, there are now reviews looking at more integrating economic and social outcomes, so there is still an economic focus on it, but there is a recognition that it is not enough" (ARN-2).

"I suppose it comes back to national politics which is you know, hugely important in a centralised country where local areas have limited room to manoeuvre. You have a National Government that is pretty Lukewarm when it comes to addressing climate change or pursuing sustainability goals more generally. I mean when they were elected, before David Cameron become Prime Minister in 2010. They claim they were going to be the "Greenest Government Ever" And overshoot targets. They've obviously abandoned that at a fairly early stage" (ARM-3).

"The actual City-Deal's initiative in my understanding; it was in progress prior to the general election of 2010. Change of government, and then the coalition government that existed from 2010 – 2015 took on this initiative and kind of presented it as their own, but they actually inherited it from labour and it was very much a continuation of what has gone previously" (ARM-3).

"Where the UK has made decisions about policy certainly since 2010, I think has mostly been backwards steps certainly in things like waste where there had been a tremendously forward looking approach in which I was involved working locally but also being asked to sit on national bodies etc. and national consultations in developing policy, it became very disappointing that since 2010 so many of the developments towards sustainable waste management have been discarded in favour of cheaper cost solutions" (LCM-3).

"The Conservatives said they were going to do what's a comprehensive spending review, which means that they look again at what the budget is, and they say actually, this program we've inherited from the previous government, we cut it. We're going to cut this; we're going to cut that. So, cities around the United Kingdom and different groups, funded by National Government knew, that there was cuts coming" (ARM-8).

"Austerity was the central pillar of the governments approach. We need to make these changes because our driving aim is to reduce the overall deficit. So everything was done in that context. When you look at the amount of money that was coming into the Northeast region before, through the RDA's and compared to what is being offered through devolution, that's peanuts compared to what was coming in. So it is not only existing money that is repackaged as new City-Deal money, it is significantly less money" (ARN-2).

"The council tried to make it easier for people to put solar panels and so there was this thing called the feed in tariff in 2012. And then the central government changed the rules, and made it much more difficult to get solar panels and lots of the suppliers lost money and the credibility was exhausted or attacked. So yeah, (...) a lot of the things that Manchester City council wanted to do and started to do, it couldn't continue to do, because the funding from the central government disappeared" (ARM-8).

"Because they are reducing funding to local government, they change the nature of that, more growth incentive based, rather than depending on needs" (ARN-2).

"There is absolutely no doubt that there is a big priority around the economy and jobs. So if you are looking at our regional strategic plan, it's called "More and better jobs". Everything is how we drive jobs. Because for regions like the Northeast; we were hit very badly by the recession and the financial crash. We started to coming out of that and the priority has been about jobs and employments" (LCN-1).

10.3 Appendix D – List of interviewees

Table 12: List of interviewees that belong to the "Academic Researchers" category because they are affiliated to a University and focus on cities or urban areas.

Academic Researchers (AR)				
Manchester (ARM)			Newcastle (ARN)	
Name:	Duration:	Name:	Duration:	
Organization:	Date:	Organization:	Date:	
Function:				
Aiden While University of Sheffield Director of Research	141 minutes 22-06-16	Andrea Armstrong	64 minutes 03-05-16	
Andrew Karvonen University of Manchester Lecturer in Urbanism	0 minutes 01-07-16	Anja McCarthy	90 minutes 05-05-16	
Ian Deas University of Manchester Senior lecturer Urban Planning	53 minutes 28-04-16	Harriet Bulkley	58 minutes 03-05-16	
James Evans University of Manchester Professor in geography	32 minutes 04-05-16	Lindsay Mai	75 minutes 06-05-16	
Joe Blakey University of Manchester Postgraduate student	170 minutes 22-06-16			
Jonathan Silver Durham University Research Fellow urbanism	93 minutes 27-04-16			
Kevin Ward University of Manchester Professor of Human Geography	26 minutes 27-04-16			
Marc Hudson University of Manchester Postgraduate student	122 minutes 04-05-16			
Mike Hodson University of Manchester Senior Research Fellow	185 minutes 25-04-16			
9 Men 0 Women	13 hours 42 minutes		0 Men 4 Women	4 hours 47 minutes

Table 13: List of interviewees that belong to the "Local Council" category because they are affiliated to a local council or governmental organisation and focus on cities or urban areas.

Local Council officials (LC)			
Manchester (LCM)		Newcastle (LCN)	
Name:	Duration:	Name:	Duration:
Organization:	Date:	Organization:	Date:
Jonathan Sadler Manchester Climate Change Agency Programme Director	86 minutes 30-06-16	Richard Baker North East Local Enterprise Partnership Head of Strategy and Policy	63 minutes 23-05-16
Mark Atherton Association of Greater Manchester Authorities Director of Environment	51 minutes 30-06-16	Rob Hamilton Newcastle City Council Head of Economic and Urban Policy.	29 minutes 06-06-16
Neil Swannick Manchester City Council Ex-Councillor	66 minutes 29-06-16		
Richard Elliott Manchester Climate Change Agency Chief Executive	51 minutes 17-06-16		
Rupert Greenhalgh New Economy Manchester Principal CBA	49 minutes 14-06-16		
Sir Richard Leese Manchester City Council Leader	27 minutes 05-07-16		
6 Men 0 Women	5 hours 30 minutes		2 Men 0 Women 1 hour 32 minutes



Figure 8: Selfie with Aiden While (ARM)



Figure 9: Selfie with Andrew Karvonen (ARM)



Figure 10: Selfie with Ian Deas (ARM)



Figure 11: Selfie with Joe Blakey (ARM)



Figure 13: Selfie with Jonathan Silver (ARM)

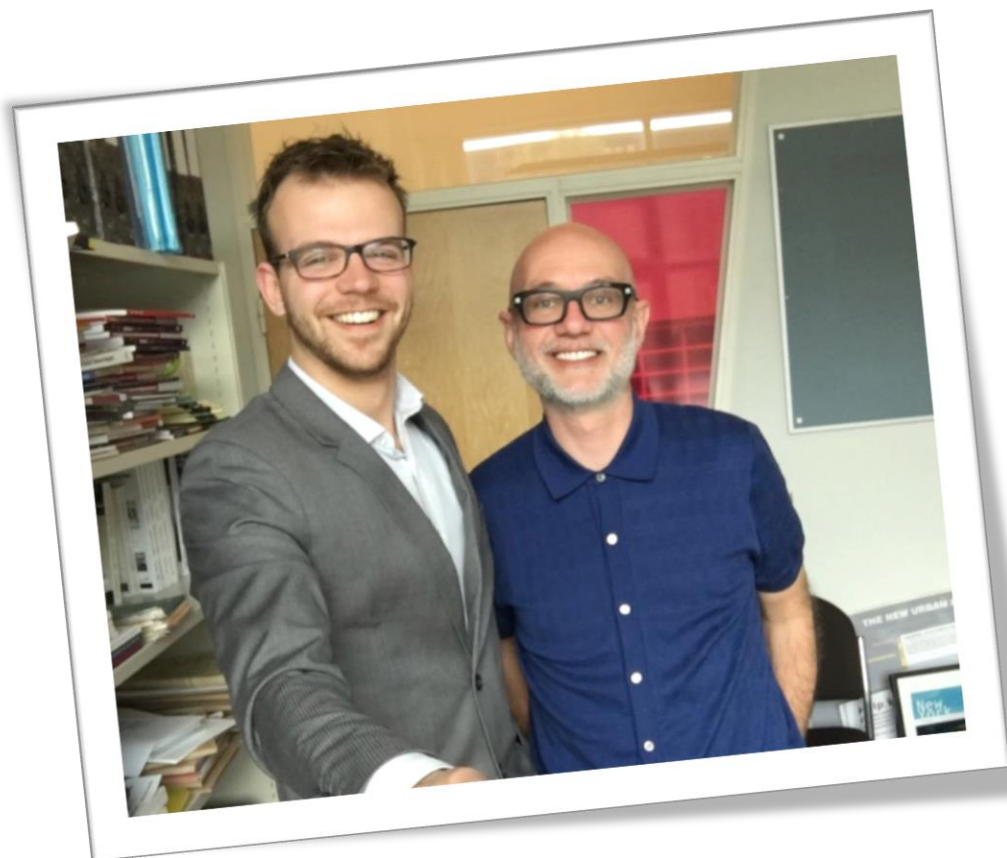


Figure 12: Selfie with Kevin Ward (ARM)



Figure 14: Selfie with Marc Hudson (ARM)



Figure 15: Selfie with Mike Hodson (ARM)



Figure 16: Selfie with Anja McCarthy (ARN)



Figure 17: Selfie with Andrea Armstrong (ARN)



Figure 18: Selfie with Harriet Bulkkley (ARN)



Figure 19: Selfie with Lindsay Mai (ARN)



Figure 20: Selfie with Jonathan Sadler (LCM)



Figure 21: Selfie with Mark Atherton (LCM)



Figure 22: Selfie with Neil Swannick (LCM)



Figure 23: Selfie with Richard Elliott (LCM)



Figure 25: Selfie with Rupert Greenhalgh (LCM)

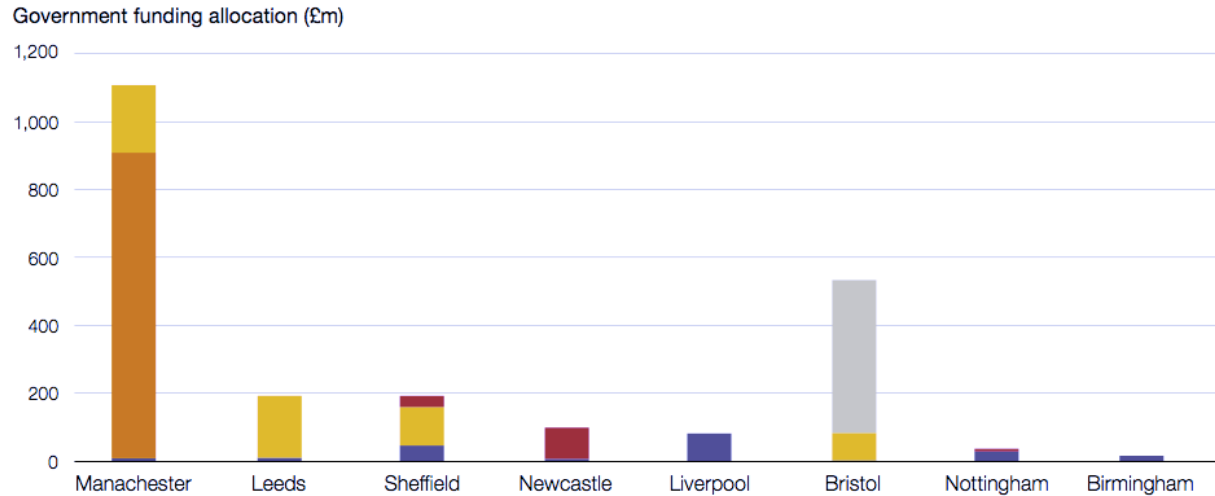


Figure 24: Selfie with Sir Richard Leese (LCM)



Figure 26: Selfie with Richard Baker (LCN)

10.4 Appendix E – UK National funding commitments to the City-Deals



	Manchester	Leeds	Sheffield	Newcastle	Liverpool	Bristol	Nottingham	Birmingham	Grand total
■ Tax increment financing			33	92			8		133
■ Business rates retention (estimate)						450			450
■ Transport allocation	199	183	114			81			577
■ Earn back	900								900
■ Other	9	10	46	7	82	2	29	16	200
Grand total	1,108	193	193	99	82	534	37	16	2,260

Notes

- 1 Departments fund the City Deals according to the timing of each programme. The longest programme is Manchester's 'earn back', which the government plans to pay over 30 years. The departments committed to paying for most programmes over 10 years or less.
- 2 Business rate retention (estimate) refers to Bristol's 'growth incentive', for which the government has not limited its funding commitment. A figure of £450 million is used as the midpoint of the range of the Unit's estimate of the government's financial commitment over the programme's 25 years.
- 3 Funding allocation for Liverpool City Region includes a £75 million grant for the Mayoral Development Corporation in the Liverpool City Deal.
- 4 This figure includes funding that central government committed to the deals when they were initially agreed in 2012.

Figure 27: UK National Government's potential funding commitments to the City-Deals (National Audit Office, 2015)

10.5 Appendix F – Table of City-Deal programmes by theme

Table 14: City-Deal programmes by theme for the 8 core cities

	Skills	Housing	Investment/ Funding	Transport	Low-carbon	IT	Business support
Birmingham	✓	✓	✓		✓		
Bristol	✓		✓	✓			✓
Leeds	✓		✓	✓	✓		
Liverpool	✓		✓	✓	✓		
Manchester	✓	✓	✓	✓	✓		✓
Newcastle	✓	✓	✓	✓	✓	✓	
Nottingham	✓		✓	✓	✓	✓	✓
Sheffield	✓		✓	✓	✓		

Notes

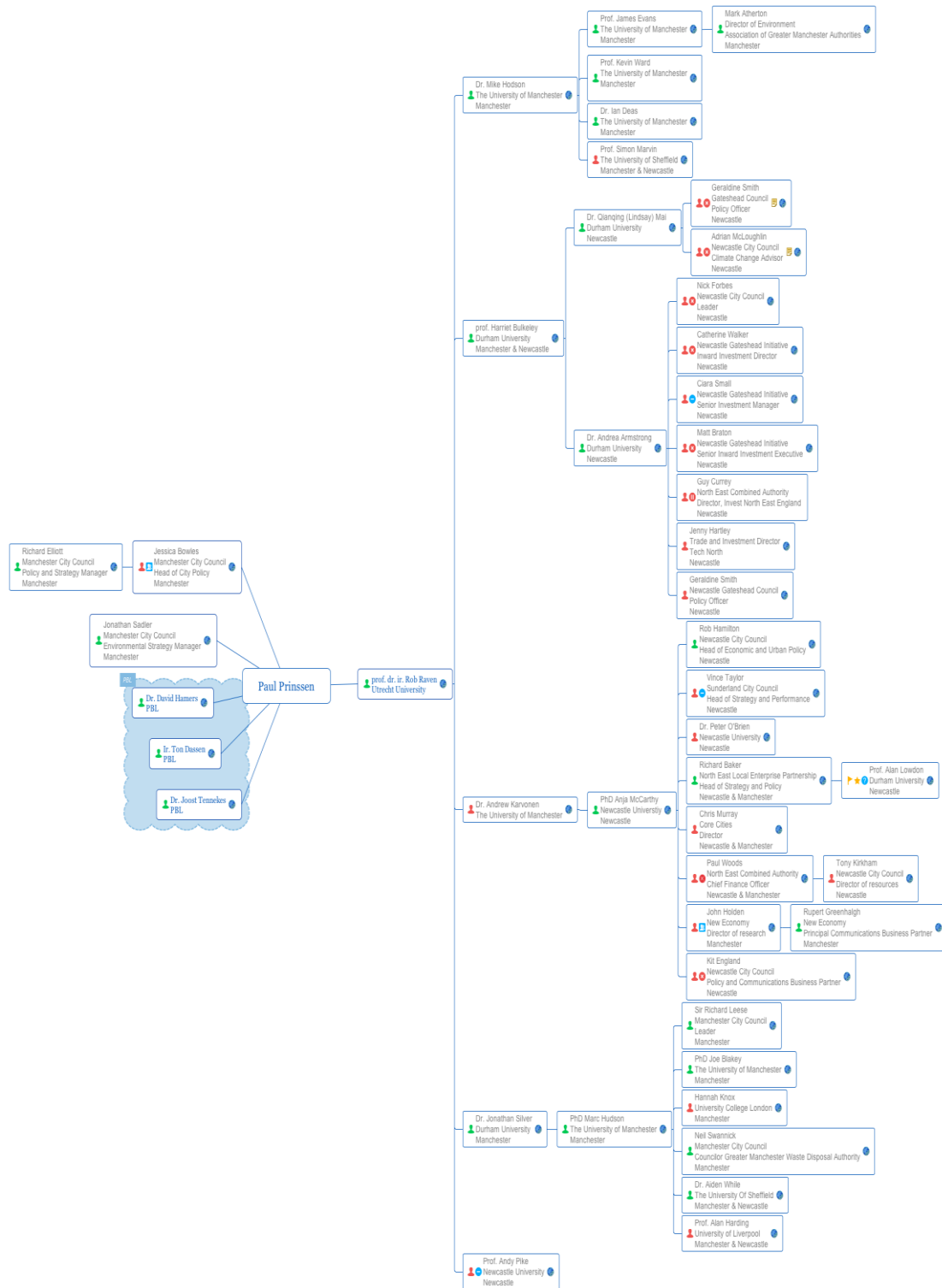
- 1 Some cities have more than one programme within each theme.
- 2 Some of the deals included other programmes that do not come under any of the categories above, such as Birmingham's Institute of Translational Medicine (see paragraph 1.20).

10.6 Appendix G – Consulted experts for discussion

Table 15: Approached and consulted experts on the Dutch City-Deal program, before and after publication of the research.

Name	Function	Organization
Prof. dr. ir. Rob Raven	Professor Institutions and Societal Transitions	Utrecht University
Dr. Peter Pelzer	Researcher Urban Futures Studio	Utrecht University
Ir. Ton Dassen	Deputy Head Department of Spatial Planning and Quality of the Local Environment	PBL Netherlands Environmental Assessment Agency
Suzanne Potjer MSc.	PhD Candidate Urban Futures Studio	Utrecht University
Roy Speek	Master student Sustainable Development	Utrecht University
Dr. David Hamers	Department of Spatial Planning and Quality of the Local Environment	PBL Netherlands Environmental Assessment Agency
Dr. David Evers	Department of Spatial Planning and Quality of the Local Environment	PBL Netherlands Environmental Assessment Agency
Dr. Joost Tennekes	Department of Spatial Planning and Quality of the Local Environment	PBL Netherlands Environmental Assessment Agency
Yosha Droffelaar	Intern	Ministry of the Interior and Kingdom Relations
Dr. Saniye Ceik	Senior knowledge advisor Agenda-Stad	Ministry of the Interior and Kingdom Relations
Mattie Blauw MSc.	Senior coordinating policy advisor on cities	Ministry of the Interior and Kingdom Relations
Marijke Andela-Jaarsma	Project manager	Ministry of Economic Affairs
Thierry van Vugt	Project manager	Ministry of Economic Affairs
Jan Schuur	Team coordinator strategy, knowledge and governance	Ministry of Economic Affairs

10.7 Appendix H – Mind map of the snowballing process for interviewee contacts.



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