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1. Introduction

In our time, urban retrofit to achieve sustainability goals is at the core of institutional agendas, businesses and communities activities as a response to environmental, economic, political and social challenges. The urgency of creating cooperation and partnerships on international, national and local levels aims to move towards more sustainable plans for urban environments. In the past, these plans developed mainly on a technical level for the reduction of carbon emissions. In more recent times, however, the social element of 'retrofitting' has been acknowledged as well. Therefore, the social and the technical transformation of cities became strong components of modern political agendas. The economic and political changes which exposed cities to liberal markets, capital accumulations and intense political campaigns created a fertile ground for the emergence of mobile or mobilised 'alternatives' in urban societies. Furthermore, the neo-liberalisation of the city has facilitated the spread of global urban movements. Within this scenario, the complex concept of retrofit has been applied to a vast variety of initiatives which developed on an urban level to reshape and transform cities both environmentally, through innovative systems, and socially through alternative urban movements, initiatives and communities' involvement.

The overall aim of this study is to critically explore the importance of retrofit alternatives in Greater Manchester (GM). In the 20th century the local Government of GM worked to offer a different image of the city-region both nationally and internationally. This not only could have attracted investments into the city-region but it could have also contributed to reposition GM within a competitive sustainable regional context. In the regeneration of the city-region, institutional efforts mixed with the emergence of different retrofit alternatives which constitute the core of the present study. Hence, this paper focuses on a) what is it meant by 'alternatives' and how they generated; b) what does 'retrofit' mean and how this concept changes within contexts; c) what is the role of urban communities in retrofit projects; d) how retrofit can be achieved. In order to build an understanding on these issues, the paper examines the concepts of retrofit and alternative through a deconstructing approach from a dominant political vision and reframes them within the context where they emerge. Subsequently, the origin and development of urban movements and proposed alternatives to conventional urban lifestyles are discussed. In particular, alternatives are explored in relation to their links to hegemonic discourses of mobile and transformative social capital. Therefore, looking at specific urban contexts within GM, alternatives are questioned whether they represent the continuation of political dominant views or if they represent independent antagonistic responses in search of radical socio-economic changes.

This study[1] is complemented by a comparative examination of retrofit alternatives in other five UK cities: Birmingham, Cardiff, Edinburgh, London and Newcastle (Barlow, 2014). Furthermore, the paper "Reshaping the material fabric of the city: low carbon spaces of transformation or continuity?" (Hodson, Burrai and Barlow , 2013) presented at the International workshop in Eindhoven on "Constructing and contesting spaces for low-carbon energy innovation" conceptually and analytically integrates this study. Through the use of a qualitative desk-based methodology, 30 alternative retrofit projects around GM

[1] The author acknowledges both the support of EPSRC (Grant Number EP/1002162/1; *Re-engineering the city 2020-2050, Urban Foresight and Transition management*) and of the Greater Manchester Local Interaction Platform for Mistra Urban Futures.

have been identified. The initial overview elaborated on the characteristics of the projects led to a subsequent discussion of key themes which reoccurred in the projects' narratives.

The paper is structured into two main parts. The first part is constituted of four sections: the literature review in section 2 explores the definition, emergence and consequences linked to the formation of neoliberal cities. Secondly, the development of alternatives to conventional urban models is examined particularly in regards to their origins and development over the years. Thirdly, the concept of space is revised as produced by individuals. Section 3 presents the overview and analysis of retrofit alternatives in GM focusing on the projects' characteristics and on the main themes which emerged from the analysis: activism of local community groups; independency of local community groups; cooperation and partnership; resistance and adaption and the production of space. Finally the conclusion highlights the importance of the emergence of urban retrofit alternatives based on the empirical evidence presented in Section 3. Part two of the paper focuses mainly on the empirical material of this study and it is structured into four parts and three final appendices. Section 2 revises the methodology adopted and examines how the specific examples of retrofit alternatives in GM have been identified. Section 3 provides the details and backgrounds of the selected projects and finally, Appendix A, B and C show schematically how the study has been conducted highlighting both the data collection and data analysis processes.

Part One

2. Literature review: Why do alternative approaches to retrofit matter?

Central in the development of a theoretical framework to understand retrofit alternatives in GM is the definition and clarification of the origins and evolution of the following concepts: cities, alternatives and retrofit. In order to elaborate upon these topics, I have followed the body of literature developed by critical urban theorists, such as Henri Lefebvre, David Harvey, Manuel Castells, Peter Marcuse, Margit Mayer and Neil Brenner. My critical orientation in understanding the emergence of retrofit alternatives in GM grew from the broader consideration of the historical, political, social and environmental contexts under which modern cities evolved. Therefore, my critical stance adopted in this study should not be interpreted as the elaboration and attachment of negative judgments of social processes but as a constructive reflective approach which allows a deeper explanation of social phenomena within urban environments. In developing my own understanding of modern cities as framed within problematic socio-economic, environmental and political conditions, I attempted to explore the constraints which lead to the creation of unfair places where power and resources are disproportionately distributed. In the light of this consideration, the nexus between the difficult conditions which shape modern cities and what (and how) emerge in response to these constitute the starting point for the development of my critical approach.

2.1. Neoliberal cities

Harvey defines cities as "an object of utopian desire, as a distinctive place of belonging within a perpetually shifting spatio-temporal order" (2012: xvii). Cities are, at the same time, both the settings for ideological struggles and the "major basing points for the production, circulation and consumption of commodities" (Brenner *et al.*, 2009:178). Thus, it is in urban spaces that intangible aspirational needs mix with more tangible material needs (Marcuse, 2009). Within specific geographical boundaries, cities are formed by a multitude of stakeholders and interests which interconnect on different social, economic, environmental, technological and political levels. Cities are complex because of the links between and among these dimensions. Furthermore, the complexity of cities is shaped by the coexistence, within the same physical space, of the state, civil society and social movements. In defining cities a static view is abandoned in favour of dynamic "urban metabolic models" (Eames *et al.*, 2013: 507) which, similarly to biological systems, constantly evolve, adapt and transform. From the development of cities into complex urban systems, the concept of alternative takes shape.

On a wider scale, the institutional and political engine of cities is represented by the state. As argued by Harvey, "the state with its monopoly of violence and definitions of legality, plays a crucial role both in backing and promoting these processes [accumulation practices], and in many instances has resorted to violence" (2006: 153). Additionally, the state defined as "a neoliberal set of institutions" (Harvey, 2006: 155) encourages the development of privatisation and a liberal market where competition, capital accumulation and separation between social classes dominate.

Essentially, neoliberalism has been defined by the decreased intervention of the state within the sphere of social services in favour of stronger involvement in regulating and implementing neoliberal policies.

At the same time, the existence and circulation of goods and services is deregulated in a liberal market which fosters competition among good and services providers. Harvey defines neoliberalism as

"A theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedom and skills within an institutional framework characterized by strong private property rights, free markets, and free trade. The role of the state is to create and preserve an institutional framework appropriate for such practices. The state has to guarantee, for example, the quality and integrity of money. It must also set up those military, defence, policy and legal structures and functions required to secure private property rights and to guarantee, by force if need be, the proper functioning of markets. Furthermore, if markets do not exist (in areas such as land, water, education, health care, social security, or environmental pollution) then they must be created, by state action, if necessary". (2005: 2)

The role that the state has in modern cities is, therefore, to foster, manage and maintain an "institutional framework" (Harvey, 2006) which will allow the perpetuation of neoliberalism and capitalism. It is in this climate of fragile and transitory economic mechanisms which characterise urban spaces that subordinate and marginalised social forces (Brenner *et al.*, 2009: 178) oppose and look for alternatives. The state has, particularly in recent times, reconstructed the role covered by local movements to decentralise the institutional power imposed by the Government. Hence, the discourses around localism and civic engagement are part of a "broader repertoire of practices through which the Government has constructed the local as antagonistic to the state and invoked it to restructure the public sector" (Featherstone et al, 2012: 177-178). These institutional aspirations, on the one hand, encourage the advancement of revised neoliberal strategies undermining, on the other hand, the existence and activities of the public sectors (i.e. cuts in the public sector) and social needs. Institutional discourses around localism are brought forward by mobilised middle-class voluntarism actions and initiatives which unavoidably impact those "disadvantaged areas that are being hard hit by the state retrenchment following previous processes of deindustrialisation" (Featherstone, 2012: 178-179). In similar neoliberal logics promoted by the Government, alternatives developed by local entities are subject to a degree of homogenisation institutionally portrayed. Communities which are delegated to carry the 'alternative seed' envisaged by the Government are instrumentally reduced to socio-cultural homogeneous symbols of (alternative) transformative processes which are weakened and, therefore, easier to control and govern. The latest mutation of neoliberalism is defined by Featherstone et al. as "austerity localism" which decentralises "the power to certain local people. […] [which] means that the default actors who are empowered by emerging forms of localism are likely to be those with the resources, expertise and social capital to become involved in the provision of services and facilities" (2012: 178).

As a response to the homogenisation of economic, social and cultural assets, the institutional emphasis on the market in favour of neglected attention for social welfare, alternative spaces for resistance to this neoliberal dominant culture start to develop and spread. Hence, this set of alternative responses to the constructed local visions elaborated by the Government takes shape in those heterogeneous initiatives which developed making use of urban spaces through the creation of "experimental utopias" (Lefebvre, 1996: 151). Indeed, utopias and "the ability to think of alternative solutions to the festering problems of the present" (Bauman, 1976: 16) are the premises for societal changes. In this context, the meaning of cities becomes attached to both imaginative and real spaces and cities are characterised by spaces "constituted by dreams and desires, conscious and unconscious longings and fears, along with material developments and practices" (Pinder, 2002: 233).

2.2. Alternatives to conventional urban models

Alternatives, like cities, are complex to define and they have to be understood within specific spatio-temporal boundaries. In general, although alternatives are context-dependent, they are always "expressive of some version of democratic values" (Harvey, 2006: 158). Previous studies argue that the alternative element in urban movements which emerge from neighbourhoods, church groups, NGOs, volunteering groups and charities lies in a response and, in some cases, an opposition to the capitalist logic which underpins industrialised societies (Harvey, 2006; Iveson, 2013). Nevertheless, movements purse different alternatives within the same antagonistic scenario. Some aspire to be detached from the "overwhelming powers of neoliberalism and neoconservatism. Others seek global social and environmental justice […] others emphasize the theme of 'reclaiming the commons' […] some envisage a multitude in motion, or a movement within global civil society […] others more modestly look to local experiments with new production and consumption systems" (Harvey, 2006: 156-157).

Once that through neoliberalism and capitalism individual and communal freedom was limited (e.g. introduction of the private property; development of competitive liberal markets), urban movements re-valorised the concepts of justice and freedom with the aspiration to pursue them. Following the crisis of capital accumulation in the 1970s, the unemployment rate increased as well as the inflation. Within this scenario of discontentment, alternatives started to look at introducing "widespread reforms and state interventions in everything ranging from environmental protection to occupational safety and health and consumer protection from corporate malfeasance" (Harvey, 2006: 148).

In defining alternatives as the mobilisation of urban movements, Mayer argues that in modern urban restructuring processes the third sector is mobilised "to compensate for the simultaneous fragmentation of the traditional structures of market and labour" (2003: 124). In this view, dominant discourses of inclusion, reintegration and sustainable transformation, manipulate through the creation and support of local initiatives marginalised groups and their work to re-enter the labour market (Mayer, 2003). Nevertheless, through mobilisation of grassroots initiatives, dominant political discourses focus on the disadvantaged conditions of marginalised groups without examining the causes that brought them to be marginalised and in an unequal position. Therefore, "urban disadvantaged groups are […] transformed from potential social movement actors demanding recognition of their social rights into 'social capitalists', whose 'belonging' is conditional on their mobilizing the only resources they have as a form of capital" (Mayer, 2003: 125). Although concepts like independency, activism and resistance are common drivers in the development of urban movements, cooperation, dependency and adaption becomes similarly important.

Different views on the origins of urban movements and on the development of alternative strategies to cope with societal, economic, environmental and political challenges populate the literature of urban studies. This controversial view is framed in complex material (i.e. groups of people) and intangible (i.e. agendas) systems which interact and interconnects allowing a set of diverse responses to rise. Harvey argues that "there is a multitude of diverse urban struggles and urban social movements (in the broadest sense of that term, including movements in the rural hinterlands) already in existence. Urban innovations with respect to environmental sustainability, cultural incorporation of immigrants, and urban design of public housing spaces are observable around the world in abundance" (2005: 25).The neoliberal economic, social and political structuring facilitate the growth of alternative responses. These oppositional reactions to the impersonal, controlled and imposed character of cities where solidarity,

social justice and democratic participation of citizens are undermined, take shape in cohesive urban movements.

In other words, the concept of alternative has to be understood within specific boundaries and under specific hegemonic political, social and economic conditions. Alternatives emerge from conventional neoliberal patterns characterised by alienation, the crisis of public spaces, disproportionate allocation of resources and uneven levels of development, aggressive competition within deregulated markets. Oppositional reactions to the absence of common values and aspirations introduced by the enhancement of individualism and self-interest throw the basis for the need of reclaiming social spaces as "open fields for play, hope, and critical reinvention"(http://www.learningsite.info/NeoTrashing.pdf). "[…] after all, Lefebvre was right, more than thirty years ago, to insist that the revolution in our times has to be urban – or nothing" (Harvey, 2005: 25).

2.3. Space

Through the development of alternatives within urban areas, a myriad of complex interrelated spaces is created. As argued by Iveson (2013: 942), "space is a contested process" and it is the "product of complex power-geometries, as different actors seek to determine who and what the city is for. Among the resources mobilized in these power struggles are capital, property rights, planning codes, spatial design, law, various policing techniques and technologies, education, socialization, and labour".

Space is also defined and constructed by the priorities pursued by the Government. Hence, in a context where the rhetoric of inclusions and empowerment resonates, institutional agendas shape "places in isolation [which allows] the engagement with the marked inequalities that exist within and between places" (Featherstone, 2012: 179). Lefebvre in his work 'The production of space' defined space as physical but also abstract, differentiating it in perceived space, conceived space and lived space (1991). While the first is the concrete space where people meet and live their daily lives, conceived space is less concrete referring to the intangible construction of space. Lived space is the complex mix of perceived space and conceived space, "it represents a person's actual experience of space in everyday life" (Purcell, 2002: 102).

This paper looks at the reconstruction of space through the emergence of urban retrofit alternatives in GM within neoliberal urban structures. In modern times, neo-liberalisation, capital accumulation and globalisation are opening cities and local realities to restructure urban environments, spaces and infrastructures. This fractioned context facilitated the formation of opponent urban movements which advocated "some form of renewed democratic control" (Purcell, 2002: 101) and pursued an empowered position within the decision-making processes. Therefore, this paper focuses on the redefinition of urban movements within the context of GM and on the reconstruction of spaces through transformative processes moved by the aspiration to propose alternatives to current urban socio-political, economic and environmental issues.

Within the body of literature adopted to develop this paper, I seek answers – through the analytical approach of examples in GM – to the following questions:

a) "Localism is best understood as an important thread within UK neoliberalism, rather than as a wholly new agenda" (Featherstone et al., 2010: 178). Hence, are alternatives in GM continuation of old political hegemonic discourses or are they powerful representation of opponent movements to dominant elitarian regimes?

b) " The refusal to engage with power relations and inequalities within communities means that the default actors who are empowered by emerging forms of localism are likely to be those with the resources, expertise and social capital to become involved in the provision of services and facilities (Featherstone et al., 2010: 178). Hence, do alternatives in GM foster exclusion, societal segmentation and fragmentation or do they represent the tool to empower local communities and reintegrate them through the development of a redistributive system?
c) Individuals, groups, classes "can not constitute themselves, or recognize one another, as 'subjects' unless they generate […] a space" (Lefebvre, 1991: 416). "A sort of master distinction is between those who produce a space for domination versus those who produce space as an appropriation to serve human needs" (Molotch, 1993: 889). In the context of GM, are empowered alternatives *producing spaces* or are *produced spaces* given to alternatives as resulting from a top-down approach?

3. Overview and analysis of retrofit alternatives in Greater Manchester

This paper examines the importance of retrofit alternative projects in GM. As explored in the literature, the involvement of local communities is central in the development of retrofit urban initiatives for two main reasons. On the one hand, alternatives represent the constructed local visions elaborated by the Government to decentralise power and, on the other hand, they emerge from opponent responses of citizens to economic, environmental, political and social constraints to which cities are exposed to. As discussed in section 2.2 (p.7), alternatives start to develop within urban contexts where a neoliberal logic dominates enhancing individual 'freedom' to consume and compete and where separation, alienation and limited availability of public spaces increase. In GM alternatives are common aspirations to reclaim and rebuild social spaces which are lost and to allow the introduction of new models for production which are different to those imposed by a capitalist system. The ways in which these alternatives grow and evolve extensively differ depending on their spatio-temporal context. Therefore, as observed in the cases within GM, in five examples[2] groups of residents have actively initiated alternative projects without the involvement of local authorities, nevertheless the majority of projects have been mobilised or financially supported by the Council, social housing organisations or by international and national funds.

3.1. Projects' characteristics

Among the 30 alternative retrofit projects identified across Manchester, 21 involve the presence of an institution (either Council on a local level or the Government and EU on a broader level), five are run only by local communities[3] and four are run and managed by commercial bodies or social enterprises. In the projects where the institutional element is predominant the interests involve mainly the creation and strengthening of partnerships, to increase, maintain and manage green urban spaces and to reduce poverty and social exclusion. The majority of groups where the community element is predominant aspire to increase green spaces and make them accessible, to reduce carbon emission and to be sustainable, to grow food and to be self-sufficient, to be exemplar and inclusive, to reduce costs and to improve residents' quality of life. In the groups which have a commercial focus the interests aim to be

[2] These five projects are: Didsbury Dinners; 5 Oaken Clough Terrace; Markaz-al-Najmi Mosque; Ashton Sixth Form College; Sow a Seed (Part 2)

[3] From now on the terms communities and residents will be used as synonyms to indicate people who share the same geographical area (i.e. Manchester city-region)

cost effective, to be educational and to provide sustainable options which include social rejuvenation and CO2 reduction plans.

In general, local (i.e. Council), national (i.e. Government) and international (i.e. EU) institutions become involved in retrofit projects to provide financial support for their development, or in the specific case of the Council, as land owner or regulator. Usually, they have green and social agendas which they try to meet through the use and support of community initiatives. This not only offers the possibility of having cost-free labour through the help of volunteers but it also gives the positive image on local and national levels of having communities' involvement and social inclusion in urban regeneration plans. In regards to the initiatives which are run only by communities, they often originate from antagonistic responses to institutional plans (for example, build an incinerator or install wind turbines).

In some cases, communities become involved in retrofit projects because the Council or other public institutions 'mobilise' them to act in their neighbourhood, in other cases the community groups are more active and initiate projects independently. Their involvement is justified by the desire of gaining more cohesion among community members, to be more visible to institutional bodies (e.g. Council) and be more in control of 'their' spaces, to look for alternative and sustainable options to urban problematic and uneven confining structures and, in several cases, to be self-sufficient. The context slightly differs if the key actors in retrofit projects are commercial companies and social enterprises. They usually become involved to pursue urban sustainability related to personal (profitable) interests and to offer financial support to community groups. Commercial initiatives originate from CSR policies and green agendas developed by enterprises in a time when sustainability is at the core of many private and public operations. The aspiration of achieving green goals is also moved by the necessity of gaining visibility among competitors, of reducing costs and of being demonstrative for other businesses.

In 14 cases the projects have been initiated by community groups (eight by residents, three by schools, one by volunteers and two by religious movements). In six cases, individuals had the idea of commencing a retrofit project and in five not-for-profit organisations or charities[4]. A hotel and three social enterprises also established the projects and only in one case the Council launched the idea. The projects started all between 2001 and 2012 however the majority started in 2011 (nine in total), in 2008 (six in total) and in 2009 (three in total). In terms of ending date, although seven projects have a specific date, in most cases on-going activities are planned however these depend on the funds, group cohesion, partnerships and land permissions[5].

In regards to the issues addressed by the projects, 16 focused on CO2 reduction through the use of renewable energies and cost-reduction. Eight addressed the need of growing food which became, in several instances, experimental and educational. Finally, six addressed the need to increase, manage and maintain green spaces in urban contexts. Projects receive funds through a wide variety of channels. The identified examples show that local, national and international institutions funded the development of retrofit initiatives. There were, for example, the Council's Cash Grant Programme or the Local Energy Assessment Fund lunched by the Government. Funds were also given by private businesses, for example, a pub (i.e. Eagle and Child Pub) or a hotel (i.e. Radisson Hotel). Additionally, projects received funds through donations and fundraising activities. However, in the majority of cases, projects received funds through charities and trusts such as New Opportunities Fund Lottery; Big Lottery Fund; City South Housing Trust; Veolia Environment Trust; Parkway Green House Trust; Salford Primary Care Trusts; etc.

[4] These specific characteristics can be seen in the table in Appendix A

[5] See Part 2, section 3

3.2. Activism of local community groups

The information gathered shows that the degree of activism of community groups depends mainly on their socio-economic status. Hence, whereas wealthier residents are more in control of their initiatives and harder to be controlled, it has been observed that if residents lack of knowledge (e.g. write and submit a bid proposal to apply for funds) it is easier for third parties to step in and be in control of the initiative. For example, 5 Oaken Clough Terrace project, in Ashton-under-Lyne (GM), shows a high degree of activism of the community group involved (Part 2, p. 41). The Medlock and Tame Valley Conservation Association (MTVCA) was founded in 1971 by like-minded conservationists to maintain and conserve, but also to innovate and explore sustainable options in the Medlock and Tame Valley area and, on a smaller scale, in their headquarter in 5 Oaken Clough Terrace. The group actively aims to achieve urban sustainability through the transformation of the building, of the garden space and of people's behaviours. In addition to this, the Association seeks to self-finance its projects through the payment, for example, of an annual membership fee. The proactive character of the Association is also highlighted in the experimental and demonstrative practices developed in the house to produce energy, decrease carbon emissions and be independent form the national system. Another example of independent activism of community groups is offered by the Didsbury Dinners project (Part 2, p.28). The group takes its name from Didsbury which is an affluent area of South Manchester. Didsbury Dinners is a registered community interest company which aimed to find alternative and sustainable methods of food production and consumption. Since 2010 the group started to be active in organising regular meetings, establishing and working in new community gardens and orchards and in the production of the Didsbury Dinners cookery book. The degree of activism of the group is demonstrated, for example, from the plans to reinvest the profit from the sales of the book into local food sustainability projects.

There are, however, other examples in which community groups are less active and subject to be mobilised by institutions, organisations or companies. This is the case of Bowes Street project in Moss Side, Manchester (Part 2, p.25). In 2008 Manchester Council wrote the first proposal to discuss the future of Bowes Street Coach depot as part of the regeneration plan of Moss Side. In 2011 the Council invited the local community to develop a short-term green project in the area. Although the idea of a short-term project was launched by the Council the types of initiatives were decided by the local residents and in 2013 they developed their first community orchard. Essentially the Council aimed to enhance opportunities for the attraction and retention of economically active residents and workers to Moss Side. The institutional motivation behind the Bowes Street project was to reduce poverty and social exclusion and to enhance the economic and environmental opportunities of the area. Similarly residents aimed to be more in control of their neighbourhood through the development of local initiatives. In this scenario, the active element of the Moss Side community group is enhanced and financially facilitated by the Council which occupies a more powerful position (for the resources available, for example). A similar context of 'external' mobilisation of community groups is identified in the Fallowfield Secret Garden project (Part 2, p.31). Here, with the support of the Manchester-based charity Action for Sustainable Living, City South tenant Mark Roberts had the idea of starting a 'secret garden'. The project started when the registered landlord City South Housing Trust donated some of its land to be transformed into a community garden to Mark Roberts, a local resident, who chose to manage the project. Although the key-actor in this case is an individual with green skills, the original regeneration plan and land permission came from the City South Housing Trust which also financed part of the project. The members of the community were, subsequently, 'motivated' to become involved by the house association and Mark Roberts who had passion and knowledge on horticultural skills.

3.3. Independency of local community groups

In this scenario the lack of independency which local communities aspired to emerges. This is shown, for example, in the Nutsford Vale project (Part 2, p.40) which was established by some residents of the area of Gorton in East Manchester with the involvement and support of the Red Rose Forest and Manchester Council. Although at the beginning the project was developed by the local residents of Nutsford Vale to make the site accessible and safe for the community, the Council was involved because it owned the land and to provide support, together with the Red Rose Forest, in applying for funds. Usually, the support for alternative projects in GM is carefully controlled by the Council and mainly "default actors" (Featherstone et al., 2012: 178) are 'empowered' to develop local sustainable initiatives. Residents, as in the Nutsford Vale project, are given control over the lands – in the majority of cases – by the Council which often owns them. This means that the Council uses the free labour of volunteers and local communities as part of a bigger political agenda (section 2.3, p.8). In this context, the material meaning of space as a delimited and owned piece of land meets with the abstract vision of space which is produced by the social relations, values, exchanges, negotiations of the actors involved. Here, therefore, space becomes both "*a product* to be used, to be consumed [and] […] a *means of production* […] Thus this means of production, produced as such, cannot be separated either from the productive forces, including technology and knowledge, or from the social division of labour which shapes it, or from the state and the superstructures of society" (Lefebvre, 1991: 85).

As discussed in the introduction to this study, the inclusion of community groups in re-shaping the material and not-material fabric of cities is a significant tool for institutions. It represents a social commonplace in the development scenario and, at the same time, it represents cost-free labour in a period of economic restrictions (section 2.3). Additionally, in delegating local groups, the central Government is invested with fewer responsibilities and can focus on other aspects of the country's political life (section 2.1). Within this context, local groups are given (apparent) control over lands and buildings to offer a positive image of the city on a wider national level. Community empowerment and inclusion are, therefore, interpreted as part of political discourses articulated to gain visibility on national and international levels. This emerges in the Miss Cordingley's Garden project (Part 2, p.39) which was established by the Friends of Walkden Gardens, a group of volunteers who in 2001 helped the Trafford Council to regenerate derelict areas within Walkden Gardens to benefit the community. The land owner, also in this case, is the Council which relies on the work of volunteers to keep the area tidy, safe and accessible to visitors. At the same time, the use that the Friends make of the Gardens contributes to the alternative feature as it represents the space where not only sustainable actions develop but also where community members can socialise, keep active and share similar values. As it emerges from the examples discussed, the retrofit activities run by local community groups are the symbol of a "spatial imaginary through which an anti-state populist agenda is mobilised, drawing upon […] middle-class voluntarism and social responsibility" (Fetherstone et al., 2012: 178).

The use of the concepts of 'empowerment' and 'inclusion' become, under the spread of neoliberal societies, rhetorical as shown, for example, when looking at the characteristics of the five projects which are independent from institutional links (e.g. funds or land permission). These are mainly representative of an already inclusive group of residents who are from, in most cases, middle-class and educated backgrounds. In general, this study shows that the existence and development of retrofit alternative projects in GM instead of fostering inclusion of disadvantaged areas and individuals has the potential to reinforce exclusion and marginalisation. Those who were not integrated before the Government developed urban sustainable plans are still absent in the development of alternative initiatives. A possible explanation for this can be linked to local or national authorities which do not have interest in

reaching them as not the “default actors” who hold the expertise, knowledge and resources necessary to develop urban transformation through a politicised sustainability agenda.

3.4. Cooperation and partnerships

Reoccurring themes such as cooperation and partnerships must be reconsidered within the retrofit alternative context of GM. From the results it appears that cooperation is often opportunistic, it depends on the gains of the parties involved (e.g. free labour, visibility, funds). This aspect is highlighted, for example, in the Stockport Hydro project (Part 2, p. 47) where the community needs funds to develop the renewable energy system and needs to be independent. On the other hand, however, the Council owns the land and has sustainability priorities in its agenda. Hence, here, as in other cases, the involvement of the community group is crucial for political achievements and for the development of a retrofit project without having to invest money. The community group is looking for funding from residents of Stockport or GM in general but also from other funding bodies such as the Charity Bank or Key Fund. Another example of strong partnership between a group of residents, in this case a family, and the local Council is the Trafford eco-house project (Part 2, p. 51) which started in 2008. A family of four who lived in Australia decided to go back to England to start their new life in Manchester. Here they bought an old Victorian house which was transformed into an eco-experimental project to reduce the family costs and be more sustainable. The main aim of reducing energy waste and being self-sufficient was achieved with the use of double glazing, cavity wall and loft insulation. Additionally, the family developed an Aquaponics system which is a food production system that requires very little water or added fertilisers. In essence, the key drivers for the family are to reduce fuel bills and reduce dependency on fossil fuels. These motivations mix also with the desire of accommodating the growing needs of the family. The project is supported by Trafford Council which shares similar concerns for climate change and environmental impacts that individuals are having in cities and – more specifically - within the Trafford area. The aspiration of the Council to promote green initiatives justifies its inclination to support and share the experiments developed by the family.

The creation of partnerships and cooperation among actors enhances the uncertain character of projects and their transitory and unstable nature. When institutional priorities and stakeholders’ agendas change, projects evolve as well. They adapt to the contextual resources available and interests pursued. In this scenario, not only connections and partnerships between actors change over time but also the funds that projects receive – as, for example, in the case of Loreto College (Part 2, p.34) which did not received the secured funds from the Learning and Skills Council scheme. Although Loreto College decided to keep developing the project self-financing it, in most cases, if the funds cease projects are likely to terminate as well. This fluid way of looking at retrofit alternatives in GM underlines their dynamic character. Projects transform the material and not material fabric of the city but they are also shaped by the surrounding environment. This evolutionary element emerges, for example, in the development of Chimney Pot Park project (Part 2, p.26). Here the Council planned to refurbish and regenerate a disadvantaged area of GM converting old houses into modern eco-efficient buildings. The Council, architects and private companies designed a plan which did not meet the expectations of the residents who manifested their disappointment. Clearly the economic interests which surrounded the Chimney Pot Park project outweighed institutional social practices of sustainability fostering gentrification instead of inclusion. In this context, the interests behind the development of the project clashed and changed highlighting the separation between residents and political entities. Here, the antagonistic position of the local community frames the meaning of ‘alternative’ to contrast an institutionalised retrofit plan imposed by dominant private and public sectors.

3.5. Resistance and adaption

The dynamic character of projects is found also in their recurrent fluctuation between resistance and adaption. This is shown, for example, by the Saddleworth Community Hydro project (Part 2, p.45). On the one hand, the community group aimed to be detached from any form of governance or political party however, on the other hand, renewable energy projects proved to be difficult to initiate because of bureaucratic and financial reasons. They also proved to be complex to maintain without the support of other private and public parties. The alternative element is, hence, represented by the production of alternative energy using a river rather than by the community ownership of the project. In the light of this consideration, the alternative element of retrofit projects can be dissociated from the concept of 'empowerment'. Although 'empowerment' occupies political discourses around localism and sustainability, as argued in section 2.1 (p.5), in reality within the context of GM community groups are controlled by higher segments of society. In strengthening community initiatives, local institutions can foster local growth, competitiveness, control and efficiency. Political forms of local autonomy achieved, in many instances, by the development of alternative movements and initiatives, allow pursuing international competitiveness and, at the same time, institutional sustainability targets allow achieving economic growth (Mayer, 2010). The disempowerment of community groups and members does not mean that they are not active in transforming cities (section 2.2). Their active role, however, emerges if detached from political agendas and institutional bodies or schemes. Community activism takes shape in micro local spaces where negotiation and cooperation with higher levels of society do not exist.

As previously discussed in section 2.1 (p.5), institutional concern over the concepts of sustainability and community inclusion, participation and welfare predominate modern political agendas. Sustainability becomes in some cases a discourse used by public institutions and by (social) enterprises to achieve political and commercial (profitable) goals. The ways in which these goals are achieved is by controlling communities and the civil society. The instrumental use and disempowerment of communities contribute, therefore, to create fractures within urban environments rather than cohesive and harmonic systems. These fractures are mostly evident when examining the actors involved in retrofit projects in GM. In most cases, they are from middle-class, wealthy backgrounds and usually they involve businesses, charities or not for profit organisations. Particularly when examining the projects that have been developed without the involvement of institutional bodies, it has been noticed that they were run and kept alive by middle-class segments of the society (for example Didsbury Dinners and 5 Oaken Clough Terrace), by independent business (for example Radisson Hotel and Incredible Edible Beer Garden) or by religious group (for example the Markaz-al-Najmi Mosque).

Throughout this study, it is evident that the concepts of sustainability and community constitute the core of transformative processes in cities. However, it also emerges that the two concepts have different meanings when used by different actors. In the context of GM they are adopted to pursue economic goals. This is highlighted, for example, in the Manchester College retrofit project (Part 2, p.48). The College, through the transformation of its old buildings, aimed to become a main eco-educational centre in Manchester and to be also more competitive among other educational centres on a national scale. A similar approach was adopted by Ashton Sixth Form College (Part 2, p.22) which established a long-term sustainability plan and by Loreto College (Part 2, p.34) which aimed to create an 'innovative' eco-space for students. Similarly, the concepts of sustainability and communities are widely used by social housing associations which operate to retrofit not only materially (e.g. buildings) but also symbolically (e.g. reintegrating youngsters into work) disadvantaged areas of the city. Behind the work of social housing associations the presence of local institutions is often strong and aims to support the regeneration of the most disadvantaged areas. These types of social enterprises, however, ultimately

operate within a competitive environment and it is plausible that they devote their work to generate profits. As it is evident in the case of Chimney Pot Park (Part 2, p.26), the regeneration plan put in place by social housing associations with the support of the Council did not generate the planned positive outcomes and, instead of encouraging social inclusion, it produced the opposite result, fostering exclusion and separation.

3.6. Production of space

In the context of retrofit alternatives in GM space occupies a central position. This section highlights the dynamic nature of space and its ambivalent character of being physically bounded and socially produced by the activities of urban movements. Indeed, space cannot be separated from the overall process of social change and of social re-structuring (Castells, 2005). Social transformation gives life to new social spaces "where diverse ranges of relational webs coalesce, interconnect and fragment […]. The contemporary city is a variegated and multiplex entity" (Amin and Graham, 1997: 418).

As observed in section 2.3 (p.8), there is a micro dimension of space represented by the interests and agendas of the local communities which coexists with a macro dimension represented by institutions and commercial entities. The two are not separated but they often meet to pursue individualistic and collectivistic interests. Accordingly, it has been noticed that whereas individual aims (e.g. eat organic food, produce own food) are represented usually by community groups and developed on a small scale, collective interests are represented by institutions on a local, national and international scale. The University Hospital project (Part 2, p.49) is exemplificative of this. Here, environmental and economic reasons mix together in the development of the project. There is also a branding and positioning strategy behind its eco-development as the Hospital, as stated on its website, represents the first green hospital in England. Therefore, institutions are attracted to invest in it. The self-interest of the Hospital and of the trust members (for example, cut costs; be sustainable and be independent) merge with the public national and local priorities related to sustainability. There is, hence, a shift from a micro dimension represented by the Hospital to a macro dimension represented by political interests, policies and institutions. The gap between the micro and the macro levels is often bridged by 'mediators' which are, in most cases, not for profit organisations, charities or members of the community groups who have the knowledge and tools necessary to mediate between the interests of the institutions and those of the society. Emblematic in this respect is the Love your bike project (Part 2, p.35) where the Friends of the Earth mediate between the Council (and Government) and Manchester residents – who are directly approached by the organisations to promote a more sustainable form of travelling. This project shows the complex connections among different actors involved in the promotion and implementation of local campaigns to move towards environmental and social sustainability. The project illustrates a situation in which the funding comes from the Council which has the priority of developing its sustainability plan. Hence, the Council seems to be eager to connect to the micro dimension created by the volunteers to communicate and involved residents of Manchester.

Essentially spaces are products of relations among human beings (section 2.3) and they are "produced and reproduced through human intentions" (Molotch, 1993: 887). In other words, as Lefebvre argues, "any space implies, contains and dissimulates social relationships – and this despite the fact that a space is not a thing but rather a set of relations between things (objects and products)" (Lefebvre, 1991: 83). Furthermore, the social relationship which constitutes space "is inherent to property relationships (especially the ownership of the earth, the land) and also closely bound up with the forces of production (which impose a form on that earth or land); here we see the polyvalence of social space, its 'reality' at once formal and material" (ibid.). In relation to the questions posed in section 2.3, the examples of

retrofit alternatives in GM proves that space is produced through the encounter between governing bodies (who are also land owners in many instances) and social forces of production represented by civil society. The formation of relationships, networks and exchanges determine the existence of many social spaces which are delimited by the involvement of different actors, values and agendas.

3.6.1. Social, economic, environmental and political production of space

In the retrofit projects analysed space is socially, economically, environmentally and politically represented. A socially represented space means that the focus is on knowledge creation, share and reuse; on community cohesion; on poverty reduction; on inclusion, accessibility and on individuals' interaction, networks and exchanges. For example, community gardens and orchards are symbol of a space that is socially constructed where people can interact and share values and knowledge. This is evident in the Incredible Edible Beer Garden project, the Fallowfield Secret Garden, Miss Cordingley's Garden, Reddish Vale Community Garden and the Urban Gardening project (Part 2).

In a space which is economically represented the primary focus is on costs reduction, food production and use of free labour. This is mostly evident in the projects developed in schools, hospitals and community gardens. For example, the Manchester College, Ashton Sixth Form College, Loreto College and the University Hospital of South Manchester (Part 2) aim to reduce their expenses linked to energy consumption and look for alternative means of energy production. In the case of Ashton Sixth Form College a wind turbine was installed to generate electricity or in the case of the University Hospital the energy reduction plan was achieved through the installation of ground source heat pumps.

In a space which is environmentally represented the attention is on the transformation of buildings, on the use of renewable energies and on the change of values and lifestyles. A strong environmental concern is illustrated by the Davyhulme Energy Saving Project (Part 2, p.27) which was set up by a local community group to introduce energy saving measures in homes around Davyhulme. In the first year, the project enabled more than 180 homes to install energy saving measures such as cavity wall and loft insulations.

Finally, in the political production of space institutional strategies are predominant and aim to "generate a global space […] and to set it up as an absolute" (Lefebvre, 1991: 105). An example of a politically represented space is the Chorlton Refurb project (Part 2, p.33) in South Manchester. LEAF (Local Energy Assessment Fund) national programme aimed to support community groups to develop environmental plans focusing on energy efficiency and on the local use of renewable energy. The Government Department of Energy and Climate Change launched nationally the LEAF initiative offering generous grants to develop local energy saving projects. Subsequently, the community of Chorlton submitted, with the involvement of environmental specialists, its proposal which was successfully accepted. The positive outcome of the proposal was promoted and acclaimed on the blog of a liberal democrat councillor highlighting the involvement of a political party in the development of the project.

3.6.2. Dimensions of space

The spaces represented are made of mobile systems; they take shape from the interests of the actors involved. It is argued here that space is, therefore, constructed by actors and their interests. Actors are positioned in spaces according to their socio-economic roles (section 3.2, p.11) which also suggest the nature of the interests involved in the construction of space. Additionally, the spaces represented are both tangible and intangible. The tangible, physical spaces are represented by buildings, neighbourhoods, gardens, schools, hospitals, churches and rivers. On the other hand, intangible spaces

constitute developmental spaces, networked spaces, innovative spaces, rehabilitating spaces, relational spaces, knowledge-generating spaces, cohesive spaces and accessible spaces.

A further distinction in regards to the separation between micro and macro spaces needs to be done. The macro space – as argued in section 3.6 (p.15) – is represented by institutions and it can be defined as a political space. In modern times, the creation of sustainable societies is a priority and in order to have sustainable societies, civic engagement is crucial. Therefore, the macro-dimension (e.g. Council) seeks partnerships and cooperation with community groups and aims to design and produce social capital (section 3.4). The creation and maintenance of networks with communities becomes for the Council or Government instrumental. The formation and support of informal networks mean also costs reduction for institutions as they are moved by volunteers. This is illustrated by the Marple, Mellor and Marple Bridge project (Part 2, p.37) which aimed to promote carbon reduction and to raise awareness about climate change and its consequences. This project is an example of a community-run initiative which sought the financial help from national and local authorities in order to develop and reach a wider segment of the local residents. Therefore, the involvement of the Government and of the local Council was determinant to provide the financial support necessary to develop the project. In general, social capital is supported to build a competitive advantage on regional and national scales (e.g. the support for the greenest hospital in UK – The University Hospital of South Manchester). Social capital emerges in these retrofit alternative projects from interactions, networks and relationships between and among actors. The micro space, in contrast, is represented by the grassroots society or by single entities (e.g. schools, hospitals, pubs, etc.). The tangible/intangible and micro/macro, however, are not separated dimensions. They intersect and interrelate through the presence of mediators who negotiate between the national/regional interests and the communities' priorities.

Overall, this analysis of retrofit alternative projects in GM shows that the degree of activism and independency of community groups and their initiatives depends mainly on their socio-economic status. In other words, the more knowledgeable and wealthy community members are the more opportunities to initiate and sustain projects they have. Additionally, in the complex scenario of retrofit alternatives, where different stakeholders with different agendas interact, the (instrumental) formation of cooperation and partnerships take shape. However, although this is a crucial aspect which characterise retrofit alternative projects in GM, often the ambivalent coexistence of resistance and adaption is also experienced. This is related, in particular, to the uncertain and dynamic nature of retrofit projects. Finally, the environmental, economic, political and social representations of space are highlighted through the examination of the retrofit projects within GM.

4. Conclusions

This study sought to build an understanding on why retrofit alternatives in GM matter and, more specifically, it examined the roots and contextual development of retrofit alternative projects in GM city-region. Before the characteristics of the identified projects were presented, the attention focused on the reconsideration of the concepts of retrofit and alternative within urban contexts in general and specifically within GM. GM, as any other urban space, is never fixed but it continuously evolves and adapts to the socio-technical, political forces and resources available. The transforming material and socio-spatial structures together with the changes in the governance systems and global urban issues (e.g. climate change, economic crisis) encouraged the proliferation of retrofit alternatives. In GM alternative retrofit initiatives are, in most cases, run by community groups. The involvement of communities and the third sector more in general are the result of a twofold process. On the one hand, communities' involvement is a governmental strategy elaborated to decentralise the power, to keep a

high degree of control over residents and to achieve competitive visibility on regional and national scales. On the other hand, communities' involvement results from antagonistic responses to political, economic, social and environmental changes and issues not only on local levels but also on a global scale (section 2.2).

Alternatives are represented by urban movements which are active in reshaping the material and not material fabric of GM. The degree of activism of these urban movements, however, differs according to the socio-economic status of the individuals involved (section 3.2). Therefore, although in some cases community groups are mobilised by local authorities, in other cases they have been mobile in initiating retrofit initiatives. Especially in the latter case, community-run projects are characterised by a strong degree of cooperation with third parties for financial support and because of lack of knowledge in funds application (section 3.4).

Retrofit projects are not only transformative but also subject to transformation within themselves. This has been discussed in the analytical part as a form of adaption to the context and to the resources available (section 3.5). Projects not only adapt but, in several examples, they also proved to resist to the financial and structural constraints imposed by the society. Hence, community groups are more in control of their own initiatives and are more proactive in looking for extended support from people who share similar values and goals. Furthermore, the varied nature of retrofit alternatives in GM depends on the context where they emerge. It appears evident that alternatives – if elaborated on and from a macro level (e.g. the Council or the Government) – imply the *continuation* of hegemonic patterns. Contrarily, if alternatives form on a micro level (e.g. in neighbourhoods) the focus is on the *transformative* element of social, technical, political and economic problematic contexts where individualism, capitalism, market logics of production-consumption and private systems are predominant. In several projects, the main aim of community groups appeared to be socialisation, food production, shared experiences, values and ideals. This alternative response to conventional urban lifestyles is produced by the collective management of micro spaces which are, perhaps, representations of a lost dimension (section 3.6).

In GM, spaces, like cities, are conceptualised as living organisms (Lefebvre, 1991). They are produced by social forces and are subject to evolution (section 3.6). Additionally, in GM they proved to be context and time dependent. Spaces are produced by the interests of the actors involved. Therefore, they can be, for example, representative of environmental priorities (i.e. projects which aim to reduce CO2) or they can be representative of social interests – for example, through the cultivation of abandoned pieces of land. This study does not exclude the possibility of the coexistence of macro and micro spaces within the same urban environment; however, it is argued that within the two dimensions different interests are pursued (section 3.6.2). This is why partnerships and cooperation are interpreted as instrumental – while the institutions have free labour and achieve competitive advantage on a national scale, communities can develop their own small-scale agendas.

Although there is an institutionalised set of policies and rights which claim for inclusion and transformation, national and regional agendas do not focus on long-term transformation of existing systems, urban structures and policies. As Mayer claims, the focus of modern societies on poverty does not underline "economic policies which systematically produce poverty and exclusion" (2009: 369). Therefore, while the main focus of the Government is on the mobilisation of the disadvantaged, understanding the causes of exclusion and marginalisation remain an unsolved issue.

In order to pursue more radical and longer lasting changes in urban systems, a deeper understanding of the roots of problems which invest modern cities is advocated. Additionally, 'progressive localism' (Featherstone, 2012) according to which local communities create positive links between places and

social groups in the negotiation of global processes should be supported. This will enhance the heterogeneous character of communities and allow their empowerment.

Part Two

1. Introduction

Drawing upon the theoretical and conceptual discussions presented in Part One, the second part of this paper introduces the empirical material of retrofit alternatives in GM. Firstly, section 2 presents the methodology and methods adopted to collect the data. Within the same section I focused on the analytical approach used to understand and interpret the information gathered. Hence, as explained, the data collection and analysis mainly developed in three stages. The first includes the use of *proformas*[6] which are presented in section 3 (p.22) allowing the reconstruction of the projects' narratives. The second stage, shown in Appendix A (p.56), involved the use of a table which allowed a deeper and schematic reflection on the main issues and the identification of emerging themes. The last stage involved the use of mind maps (Appendix B and C, pp. 70-71) which allowed creating conceptual/schematic connections between and among projects.

2. Methodology

The methodology used in this study followed a qualitative, exploratory approach. The information was gained through a desk-based research and a total of 30 projects across GM were identified through an Internet search. The main search engine used was Google where specific keywords (i.e. retrofit projects; eco-buildings, transition towns; community-owned/shared energies; etc.) were entered. Subsequently, the 30 projects were organised in a spreadsheet document under the categories of space, building and network according to the retrofit activity which was undertaken. Once that details of the projects were collected, 30 proformas (Part 2, section 3), one for each project, were completed. The *proformas* aimed to answer two main questions: 'why does the retrofit project exist' and 'understanding the retrofit activity'. These questions included a series of sub-questions which intended to reconstruct, in more detail, the narrative behind each project.

Subsequently the data was organised in an analytical table (Appendix A) which followed the same conceptual structure (i.e. headings and sub-headings) of the *proformas.* Hence, the columns were organised in:

- Governance of alternative retrofit space
- Priorities
- Conception of retrofit
- Representation of space
- Comparing space: what is alternative

Once that the information has been schematically reported in the table, I have developed two separate mind maps through the use of MindView, which is a mind mapping software programme adopted to generate, organise and present ideas on specific topics. The first mind map (Appendix B) was elaborated from the headings and subheadings used in the *proformas* and in the table:

[6] Adapted from Hodson and Marvin (2009b).

a) Governance of ‘alternative’ retrofit space
    - Who is involved and why;
b) Priorities
    - When the project was established;
    - Who established the project;
    - How is the project funded;
    - What issues it addressed initially;
c) Conception of retrofit
    - Is it about technologies, targets or buildings or is another type of retrofit;
    - What has been retrofitted
d) Representation of space
    - What space is represented;
    - How is it represented;
e) Comparing space – What is alternative
    - What effects it is claimed to have;
    - How it differs from dominant conceptions.

The second mind map (Appendix C) developed upon the concept of ‘space’ which, together with ‘alternative’ and ‘retrofit’ are elaborated theoretically in the part of the literature review (Part One, pp. 5-8) and empirically in the part of the overview and analysis of this paper (Part One, pp. 9-17).

3. Retrofit Alternatives *Proformas*

City:	Ashton-under-Lyne, Tameside
Project:	**Ashton Sixth Form College**
Summary:	Ashton Sixth Form College created a long-term strategy for reducing its carbon footprint. The school's plan includes small sustainable initiatives to raise awareness on recycling and the use of renewable energies through solar panelling and mini-turbines.

WHY DOES THE RETROFIT PROJECT EXIST?

The college designed a sustainability plan to reduce its carbon emission by 2011. There are small steps that the college aims to take in order to move towards a well-defined sustainability program. The college first main achievement is dated 2008 when it had installed the first own on-site wind turbine. In terms of funding, it emerges that the college's sustainability plan was developed and funded entirely by the school. The college paid £65,000 installation cost for the wind turbines. Initially, it sought capital support from the DTI (which is a governmental department for business innovation and skills) low carbon buildings programme, but the approved turbines on the DTI list were only the conventional horizontal axis turbines. Instead the College applied for a vertical axis wind turbine which, according to the DTI scheme would have been too noisy and it could have had relatively high start up speed. For these reasons, the turbines were not considered suitable for the site due to planning restrictions by the Local Authority. The application was, therefore, rejected and the school had to finance its own project. This consisted of having on site a unique vertical axis wind turbine designed to produce renewable energy cost-effectively, cleanly and quietly. In a recent sustainability report (2012-2015), the college underlined the difficulties in funding the cost of some projects (i.e. the creation of the Peace Garden outside the college) which meant that some sustainability initiatives could have not been developed. The sustainability project was planned to be effective by 2011 – which meant that by 2011 the school had to save 10% of the overall consumption of energy used by the campus.

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The college recognised the impact that climate change was having both globally and locally. The college decided to reduce the carbon emissions and make, on a larger scale, Timeside a more sustainable place where to live. Therefore, throughout a renewable energy system, it could also benefit financially and use it as an educational resource for students. Among a series of little actions to move towards sustainability (i.e. recycling facilities/policies; new windows and heating system for the main building; nature air heating and cooling system), the school was the first in the North West of England to have a vertical wind turbine installed on site. This wind turbine could have enabled Ashton Sixth Form College to generate 34% of the electricity that its building used each year from renewable sources. The main actor involved in the sustainability plan and in the installation of the wind turbine was the college. Its original proposal to the DTI low carbon buildings programme was not successful as mentioned above, therefore the school had to finance its plan and to independently seek professional advice. The main goal of the college was to develop a sustainability plan involved to reduce the carbon emissions by 2011. The aim was to create a greener space within the college and, on a larger scale, a sustainable future in Tameside. The school also aimed to reduce its costs through the use of renewable energy and to offer the installation of the wind turbine as an example for other schools and as an educational project for the students. The main actor involved in this project was the college and the private companies which offered professional advice and which installed the turbine. The school became involved in sustainability issues because it wanted to minimise its environmental impacts reducing the carbon emissions.

City:	Eccles, Greater Manchester
Project:	**Barton Village**
Summary:	The project led by City West Housing Trust aimed to transform the 1960s tower blocks in Eccles (Salford) into green buildings.

WHY DOES THE RETROFIT PROJECT EXIST?

This project aimed to refurbish four tower blocks in Eccles and it started in 2011 as part of the High Rise Programme which consisted in the investment of 54.3 million to retrofit 12 high rise blocks in the area of Eccles (Salford). The project was established by the City West Housing Trust, a not-for-profit organization. City West has set the '4Site Partnership' with Liverpool Mutual Homes in order to improve the services and reduce costs. In addition, City West has established partnerships with Salford City Council and Homes and Communities Agency for the development of this project. The project was funded by City West which financed 14.3 million for the regeneration of houses in Barton Village. The first block (Engels) was completed in 2012 whereas the last one to be refurbished (Wade building) is planned to be finished by 2014. The retrofitting work, thus, developed mainly between 2011 and 2014.

UNDERSTANDING RETROFIT ACTIVITY

The plan to regenerate the four towers in Barton Village developed from the desire of improving the well-being of the local residents and to adapt green measures to make the buildings more sustainable. The aim of City West was mainly to use innovative technologies which would have allowed saving money and being greener. Additionally, City West had the aim was to increase working opportunities for the youngsters in the area and to engage the community in local initiatives. Overall, the project aimed to refurbish four tower blocks at Barton Village starting from Engels House (2011-2012) which was the one in worst conditions. Once decisions were agreed between City West and the local residents, the buildings were improved both internally and externally. The installation of the innovative EcoPod heating system was arranged. In addition, energy efficient doors and windows were fitted, structural repairs undertaken and communal areas refurbished. The blocks were also wrapped with thermal cladding and security measures improved as video phones were installed in each flat. Solar panels were fitted on Engels building and they could allow residents to save an average of £500 a year off their heating bills. The main actor involved in the retrofit project is City West which launched the regeneration plan for Barton Village. The other key actors are the tenants who collaborated with the organisation to design a retrofit project which could have benefitted them, reduced their bills and improve the efficiency of their flats. The reasons why these actors became involved are evident. One the one side, City West aimed to invest large sum of money for the redevelopment of Eccles area, of the properties they owned and managed. On the other hand, the residents were involved in the designing and planning process as this was part of the developing approach followed by City West, as highlighted on its website. The residents were also the main clients of this retrofit project as they represented those who should have benefitted from the changes. City West became involved in the project as it owns and manages properties in West Salford. It is plausible that behind the investments and retrofit projects made by City West there is the commercial desire of emerging among its competitors. City West like other social housing organisations is not-for-profit and is in need of attracting funds, partners and cooperation which will allow its growth. The involvement of Barton residents is unavoidable as one of the key aims is the well-being of the tenants and local communities.

This case study underlines the retrofitting and regenerating practices of a big housing association – City West – which owns and manages properties in Salford. The involvement of this organisation in the Barton Village project made me reflect on the role of a not-for-profit organisation in the restoration of buildings and communities. The commercial driver behind these operations is of key importance in understanding actors' involvement and the development of 'social enterprises'. In this scenario, it is plausible that the ethical role of housing associations is undermined by the commercial

side of their operations.

City:	Rusholme, Manchester
Project:	**Birchfields Park Forest Garden**
Summary:	The 'Friends of Birchfield Park' group aimed to improve the park, to grow its own food, to experiment permaculture techniques and to make it more attractive to local residents.

WHY DOES THE RETROFIT PROJECT EXIST?

The forest garden, near Dickenson Road and Birch Polygon (south-central Manchester) was established in Birchfields Park in 2007. Although the idea of developing Birchfields Park Forest Garden started many years ago by the members of Birchfields Green Action Group and Friends of Birchfields Park, it was finally put into action in 2007, with the support of Manchester Leisure and Operational Services and the Red Rose Forest's ''Fruits of Red Rose Forest'' Local Heritage Initiative. This project has been funded by various organisations which include Red Rose Forest (via the Heritage Lottery Fund), Wildabout Manchester, Awards for All (a lottery grants programme that funds small, community-based projects across the UK) and Friends of Birchfields Park. The project is still running and does not have an ending date. It is still maintained by volunteer group members and local residents who share the common objective of sustainable environmental practices in order to benefit local communities and the space they share.

UNDERSTANDING RETROFIT ACTIVITY

The forest garden has been developed from a disused green space in the south-central part of Manchester to create, within the urban landscape, a sustainable and ecologically productive public garden. This newly created space could provide fresh food and a social environment for the local community. The idea behind this project was to recreate the patterns and processes of natural woodlands which, according to the residents involved, could have been engaging, productive, educational and sustainable. Bierchfiedls Garden Forest aimed to achieve its environmental and educational goals encouraging, supporting, and acting as a model for sustainable ways of living and improving the sustainability of the local neighbourhood. The transformation of this space into a green, productive environment increased food security. It provided a source for local food through the reduction of food miles and CO2 emissions. In cultivating and experimenting permaculte practices in the garden the project aimed also to increase biodiversity in Manchester and raise awareness on the possibilities around the sustainability theme that a green urban space can generate. The key actors are the group members of the Bierchfield Park Forest who had the first idea about the project and the Friends of Bierchfield Park. The Red Rose Forest group "Fruits of Red Rose Forest" and Manchester City Council became also involved in supporting the project. As stated earlier, the piece of land belonged to the Council so it is plausible that the Council has donated it to the community group to develop/transform it. The community group became involved because they wanted to create a sustainable green area in a piece of land which was used only as a rose garden by the Council. The group wanted to implement permaculture practices and use the garden as a demonstrative space to show that it is possible to grow food and wildlife within the boundaries of a city. The Council materially supported (giving the garden to the community group and partly financing it) the project. The community group shared similar environmental concerns and values. Also the Council shared similar concerns in a time of national, regional and local environmental pressures and initiatives. This is supported by the fact that one of the founders of the project was the Council's department Wildabout Manchester – which was set in 2006.

City:	Moss Side, Manchester
Project:	**Bowes Street (Bus)**
Summary:	Manchester City Council invited the community to make suggestions for a 'meanwhile' use of the land while its long-term future was discussed to regenerate Moss Side. A disused bus donated by Stagecoach was transformed in a community space.

WHY DOES THE RETROFIT PROJECT EXIST?

The idea of establishing the project goes back to 2008, when Manchester Council wrote the first proposal to discuss the future of Bowes Street Coach depot as part of the regeneration of Moss Side. Once that the Stagecoach left the depot, the land was acquired by Manchester Council which invited the community to make suggestions for a 'meanwhile' use of the land while its long-term future was discussed. Manchester Council offered the possibility for the community in 2011 to use some of the site as a short-term project. More recent residents' initiatives of a community orchard developed in May 2013. The idea of a short-term project was launched by the Council, however the type of project(s) was decided by the local residents. Overall, Manchester Council has provided £10,000 through regeneration funding and cash grants for the project. Stagecoach donated an old disused bus to the community. The community has been given two years to develop a short term plan to restore the area and prepare it to bigger and longer term investments and plans.

UNDERSTANDING RETROFIT ACTIVITY

This project aimed to reduce poverty and social exclusion and to enhance the economic and environmental opportunities of the area. The Council aimed to enhance opportunities for the attraction and retention of economically active residents and workers to Moss Side. This objective was planned to be achieved through the transformation of the built environment (i.e. build new eco-houses and new infrastructure; create greener spaces). The Council also planned to combat poverty and reduce crime rates by involving the local communities hoping that this could foster individual and collective self-esteem by improving residents' homes, their environment and neighborhood. The Council planned to restore the area with the involvement of the local community and through investments in new buildings and infrastructures. According to the Council, the intervention of the local community in short-term projects (i.e. urban orchards and the refurbishment of the old bus for community purposes) could have started changing the environment while longer-term plans were defined by the local institution. The local community, on the other hand, has the interest to rejuvenate the area and to make changes because it has been long considered a deprived area of Manchester where crime and violence were largely spread. The key interest of the Council related mostly to the financial viability of the plan. In investing money in new estate developments the whole area around Moss Side could have been rejuvenated both environmentally and socially. The Council planned a long-term rejuvenation scheme (i.e. build eco-houses around the old depot area to increase the value of the neighborhood) and it involved the local residents to come up with a short-term plan to start restoring the area. The interests of the residents were more on a community level. Members were looking for community cohesion and to be given autonomy in the planning and development processes. Therefore, the main interests around the development of Bowes Street in Moss Side were to combat social exclusion and reintegrate into Manchester a marginalised area of the city. Through this project, the Council hoped to attract more home-owning families, to keep families in Moss Side and to help increase the value of existing homes. The residents, on the other hand, hoped to raise awareness on the importance of keeping the area nice, tidy, green and of having a cohesive community group that was looking after their space. The involvement of the Council was necessary to have the financial support to regenerate the area and for lunching the idea of a short-term plan run by the residents in Bowes Street. In involving the local community a degree of autonomy from the institutions was achieved and the needs and wants of the residents were better represented.

City:	Manchester
Project:	**Chimney Pot Park**
Summary:	Chimney Pot Park is an example of regeneration project of an area occupied by existing terraced houses previously designated for demolition.

WHY DOES THE RETROFIT PROJECT EXIST?

The starting date of this project is 2010. This is the year in which the Residents' association uploaded their constitution online which appears to be also the date in which the Residents and Tenants Association of Chimney Pot Park formed. The refurbishment of the Victorian houses in this area of Salford was part of the Government's housing-market renewal scheme. Salford was recognised to be an area in great need of revival for its past of exclusion and crime. In conjunction to this plan, the association formed and it was representative, as written on their website, of the residents of Chimney Pot Park. From the national archive website it appears that the refurbishment of Chimney Pot Park was funded by the partnership among Salford City Council, the community (represented by the Seedley and Langworthy Trust) and a third set of independent stakeholders, including representatives from Greater Manchester Police, Salford Primary Care Trust, Manchester Methodist Housing Association, Manchester Enterprises and Buile Hill High School. The partnership was formalised in 2003 through a development agreement between Urban Splash and English Partnerships, Salford City Council and NWDA. The budget used to remodeling Chimney Pot Park's houses was of £24m.The Victorian houses in Chimney Pot Park have been all refurbished up to date.

UNDERSTANDING RETROFIT ACTIVITY

The area of Seedley and Langworthy (a.k.a. Chimney Pot Park) has been neglected by the local authorities for a long time. This has lead to a low demand for property, low property values and widespread areas of dereliction. The developer of the area has been approached by a local MP for ideas to redevelop the site reusing the existing old houses. Hence the architects of Urban Splash started to remodel the traditional terraced homes to provide modern living accommodation. The plan, however, did not meet the needs and wants of the community who occupied the area before the retrofit project was approved. Although the promise from the Council and developers was to make the refurbished houses affordable for local people, once completed, very few people in the area could afford one, or wanted one. Only 18 houses were kept back for local people (with a further 12 in reserve) and only a dozen were bought by local people. The rest was bought by 'outsiders'. At Chimney Pot Park, an established architect (Urban Splash) and developer team, in partnership with Salford City Council, English partnerships and NWDA, have developed the regeneration project. Although the local community was said to play a crucial role in this project (Urban Splash website), once that the houses were completed, they could not afford to own them as they were too expensive. The interests of the investors were, presumably, economic. The Council wanted to revamp the Chimney Pot Park area as part of the rejuvenation programme of excluded areas across Manchester/Greater Manchester. The local community of Chimney Pot Park started periodical meetings also to take decisions as an association.

Whereas the Chimney Pot Park project represents an example of retrofit as more 300 Victorian houses around the area have been refurbished and converted into modern eco-efficient buildings, the community element was not discussed. According to the information gathered online, the local residents of the refurbished houses were offered £10000 to leave their houses, but they were offered also the possibility to go back to the area and buy the houses for much cheaper prices than 'outsiders'.

This is an example of how a refurbishing plan -which aimed to re-integrate excluded parts of the city, to improve the quality of life of local residents and to represent their needs/expectations, achieved the opposite outcome and, instead, it foster exclusion. This example is also a case of separation instead of co-operation between local institutions and members of the community.

City:	Davyhulme, Greater Manchester
Project:	**DESP (Davyhulme Energy Saving Project)**
Summary:	Davyhulme Energy Saving Project was set up by a community group and it has been working with the Energy Saving Trust, with the support from Trafford Council, to introduce energy saving measures in homes around Davyhulme area.

WHY DOES THE RETROFIT PROJECT EXIST?

Although IDEA (Improving Davyhulme's Environmental Awareness) was established in 2006 as a group which encouraged good environmental practices across Davyhulme, their activities led them to achieve eco-congregation status for the church in 2008 and in 2009 they set up a Davyhulme Energy Saving Project (DESP). A church-based community group (Christ Church Davyhulme) started the DESP project in Manchester. The group wanted to work with the local community of Davyhulme as well as with church members. When IDEA was established they were not very related to the Church but they tried to be mainly involved with the local residents of Davyhulme. The group was supported in the energy saving project by the Council and the Energy Trust Advice Centre in Manchester. DESP aimed not only to introduce energy efficient measures in the houses around Devyhulme but also in the 40 years old parish hall. For this project, they planned to use their funding (members raised around £4,000) from their own resources and an award of £20,950 from The Veolia Environmental Trust, made through the Landfill Communities Fund. In regards to the improvements of the neighborhood, they received the support of Trafford Council – although on the web it is not clearly specified. This assumption is made because the project aimed to enable residents to install discount cavity wall and loft insulations and the Council offered financial support for those who wanted to adhere. Originally the project expected to last for two years. In the first year, it achieved the aim of enabling more than 180 homes in Davyhulme to install energy saving measures, and in the second year it focused on the renewal of the Parish Hall (2011). However, a specific ending point has not been found on the internet as the community group is still active in organising energy saving activities.

UNDERSTANDING RETROFIT ACTIVITY

The project aimed to raise awareness about the environment on a local, national and international scale. The first goal was to reduce local carbon emissions from households, reducing energy use while helping houses to save money. The group also planned to renew Devyhulme Parish hall because it was only 22% efficient at preserving energy. The energy consumption improvements would have kept the cost of the Parish hall hire by the community low even with ever increasing energy prices. In order to involve the local community, the group organised meeting and several activities to make people aware about local and global environmental issues. For example, in 2008 DESP organised a community litter-picking event. The group developed also a gardening project with a local school and created a portable display board which contained ideas and information about green issues. In regards to the Parish hall, IDEA aimed to have insulation installed throughout the hall and to reduce the amount of heat energy lost through the roof and walls. Additionally, the hall's inefficient 40-year-old gas boiler was in the plan to be replaced with a high efficiency condensing gas boiler for the hall. Also double glazed windows and doors were planned to be installed which replaced the draughty originals and diminishing the amount of energy the hall loses. The first actor involved was the community group which formed within the Church and which became soon after IDEA which involved also the community of Devyhulme. The group worked in partnership with Trafford Council and the Energy Saving Trust. The Davyhulme Energy Saving Project (DESP) applied to become a member of the Energy Saving Trust's Green Communities in early 2009. The Devyhulme Parish church was involved as well and, thanks to the initiatives of the group, it has been given the award of eco-congregation status. The main and most obvious reason why these actors cooperated was to achieve high green standards among the Davyhulme community/area in Trafford. First the community group was interested to raise awareness among church members and community members on environmental issues. The community group needed the financial support from the Council (who offered help in the energy scheme to the residents of Devyhulme) and of the Energy Trust.

City:	Manchester
Project:	**Didsbury Dinners**
Summary:	This project developed from the desire to use abandoned pieces of land in South Manchester to grow fruit and vegetables.

WHY DOES THE RETROFIT PROJECT EXIST?

Amanda Woodvine, a member of Didsbury Dinners group, a not-for-profit community interest company, noticed that there were not enough opportunities to locally grow vegetables and fruits and she suggested the idea of establishing a community food growing project. In July 2011 the first community orchard was set in TocH Rugby Club (Didsbury). The project started to develop and in 2012 the Community Growing project established the goal of setting 5 new community gardens/orchards along Barlow Moor Road – in this area the project transformed an unused piece of land to grow fruit and vegetables. In November 2012 the Didsbury Dinners created a new community orchard in Fog Lane Park. The idea of this project was launched by a member of the, already existing, Didsbury Dinners group. The first community orchard, set as part of the Community Growing initiative, was assisted by volunteers from Didsbury Greening and Growing Group. The funds came from different sources. The selling of the book Didsbury Dinners Cookbook and Didsbury Dinners: The Low-Carbon Community Cookbook generated some funds. In an interview with a group's member, it has been specified that in order to publish the book Didsbury Dinners had to apply for a cash grant at the local Council and, after that, the group tried to generate income from other sources, in the form of grants or sponsorship, such as trusts/foundations, private donors, membership, events, trading and advertising. Didsbury Dinners is registered as community interest company and donations have been made by some individuals through the website 'local giving'. As specified in the group's website, apart from the selling of the books, the group relies on donations and trading income from the Corner Shop. On the website 'Actions for Sustainable Living' an ending date of the project is not specified. According to some updates published in May 2013, the community group secured a piece of land in Withington for 4 growers to share. An initial two years agreement has been given to Didsbusry Dinners. Another plot has been secured in East Didsbury with an initial 6 month agreement over the land – this is subject to monthly review thereafter.

UNDERSTANDING RETROFIT ACTIVITY

This retrofit initiative was established from the lack of growing spaces around South Manchester were vegetables and fruit could be produced. The community group Didsbury Dinners decided to set a Community Growing project across different areas (some unused) in South Manchester. The idea was to start transforming parts of land which were not in use to grow food. Initially the project developed in TocH Rugby Club on Stenner Lane, in 2012 the project expanded and made use of land around Barlow Moor Road. After this, in November 2012, a new community orchard in Fog Lane Park was created. The idea behind this project was to be self-sufficient in producing local food, but also the involvement of the community in growing/gardening processes had a key role. The main actor involved in the project is the Didsbury Dinners community group which initiated it (one member of the group had the original idea). The other key actors are the residents who Didsbury Dinners group aims to involve in the Growing project. Although the main area where the group works is Didsbury Village, it also established Fletcher Moss Community Orchard, Fog Lane Park Community Orchard. The group also worked in Westcroft Community Centre (Burnage) to create a food garden on its site. Didsbury Dinners created the Community Growing project in order to produce food from gardens which were not in use. The main ideas behind this initiative linked to be self-sufficient and to contrast climate change. Another reason why the group developed the Growing project relates to the possibility to meet new people and be active. The community group Didsbury Dinners was already active before it developed the idea of a Growing project. The lack of urban plots in South Manchester where community groups could grow and produce their own (shared among group members) vegetables and fruit brought a member of Didsbury Dinners to propose the creation of a community growing project. Residents or land owners became involved because through the gardening of the Didsbury Dinners group they could keep their lands tidy and productive.

City:	Manchester
Project:	**Fairfield Composting**
Summary:	Fairfield Materials Management was founded in 2003 by a small group of ecological activists, horticulturists and social entrepreneurs. This social enterprise focuses on minimising waste, and bringing social and environmental benefits to Manchester.

WHY DOES THE RETROFIT PROJECT EXIST?

Val Rawlinson (who is the funding director of Fairfield Composting) became involved in the East Manchester anti-incineration campaign in 1996. The incinerator was not built, but the campaigners realised that they had to prove that environmental and social alternatives were available and could work successfully so Fairfield Composting was created in the same year. The Fairfield Material Management project was established later in 2003 – this was Manchester's first in-situ compost producer, and the first in the UK to develop a commercial enterprise which used the Vertical Composting Unit system. The project was established with the help of small group of ecological activists, horticulturists and social entrepreneurs. The members of the project were successful in receiving funding from the ACF (Adventure Capital Fund). The project received money from the ACF in three stages. First, it was awarded a loan of £120,000 and a grant of £80,000. This meant that Fairfield Material Management ltd could be launched in July 2003. The following year it received another grant of £50,000 and then a final loan of around £30,000. In addition, according to the Debdale EcoCentre webpage, some funds came also from the Beswick and Bradford local community. The project does not have an ending date and it is planning to work with schools, nurseries, allotment societies, community groups, social services and individuals who are interested in creating and use their own compost.

UNDERSTANDING RETROFIT ACTIVITY

Fairfield Composting has aimed to promote and encourage community and home composting within Manchester and Oldham since 1996. Fairfield Composting planned to produce compost from wasted fruit and vegetables that was produced in New Smithfield market. Fairfield compost is a sustainable and cost-effective choice for soil treatment, soil improvement, turf management and landscaping applications in Greater Manchester. In order to produce a commercial sized composting system for New Smithfield Market in Openshaw (East Manchester) Fairfield Compost developed a vertical composting system which allowed placing the waste management system on an area of the market with limited space. Fairfield established the first sustainable waste management system in UK to operate on a wholesale market. Based on the New Smithfield market site (East Manchester), Fairfield has diverted 6,500 tonnes of organic market waste material away from landfill. The composting project receives vast amounts of biodegradable fruit, vegetable, plant and flowers from the New Smithfield Market, and 'green waste' from landscapers, parks and waste companies. As mentioned above, all this delivered material which would be otherwise wasted, is processed using a specific composting method. Fairfield Compost aimed also to educate other groups and individuals to be able to self-produce and use compost to grow their own plants and food. The first actor who became involved in producing compost was Fairfield Composting (later to be called Debdale Eco Centre) which was established in 1996. When the community group received the necessary funds to develop and produce a commercial size compost system in 2003 Fairfield Materials Management was founded. These actors became involved because they aimed to launch the first composting production system within UK and in Manchester in order to benefit the local communities but also to use it as a model which could have been replicate in other parts of UK. The Fairfield Composting project was established from a protest against the creation of an incinerator in Fairfield. When the community group received the necessary funds to develop, the Fairfield Composting became Debdale EcoCentre whereas the composting society grew and formed the Fairfield Materials Management ltd in 2003 in order to adopt sustainable ways of waste management. An interesting aspect of this project is linked to its origins.

City:	Fallowfield, Manchester
Project:	**Fallowfield Loopline**
Summary:	The Fallowfield Loop is an off-road cycle path, pedestrian and horse riding route in Manchester which runs approximately 8 miles. It has been created from a disused railway line.

WHY DOES THE RETROFIT PROJECT EXIST?

The Fallowfield Loop was a railway line in Greater Manchester which was not in use since 1988 until the late 1990s. This line was a loop which started from Old Trafford and ended at Fairfield. In the late 1990s a group of cyclists started campaigning to have it converted into a traffic-free green space across South Manchester. This group, with the support of local civic organisations and other community groups (not clearly specified in any website which other groups were involved) formally became the 'Friends of the Fallowfield Loop' in June 2001.
The creation of the cycling path was done by Sustrans, a charity which specialises in building off-road cycle routes. However, the initial campaigns to convert the railway into a green, traffic-free space started by the Friends of the Fallowfield Loop. In 1998 the former railway was acquired by Railway Paths Ltd. Funding was obtained from a New Opportunities Fund Lottery grant and Manchester City Council and the route was opened in summer 2003.
According to the Friends of the Fallowfield Loop's website, Sustrans has partly funded conversion of the route, with the help of Manchester City Council, Sainsbury's and others (not specified). There is not an ending date as the railway line has been already converted. The Fallowfield loop is currently used by cyclists, pedestrians and horse riders.

UNDERSTANDING RETROFIT ACTIVITY

The main aim of the 'Friends of the Fallowfield Loop' is to encourage and support all the partners in the Fallowfield Loop route to look after and keep on developing an important community resource which was abandoned for many years and to encourage its use by as many people as possible. The Loop represents a green corridor around urban Manchester which runs in areas of the city which have high levels of traffic. So the main problem that the group is addressing is the chaotic urban character of the areas around South Manchester (re-)using an already existent resource to develop a greener open space where people can make use of other, less polluting, means of transport. In order to maintain the project and keep it clean, the group also organises periodical litter picking events. The Friends of the Fallowfield Loop campaigned to have the urban areas which connect the disused railway line converted into a greener space where people could enjoy the traffic-free space to walk, cycle or ride horses. The main actors involved are the Friends of The Fallowfield Loop which the community group and Sustrans which is the charity that converted and partly funded the work to transform the area into a cycling route. In addition to them, the Manchester University's School of Environment and Development has created a map and information leaflet for those people that want to use the loop. In spite of the fact that it has been mentioned in the Friends of the Loop website that the Manchester City Council somehow got involved in the project (maybe it funded parts of it – however details are lacking), the Sustrans' website clearly specifies that Manchester Council has funded for a one-mile extension of the path. Sustrans is the biggest charity in UK that focuses on the creation and maintenance of cycling routes around UK. So its involvement is mainly related to the creation of a new route within an urban environment. The Friends of the Loop have the common goal to develop and look after this space which represents a green corridor secluded from the traffic and chaotic urban life across South Manchester. Although the role of the City Council is not clear, according to Sustrans, it seemed to have funded parts to extend the loop.
Before they formally became The Friends of the Loop, a group of people campaigned to have the disused railway route converted into a traffic-free space. Civic societies (not specified which ones) and Sustrans became involved to support the Friends of the Loop. Sustrans is also a popular charity specialised in creating areas around UK for cycling purposes. The role of the Council is ambiguous and, therefore, is hard to understand how it got involved – possibly in terms of permissions and for some financial support to develop the loop. In the development of the Fallowfield Loop project, the main cooperation which emerged from the information found on the web is between

the Friends of the Fallowfield Loop and Sustrans.

City:	Fallowfield, Manchester
Project:	**Fallowfield secret garden**
Summary:	The project started in a disused piece of land in Fallowfield which has been donated by City South to Mark Roberts, a tenant in Fallowfield, in order to develop a community garden.

WHY DOES THE RETROFIT PROJECT EXIST?

Following a planning workshop in November 2011, the garden flourished during 2012 when vegetables, fruit and plants started to be planted. With the support of Manchester-based charity Action for Sustainable Living, City South tenant Mark Roberts, came up with the idea of planning a 'SecretGarden'. After having noticed his 'green skills', the management team offered him the opportunity to transform the piece of land behind his house for the benefit of the community. The project started when the registered landlord City South Housing Trust donated some of its land to be transformed into a community garden and Mark Roberts, a local resident, was chosen to manage the project. Mark encouraged local people to become involved and to design and build the garden themselves. The project is supported and funded by City South Housing Trust, Action for Sustainable Living, Groundwork's Eco Streets, Grow Manchester and U Decide. The funding for its development has been secured from the community grants programme Groundwork Eco Streets and The Woodland Trust. The charity Action for Sustainable Living has also supported Mark in applying for grants. The start-up funds have been offered by City South which helped to launch the project. Staff from City South offered also advice and support for the project. Additionally, Mark Roberts's project was supported by 15 members of the Secret Garden Residents' Group which consisted of City South tenants and local residents, who were keen in offering their ideas for the Secret Garden's development. The project does not have an ending date.

UNDERSTANDING RETROFIT ACTIVITY

The project started to engage the community of Fallowfield (but not only as it encourages individuals from other parts of Manchester who share similar green interests to be involved) to transform an abandoned green piece of land in urban Manchester to grow plants, fruits and vegetables. The sustainable and aesthetic elements of the garden mix with the desire of creating a community space where people can learn and share values and ideas. The aim of the Secret Garden project was to involve as many local people as possible to grow food, herbs, flowers, fruit and vegetables. Workshops were also planned in order to learn new skills and share knowledge particularly on permaculture and sustainable living. The project – hence – aimed not only to create a green space within an urban environment but also to empower the local community to transform the area where they live.
The key actors were the City South Housing Trust, a social business which provided houses in Manchester South and Mark Robert who was a tenant in Fallowfield. Whereas the latter seemed to be moved by a personal/individual passion for developing green spaces (he grew an allotment in the back of his rented house) the former is a business with a focus on social/community interests. City South Housing Trust was the owner of the land which has been donated to Mark Robert. Their business is focused on communities and residents to create pleasant neighbourhoods. City South represents a key actor in this project because it has the financial/material means to start and sustain it. It is relevant to mention that Mark Robert applied for funds through the help of the charity Action for Sustainable Living which provided advice on how to structure and submit the proposals. Other tenants of City South have supported Mark to develop his project. The tenant, Mark Robert, has been given the opportunity to look after a disused piece of land in Fallowfield to plant and grow vegetables, fruits and plants with the help of other members of the local community. The reason why he became involved in the project is related to his passion for the environment. Before he started cultivating the Secret Garden he had – in his back garden – a small allotment – which impressed his landlord. Not long after, he has been contacted by City South Housing Trust to rejuvenate a local abandoned piece of land. The mission of this social housing trust is to meet the needs of groups of communities who live in the South areas of Manchester. City South Housing Trust underlines, in its website, that it is not only money oriented but it also values the welfare of the tenants. This is the reason why they

promote and try to increase/improve green spaces around the properties that they rent/sell.

City:	Ramsbottom, Bury
Project:	**Incredible Edible Beer Garden**
Summary:	The Eagle + Child pub had a space of unused garden which has allowed the owner to develop an outdoor kitchen, a polytunnel with vegetables beds, the production of compost, a shed with living roof, fruits and ornamental beds and a mini orchard with chickens.

WHY DOES THE RETROFIT PROJECT EXIST?

In October 2011 the Ramsbottom pub 'The Eagle and Child' re-opened with the plan of transforming the disused acre of land adjacent to the pub into a beer garden for local community use and for the development of sustainability activities/initiatives. The project was proposed by Glen Duckett who is the owner of the pub. In the attempt of developing this plan he involved the 'Incredible Edible Ramsbottom' group to help him. Incredible Edible is a community group made up of people who aspired to help Ramsbottom to develop a sustainable future and to help the village to become a better place to live and work through environmental and social sustainability. The project was funded by Glen Duckett, the owner of The Eagle and Child, through the development of local fundraising activities and thanks to the help of Twhaites, which is a regional brewery in Lancashire. Glen Duckett is working in cooperation with the charity Incredible Edible Ramsbottom and with groups of volunteers to complete the transformation of the pub garden. Incredible Edible Ramsbottom received a donation of £2000 from the Co-Operative's Community Fund, and this benefitted also the project at the Eagle and Child pub. There is not an ending date of the project but it keeps on developing through community activities.

UNDERSTANDING RETROFIT ACTIVITY

The project aimed to use and transform a piece of disused land adjacent to the pub. This garden served as a learning ground for horticultural students as through its development they could learn and experiment new gardening techniques. The garden was also used to inspire and engage the local community to get involved in growing, cooking and eating locally produced food. According to the project's website, the creation of this garden – which represented the symbol of this new social enterprise – should have helped young people who were not in education or training, to have new opportunities in life, by gaining qualifications and work experience. As a result of this, while working in the kitchen or in the bar, employees could work towards vocational qualifications which would have allowed them to have more employability opportunities within the catering industry. The project aimed to address youth exclusion and to gather the local community together by creating a social space – the pub garden – where young people and community members could not only grow food but also share environmental values. This locally produced food was used in the pub restaurant and it represented also a way to experiment new horticultural techniques. Also youngsters who were not working or studying had the opportunity to be trained in the pub to gain useful qualifications. The main actors are the owner of the pub, Glen Duckett; the Incredible Edible Ramsbottom and the local community of Ramsbottom. The common interest of the people involved was to transform a space for the benefit and enjoyment of the community. Among these expectations, the owner of the pub wanted to create a space for youngsters who were not socially integrated and he wanted to train them to allow their reintegration into work or education. Glen Duckett already became involved in social initiatives in the past. He was for a number of years a youth worker in the North East offering training and education, horticulture and environmental work with teenagers and disadvantaged young people. Incredible Edible Ramsbottom is a local charity focused on the involvement of the local community in green and sustainable initiatives. So both Glen and the charity share the goal of improving their local surrounding and work for better environmental and social futures. There are not many differences in the way these actors became involved. Glenn Duckett had already the pub and he wanted to transform the piece of land close to it for environmental and social purposes. The charity is a local organisation in which Glenn Duckett actively participated. Once he proposed this idea and the charity supported him with fundraising campaigns.

City:	Manchester
Project:	**Chorlton Refurb - Local Energy Assesment Fund (LEAF)**
Summary:	The Local Energy Assessment Fund is a new £10million fund to support community action on energy efficiency and renewable energy.

WHY DOES THE RETROFIT PROJECT EXIST?

The funding for the project was secured in January 2012 and the proposal was submitted online to the department of Energy and Climate Change between December and January 2012.
Green Chorltonand Chorlton Refurb submitted a project proposal to receive support from the Department of Energy and Climate Change as part of the Local Energy Assessment Fund. LEAF was a national programme which aimed to support community organisations to develop environmental plans to tackle climate change. In order to receive the funds, the community projects needed to focus on energy efficiency and on the local use of renewable energy in conjunction with the deployment of solid wall insulation. And this was the aim pursued by Green Chorlton and Chorlton Refurb. Green Chorlton has received £38,000 funding from the Department of Energy and Climate Change as part of their Local Energy Assessment Fund to work with Chorlton Refurb.
As established by the funding scheme, the project had to be over by March 2012.

UNDERSTANDING RETROFIT ACTIVITY

The project aimed to focus on houses around Chorlton area which were old and less energy efficient. This plan addressed the environmental issues of climate change and energy waste hoping to create a better awareness among the residents of Chorlton who were living in environmentally inefficient properties.
The project established by Green Chorlton alongside with Chorlton Refurb had a detailed plan explained in the proposal submitted to receive the funding. Firstly, the aim was to identify the main types of housing around Chorlton which were old and not energy efficient. Afterwards, 20 assessments of these typical examples of housing were carried out by the organisation. These evaluations focused on air permeability testing and thermal imaging. Questionnaires were distributed to the owners of the houses to find out what they wanted to achieve, how much they spent on bills and how they used energy within their houses. In the last stage of the project, each householder received a personalised report on what could be done to reduce energy use and to keep the house warm. The key actors of the LEAF project were the Chorlton Refurb organisation alongside with Green Chorlton. These actors focused primarily in raising awareness among the residents in Chorlton to be greener saving money in their households. The LEAF project, at the same time, was funded by a Government grant which was put in place for community groups across UK to foster awareness of climate change and energy issues.
The involvement of the Department of Energy and Climate Change was crucial in order to receive the financial support to develop LEAF project in Chorlton. The community organisation was equally fundamental as the grants were offered only to initiatives which were developed locally. Chorlton's proposal highlighted the need to develop the LEAF project locally as a number of houses in the area were 100 years old and they were not constructed using the latest materials. Their size and location were also considered when the decision of awarding the funding was made. In addition to the key actors involved in developing LEAF project in Chorlton (i.e. Chorlton Refurb and the Department of Energy and Climate Change) there are local experts/consultants who have been involved in order to organise and deliver workshops among the residents of Chorlton and to offer professional advice on how to reduce the energy use and save money in households.

City:	Manchester
Project:	**Loreto College**
Summary:	Loreto Sixth Form College was redesigned to promote a sustainable development to the wider community and to generate an "eco friendly" building for the use of the students.

WHY DOES THE RETROFIT PROJECT EXIST?

On the web is not specified exactly when the College started to be refurbished. However, according to the documentation found on Breeam website, in 2009 the building (The Ellis and Kennedy building) was already shortlisted for the Breeam Awards. In accordance to the documentation provided by Breeam, the client of the refurbishment project of Loreto Sixth Form College was the school itself – although – as specified later – the funder is a different body. The project was funded by the Learning Skills Council and a condition of the funding was to achieve a minimum 'BREEAM Very Good' rate. The total cost of the project was of £20m. As reported on the web, the refurbishing project is now completed.

UNDERSTANDING RETROFIT ACTIVITY

The retrofit project fostered the promotion of the sustainable development of the College. The eco-transformation of the building meant to be not only an example for the wider community (e.g. staff members, students and their families, the neighbourhood) but it also represented an innovation with the introduction of eco-features to the building. At the early stage of the project development, the design team and client addressed the need to protect the environment through transformative practices in the School building. In the redesign of the building which aimed, as stated above, to be environmentally friendly, the client (i.e. the College) and the other members of the project team set targets for CO2 reduction and the use of renewable and low carbon technologies. The Ellis and Kennedy Building is the result of eight years of rebuilding across the college campus. As reported in the Loreto College's website, the building is the most 'eco-friendly' public building in the City of Manchester with solar panels, ground source heat pumps and rainwater harvesting. The environmental consultant Breeam specified the eco-features which have been fitted in the college's building. Among these, the school, after being retrofitted, benefits from ground source heat pumps and photovoltaic cells, improved permeability rates, and high efficiency plant such as chillers with waste heat reclaim and evacuated solar tubes feeding into the heating system, naturally ventilated spaces, good local controls for heating and lighting, solar control glass and high acoustic targets, a green roof to reduce the ecological impact of the development and rain water harvesting and low water use. The College aimed to redesign and restore the campus with a strong environmental focus. The building was fitted with eco-features and it aimed not only to be an example for the wider community but also to provide an excellent/efficient learning space for students and staff. Therefore, the reasons for getting involved were, for the College, twofold. There is the combination of environmental and social elements. The other members of the team have been commissioned the work – so, for them, the predominant reason to get involved was financial. In regards to the involvement of the Learning Skills Council which was the founder of the project, it planned, according to a report published by the public affairs committee, to refurbish more than 150 colleges within UK. This plan was financially mismanaged by the LSC failing to introduce measures to prioritise or control costs. It approved projects for 79 colleges that required nearly £2.7bn more than it could have afforded.

City:	Manchester/Greater Manchester
Project:	**Love your bike**
Summary:	This project aims to promote cycling across Manchester and Greater Manchester as a low-carbon and sustainable means of transport.

WHY DOES THE RETROFIT PROJECT EXIST?

The Love your bike campaign was launched in March 2006. This project was established by Manchester Friends of the Earth (MfoE), an environmental movement which campaigns on local, national and international levels. In particular the group is focused on environmental and social justice. The group is formed entirely by volunteers and the initiatives are usually funded through individual donations, charities and the membership fee to join the group – which is not compulsory. Before 'Love your bike' was born, Manchester City Council invited the submission of bids by local charities and non-profit organizations in order to receive funds from the Neighbourhood Renewal Fund to develop sustainable projects. Manchester Friends of the Earth submitted a proposal which was successful. The proposal submission was followed by an extensive preparation during which the name of the project and the marketing campaign were defined. During this preparation other parties were involved such as the Manchester City Council and public relations company Creative Concern. The original funding, therefore, came from Manchester City Council. The funding that the project received came also from private businesses, sponsors, donations and municipal funds(no details on who they are, are provided.). The project is still on-going without a specific ending date.

UNDERSTANDING RETROFIT ACTIVITY

The main issue that the project aimed to address was the environmental sustainability within urban spaces and the reduction of carbon emissions. In order to reduce CO2 production the campaign focused on the use of bicycles to commute and travel across Manchester and Greater Manchester. Cycling, as specified in the Friends of the Earth website, is not only a more sustainable way of moving around the city but it is also accessible to the majority of people and – therefore – it is socially inclusive. The Friends of the Earth aimed to promote cycling through the availability of a restricted budget. Cycling was promoted as fun, accessible and socially inclusive. As argued on the Love your bike website, it is cheap and it does not have to be close to public transport nodes. In order to develop the cycling campaign, the group prepared promotional material which was distributed within the City. This included, for example, fluorescent vests with the Love your bike logo – these vests were given out to cyclists who could show the message through the traffic. Another initiative included the production of postcards which were distributed around Manchester city centre in the attempt of reaching mainly people who were not into cycling. So the promotional material was available not only in bicycle shops, but also in bars, shops, hairdressers and cafes. In addition to marketing campaigns, the Friends of the Earth put in place little events, such as Bike Friday which consisted of monthly bike rides for people to cycle together to go to work, college or university in group.
The main actor in the development of the Love your bike project was the Friends of the Earth group which applied for funding – even before the project was formally defined as Love your bike – from the Neighbourhood Renewal Fund (this is a form of local Government finance established in 2000 to regenerate socially excluded urban areas and to reduce their depravation) offered by Manchester City Council. In addition to this group, the Council was involved as well as Creative Concern and Greater Manchester Cycling Campaign (this is a voluntary group which promotes and facilitates cycling opportunities across Greater Manchester). Essentially, Friends of the Earth and Greater Manchester Cycling Campaign shared the same objective to improve cycling opportunities around Manchester. The aim was to encourage people who were not involved in cycling to adopt a new, more sustainable life style. Through the involvement of a bigger segment of people and a better awareness about environmental sustainability, the groups also hoped to make cycling more accessible and easier for cyclists (i.e. through the development of better cycling routes). The City Council became involved in the project because it already had a sustainability agenda to meet. The funds available through the national scheme Neighbourhood Renewal Fund prove also the national and regional focus on sustainable issues.

City:	Manchester
Project:	**Manchester Garden City**
Summary:	This project aims to increase the green spaces and sustainable practices within areas in the city centre of Manchester which are not in use anymore as forgotten or abandoned.

WHY DOES THE RETROFIT PROJECT EXIST?

In 2011 the first activities of the Garden City project started to spread. Firstly, the project aimed to improve the canalside in the Piccadilly Basin, in the city centre of Manchester. The Manchester Garden City initiative 'started as an informal chat between friends'. Manchester Garden City is an independent initiative launched by CityCo (an independent not-for-profit organization) and Manchester based architect and design firm BDP (Building Design Partnership). The project is voluntary and run with the help of the community and business members. CityCo is a membership organisation which aims to bring public and private companies and organisations together to enhance and help the development of city initiatives. The project is supported by the partnership between Manchester City Council, CityCo and BDP, so it is plausible that the funds, as well as the permission over the land, come from the involvement of these partners. Among the partners, there is also the support of Town Centre Securities, a construction and development company, which owns the land at Piccadilly Basin. In regards to the funds, Manchester Garden City participated to the Cooperative's Join the Revolution initiative to secure £5,000. There is not a specific ending date of the project.

UNDERSTANDING RETROFIT ACTIVITY

The abandonment and absence of green spaces in the city centre of Manchester, as well as the lack of activities and facilities in disused places, inspired the Council, residents and businesses to develop a green plan for the regeneration of the city centre. Manchester Garden project aims to increase temporary green sites in disused areas to encourage gardening practices and to introduce more sustainable forms of eating. CityCo underlines that the green this project focuses on the enhancement of a range of natural environments. There is the aspiration of increasing the amount of public green spaces and of improving waterways. In addition, the project aims to transform car parks and derelict land into temporary green spaces. Through the Manchester garden City project, the volunteers and organisations aim also to produce a model of sustainability within urban spaces that others can recreate and adopt in other contexts. The actors involved are the City Council, CityCo, BDP and residents and volunteers. Groundwork, a charity focused on creating connections between the environment and communities, is involved as well. The support of the City Council for the Manchester Garden City initiative is justified by its 'green agenda' whereas the involvement of CityCo and BDP is linked to cities' appearance and design. Their role seems to be more related to the commercial side of sustainability (i.e. for the nature of their businesses). Their involvement and expertise in the project should allow Manchester to gain a greener visibility among the other UK city-regions that are committed to similar targets.

Manchester City Council, as mentioned above, is committed to develop a low carbon economy which aims to reduce the city's carbon emissions by 41% over the next decade. The involvement of CityCo and BDP is justified by the nature of their businesses which are based on cities' design and activities. On a different level, Groundwork is moved by the aspiration of creating socio-environmental changes through sustainable initiatives within urban spaces. In regards to the residents who became involved, it is plausible that they aimed to have a greener and livelier city where they could enjoy activities and have more sustainable and healthier ways of living.

City:	Levenshulme, Manchester
Project:	**Markaz al-Najmi Mosque**
Summary:	The building has been turned into an eco-mosque having solar panels, recycled wood, under-floor heating and other energy saving measures.

WHY DOES THE RETROFIT PROJECT EXIST?

In 2003 the Muslim Bohra community of Levenshulme started thinking about replacing their prayer hall which was a former Maternity and Child Welfare Centre in an old Methodist chapel with a brand new mosque. In 2008 the Al-Markaz Al-Najmi mosque opened. The Muslim community of Levenshulme had the idea of having a new mosque since 2003. At first green concerns were not on the agenda when the mosque was being built but, as Mustafa Abdulhussein, vice-president of the mosque, said *"it started off with us saying that we should have some solar panels as green buildings are encouraged and we had to have some green aspects by law. So I looked into it and got more interested with the green aspects and although I wouldn't call the mosque completely eco- it's really a step towards a fully eco mosque"* (http://radicalmanchester.wordpress.com/2010/09/). The cost to build the eco-mosque was £3.5m and it appears that the building has been financed by the Muslim community of Levenshulme (the Woodfold Avenue Bohra community). The building is now completed and the mosque is currently in use. In addition, there are other projects around the area which aim to rejuvenate the area and which are financed by the same community that funded the eco-mosque (Woodfold Avenue Bohra community). For example, this community planned to transform a church building on Stockport Road which was neglected in order to benefit the local community – they would like to introduce, for example, a café, a meeting room, a media enterprise centre, etc.

UNDERSTANDING RETROFIT ACTIVITY

The new mosque replaced the old Al-Markaz Al-Najmi mosque on Woodfold Avenue (Levenshulme, Manchester). The vice president of the mosque Mustafa Abdul Hussein commented that *"the eco-element arises out of what a mosque is meant to be. It is meant to be friendly in every aspect, which includes being friendly to the environment. We should set an example and having eco-friendly features makes those congregating there aware of the issues"*. The idea of an eco-mosque –therefore- emerges from both social and environmental issues. The Muslim community of Levenshulme wanted to have a new mosque where both social and environmental elements could meet. The new mosque had solar panels fitted, under-floor heating - helpful as most of the congregation sit on the floor, infra-red sensitive taps to avoid water wasted and energy-efficient lighting. The building of the mosque was also done using sustainable wood, reclaimed stone and an energy-efficient glass facade with allowed natural light. The idea behind the mosque was to improve the quality of life of the Muslim community in Levenshulme fostering community cohesion/participation and, at the same time, contributing positively to the community's environment. The main actor is the Muslim community of Levenshulme (Bohra) which appears also to be the main funder of the eco-building. In terms of social interests, the Muslim community believed that the eco-building could increase the community awareness for environmental issues but it could also recreate a nice unique space where the community could have gathered together. The Muslim community was the first responsible and interested actor in the implementation of the eco-project for their new mosque.

City:	Marple, Mellor and Marple Bridge
Project:	**Marple, Mellor and Marple Bridge Energy Saving Strategy**
Summary:	This project initiated by the local community aims to promote carbon reduction and to raise awareness about climate change and its consequences.

WHY DOES THE RETROFIT PROJECT EXIST?

In 2009 the Marple, Mellor and Marple Bridge Energy Saving Strategy group (MESS) was created following a workshop day on the environment and climate change organised by Marple Churches Together Justice and Peace Group. A group of local residents of Marple, Mellor and Marple Bridge started the community Energy Saving project.

MESS works with the Energy Saving Trust and Stockport Borough Council. This has enabled 246 homes in the locality to benefit from the scheme and having, for example, loft and cavity wall insulation discounted with a contribution of £10,500 from Stockport Metropolitan Borough Council (1 year project). Additionally, in November 2011, MESS was awarded a grant of £452 from the Warm Homes award scheme and a month later it was awarded £2499 from the Environment Partnership of Stockport MBC. These grants have enabled MESS to produce a Summer and Winter Newsletter that currently reaches most homes in the local area. The funds also helped to plan trainings for its members and to purchase equipment needed for the running and promotion of the group and its work. In 2012 MESS obtained £51,000 to develop feasibility studies on all aspects of renewable energy technologies in the Marple North and Marple South wards (the MESS area). In addition, the funds allowed MESS to build a show Eco House and purchase educational environmental equipment which was used in local schools. There is not a specified ending date for the project and several future actions have been planned by the community group.

UNDERSTANDING RETROFIT ACTIVITY

The project aims to promote carbon reduction and to raise awareness of climate change issues among the local community of Marple. The local group also aims to find local solutions to the addressed environmental issues. The project aspires to get local people involved in finding ideas and alternative solutions to access or produce energy. In 2011 and 2012 an Energy Efficient Showcase was organised in order to offer to the local residents the opportunity to question suppliers and manufacturers of energy products and to increase the visibility and the opportunity for local businesses to market their goods. In addition to this, the group organises monthly meetings to discuss environmental issues and to find possible solutions. MESS has also developed an eco-house in an ordinary street which serves as an example for the local community.
The key actor is the Marple, Mellor and Marple Bridge Energy Saving Strategy group. However, also the Government plays an important role as it financed CORES (community-owned renewable and energy savings) project. MESS started to raise awareness about environmental issues (i.e. climate change) and they decided to form a local community group which was meeting periodically to discuss these issues. The involvement of the Government and of the local Council was determinant to provide the financial support necessary to develop the project. The group started through conversations and meeting in a local church on climate change and environmental issues. Hence, once that the group was formally constituted it aimed to encourage residents in Marple and Mellor areas to save energy and, in the future, generate their own. The group developed and started also to provide advice to help public buildings (e.g. local schools) to get the equipment and use their resources to save energy. The local Council as well as governmental benefits (such as discounts/grants) helped financially the energy saving project launched by the local group to develop.

City:	Sale, Manchester
Project:	**Miss Cordingley's Garden**
Summary:	This project aimed to restoration of the Walkden Gardens in Sale (Greater Manchester) to make it accessible to the community and visitors.

WHY DOES THE RETROFIT PROJECT EXIST?

The project was launched in 2008 and in winter 2010 it was open for the first time to the public after been restored. Miss Cordingley's Garden project was established by the Friends of Walkden Gardens, a group of volunteers who in 2001 helped the Trafford Council to regenerate derelict areas within Walkden Gardens for the benefits of the community. The project was funded by a £15,000 donation which was part of the 10th Birthday celebrations of Greening Greater Manchester (managed by the environmental regeneration charity Groundwork) initiative. The scheme was funded by Biffaward, a multi-million pound environment fund which gives grants to environmental and community projects across UK.
The restoration of this Garden has been now completed however the Friends of Walkden Gardens are still active in continuing various restoration/environmental projects within Walkden Gardens. In addition, the group still meets monthly to do maintenance work in the Gardens as well as to socialise with other members of the community.

UNDERSTANDING RETROFIT ACTIVITY

The Gardens were donated to Sale Borough Council (which became the Metropolitan Borough of Trafford) by Harry Walkden when he died in 1948. The only condition behind the donation was that his niece, Miss Alice Cordingley, was allowed to use it. As described on the Friends of Walkden Gardens website, 'the land had never been used by the public and became overgrown and inaccessible' (http://www.walkdengardens.co.uk/mcg.html) until the Friends started working on the land. Therefore, the main aim of the project was to transform this derelict space into a green and welcoming area for visitors 'as originally planned by Harry Walkden and we [the Friends] have named it [the specific part of the Gardens] Miss Cordingley's Garden in her honour' (http://www.walkdengardens.co.uk/mcg.html). This part of the Gardens was restored through the work that the volunteers did at the entrance – which, at the beginning, was not even visible as covered by overgrown plants. Once that the Garden was made accessible, unwanted trees and seedlings were removed. A wooden fence was created as well as new paths. The Friends also added some benches, plants and restored the exit. According to the Friends website, this project was the longest among all that the Friends developed in different parts of the Gardens. The key actors are the Friends of the Walkden Gardens and the Trafford Council. The Friends of Walkden Gardens were formed originally in 1985 to stop the Council from converting most of the Gardens into playing fields for Sale Grammar School. Their request was successful and the group was newly formed in 2001 to help and collaborate with Trafford Council to regenerate derelict/abandoned areas within the Walkden Gardens. The Council is the owner of the land where the project developed. The Friends of Walkden Gardens is a group of volunteers concerned about environmental and community issues. Therefore its involvement in the Miss Cordingley's Garden project is justified by the aspiration of rejuvenating a plot which was not longer in use and accessible to the community. Trafford Council owned the Gardens so they aimed to cooperate with the Friends in order to keep it lively and accessible to the local community of Sale. The cooperation of these two actors is related to the common mission (perhaps for different reasons) of restoring this green area in Sale. The volunteers engage in sustainable practices for the benefits of the community and the Council relies on the work of volunteers to keep the area tidy, safe and accessible to visitors. The Friends organise also various activities in the Gardens to bring community members together (i.e. yoga classes; theatrical plays, etc.).

City:	Gorton, Manchester
Project:	**Nutsford Vale (Gorton, East Manchester)**
Summary:	Nutsford Vale is an area of green space in Gorton (Manchester) which Red Rose Forest, the Friends of Nutsford Vale and Manchester City Council have regenerated to benefit, as they specified in their websites, the local community.

WHY DOES THE RETROFIT PROJECT EXIST?

Nutsford Vale was a clay quarry which closed in 1970s. Although in the early 1980s the hole left by the quarry was filled, over time the site had become neglected and residents started to complain for being unsafe. As reported on the 'thisiseast' website, residents were annoyed to see their piece of countryside falling into abandonment. So, more than 10 years ago, some residents set up the Nutsford Vale Park Project to start making some changes in this piece of land. In 2009, the Vale project received £300,000 which had to be spent in the following two years (2009-1011) to create a community resource. The project was established by some residents of the area of Gorton in East Manchester with the involvement and support of the Red Rose Forest and of Manchester City Council. The funding comes from a £4.7 million initiative by the *North West Development Agency* to fund the rejuvenation of 400 acres of abandoned land in Merseyside and Greater Manchester. In December 2000, the Council approved the expenditure of £10,000 on Nutsford Vale via a "CASH:2" grant which was managed by Groundwork Northwest. According to the information reported on the Nutsford Vale blog, the project in 2009 received £314,000 Forestry Commission grant. As mentioned earlier, the grant had to be used within 2 years.

UNDERSTANDING RETROFIT ACTIVITY

The group of residents who set the Nutsford Vale project aimed to have Nutsford Vale "formally declared as 'open space'" (http://nutsfordvale.wordpress.com/what-is-nutsford-vale/) to guarantee that the space was kept green and that it was not going to be used as a building development site. The second aim was to provide a management and maintenance plan which would have kept the space tidy and accessible. The main issue that the residents addressed in relation to Nutsford Vale was its abandonment and the fact that it became wasteland. In order to restore the area, in the late 1990s, plants and trees were planted on the ex-landfill site to check if it was still a good environment for plants to grow. The Greentips Project contributed to install fences for the trees – this was done to delimit their growth and to protect the area which was going under several regeneration activities. Local schools were also engaged in the green plan. Additionally, the private sector was involved in helping to clean up the site. At the beginning of the project, residents of Nutsford Vale were supported by the Red Rose Forest in putting together their application for funding. The involvement of Manchester City Council relates to the fact that it owned the land. The Council did also some environmental work in the area – for example, it cut back the bushes in summer 2000 to create a more pleasant path for pedestrians and to avoid that unwanted people hide in them. The residents were unhappy to see 'their' piece of land abandoned and wasted. It became also unsafe as used by 'unwanted people'. Therefore, their environmental concern for the land mixed with their social awareness for keeping a local resource safe and accessible to the neighbours. The Red Rose Forest is an organisation focused on community needs and environmental issues around central and western Manchester – so their involvement was mainly linked to help the community to put together a bid for funds. The Council became involved because it owned the piece of land and because the support of social and environmental initiatives was part of its politics. The initiative of regenerating the area around Nutsford Vale started by members of the local community who did not want to see this site wasted. With the help of the Red Rose Forest they decided to bid for grants to transform the site and make it accessible for the use of the community. The City Council unavoidably became involved not only as the land owner but also as one of the donors. In this retrofit project – as in others – the environmental, social and economic elements of the projects, their drivers and motivations, connect and intersect. In this example, there are three main actors which relate and cooperate for the rejuvenation of a disused green area. The motivations behind the involvement in the project are very similar although they shift from a micro local reality (the residents who want to use and enjoy a green area in their neighbourhood) to a macro view carried by the Council as part of its sustainable plan for the city of Manchester. Therefore, although the socio-environmental motivations are shared among the actors involved, the individuals' reasons, needs and expectations are subjective

and shift from being individualistic to become collective (the Council envisions the benefits for the whole city).

City:	Ashton-under-Lyne, Manchester
Project:	**5 Oaken Clough Terrace**
Summary:	The house and the garden in Oaken Clough Terrace have been restored and a series of retrofit projects in the house have been carried out to experiment the development of renewable energies and to continuing conserving the environment.

WHY DOES THE RETROFIT PROJECT EXIST?

The project started in 1990s when Mrs Burlinson bought the house in Oaken Clough Terrace (Ashton under Lyne) to develop her conservation project. Since then, the house went under a refurbishing process and became an experimental place to test and install alternative and renewable energies. After her death in 2008 the Madelock and Tame Valley Conservation Association carried on with her work and used the house as the head quarter of the association. The project was initially established by Mrs Burlinson in conjunction with a group of residents of the area who shared similar environmental interests and who wanted to transform the piece of land. After her death, the Madelock and Tame Valley Conservation Association took over the maintenance and management of the house, its garden but also the development of numerous transformative, experimental and demonstrative projects.
The Association is a registered charity which relies on public donations in order to survive. The Association joined the group easyfundraising.org.uk which means that every time an internet purchase is made via this site it receives a donation. There is not an ending date for the house to be completely retrofitted. A series of ongoing activities are still developing. Some of the old projects to retrofit the inner parts of the house were solar water heating, a solar reflector, a stirling engine and photovoltaic cells and a note on the website dated 17/7/11 notified that the association received the necessary funding to develop them.

UNDERSTANDING RETROFIT ACTIVITY

The project is aiming to restore the house in Oaken Clough both inside and outside (i.e. the garden space). The Association aims to correct its decay and to render the house useable. In addition, through the project renewable energy systems are developed and tested in the cellar of the house – which was not in use. In this space, whereas the initial aim is to provide practical demonstrations of renewable energy techniques as an educational resource, the ultimate goal is to supply some of the energy produced to the building and to make it self-sufficient.

The plan is to involve the neighbourhood community in the refurbishing project as well as to educate the nearby families to the possibility of converting to the use of renewable energy systems. Working on the decadence of the building and the disused space outside was the focus of the owner of the house with the help of the Association and neighbours who were interested in similar issues. The key actors were the owner and after her death the Association decided to continue her work and it developed refurbishment actions. However, as commented on the website, the association hopes that those living and working in the valleys are motivated to engage with the work of the Medlock and Tame Valley Conservation association. It is also hoped that their work will continue in the next generation in order to keep the valley green. These actors are the most influential in the development of the project as they have a strong interest, shared among the members of the association, in keeping the area green and creating in the house a sustainable space where renewable energies and retrofitted components are tested. The house was originally bought by Mrs Burlinson who was a member of the Association and who wanted to recreate in the outside space a wildlife garden and the habitat for animals. After her death, the association inherited her house to continuing developing the environmental projects she commenced and to refurbish the building where renewable energy systems could be tested. This is briefly how the owner and the Association of the Medlock and Tame Valley became involved in developing this project and the issues related.

City:	Manchester
Project:	**Radisson Edwardian Hotel green roof**
Summary:	Radisson Hotel in Manchester has created a green roof to improve its overall carbon footprint, urban biodiversity and to attract local wildlife.

WHY DOES THE RETROFIT PROJECT EXIST?

According to the Hotel's blog, in 2012 Radisson Blue in Manchester started their cooperation with Action for Sustainable Living to establish a green roof at the top of its building. The Radisson aimed to develop their already established green agenda in Manchester with the creation of a roof garden in its city centre building. The idea originated by two members of the Action for Sustainable Living organisation although the request of moving towards sustainability through the development of green initiatives was launched by the Hotel. The fund to develop the project came from the Hotel itself.
The project does not have an ending date.

UNDERSTANDING RETROFIT ACTIVITY

Radisson Hotel developed an environmental and social sustainability plan which aimed to achieve high environmental and social standards worldwide. Among the Hotel's sustainable goals there is the employment and empowerment of local staff and the use of locally produced and sourced products. The initiative launched by the Radisson Edwardian Hotel in Manchester is, therefore, in line with this green plan. Having a green roof, or as some webpages said a 'mini market', allowed the restaurant Opus One (which is part of the Hotel) to use the herbs and food produced. The garden allowed the hotel also to have a green space in the heart of Manchester city centre where staff members could relax and look after it.
As part of the sustainability plan, Actions for Sustainable Living was contacted by the Hotel to start developing a green initiative. Two members of the organisation suggested the idea of having a green roof on top of the building. Here they installed sustainable water harvesting methods which allowed the Hotel to save on water consumption. A composting area was also created. Raised beds have been treated with effective micro organism liquid feed and been planted up with herbs and edible flowers which could be used in the hotel's salads. Through the development of the green roof, the Hotel was also looking for a system to keep beehives on the roof for honey production. The key actor involved in the green roof project is the Radisson Hotel in Manchester. The other actor involved was Actions for Sustainable Living which helped the Hotel to develop its green plan. Radisson Hotel developed, internationally, a socio-environmental sustainability plan which was aimed to be achieved and improved every year in the different branches around the world. The green initiative developed by Radisson in Manchester aimed, therefore, to contribute to the achievement of sustainable widely agreed goals. The original idea of developing a green initiative which could have been sustainable on a socio-environmental level originated from the Hotel (which has also a sustainability department and manager). Actions for Sustainable Living became involved because it has been contacted by the Hotel. The organisation is a Manchester-based charity which aims to engage and support people to take action on environmental sustainability. This retrofit project represents an alternative, an unconventional sustainable initiative, which has been developed by a well-known hotel chain in the city centre of Manchester. In this context, the concept of sustainability has to be re-defined as used within a commercial environment.

City:	Stockport, Greater Manchester
Project:	**Reddish Vale Country Garden-visitors' centre**
Summary:	Reddish Vale Community Garden hosts numerous socio-environmental projects; its visitor centre has been fitted with a green roof and a solar panel.

WHY DOES THE RETROFIT PROJECT EXIST?

The country park was opened in 1985 but a community orchard on the site has been developed since 2011. As part of the community garden project developed in the park a wood stove and a solar panel were installed to gain benefits from the heating and electricity generated. This information was reported in the Reddish Vale Country Park management plan dated 2009-2014. Hence, presumably, the solar panel has been fitted before 2009. In this same plan, references to the green roof installed on top of the visitors' garden centre are made. Reddish Vale country park was managed until 1985 by the Tame Valley Warden Service in partnership with the Association of Greater Manchester Authorities (AGMA). The main aim behind its maintenance and management was the enhancement of an urban countryside site. With the funding received by the Stockport and Tameside Councils and the Countryside Commission, a temporary visitor centre was established. The creation of the visitor centre contributed to the improvement of paths and facilities in the site.

UNDERSTANDING RETROFIT ACTIVITY

The installation of a green roof on the visitor centre aimed to provide extra insulation for the building, to foster the development of biodiversity, to provide extra insulation from noise and to lower the temperature in and around the building particularly in summertime. The creation of a green roof offered also the possibility to enjoy a green space within an urban environment. The installation of a solar panel aimed to make use of a renewable energy. The lack of green spaces and the increasing concern for climate change encouraged the creation of a green space on the visitor centre roof and the establishment of a solar panel which could generate renewable energy for the building. The main actors involved are the Friends of the Vale who are responsible for the management and maintenance of the site and the volunteers who contribute their time and efforts for its development. According to the Stockport Council website, the main partners involved in the Reddish Vale Country Park and Community Garden are the Friends of the Vale, the Tame Valley Defence group and – as mentioned before – the volunteers. Among these partners, also the involvement of the Council is of key importance for funds and for monitoring its management. The involvement of the Friends of the Vale and the Council appears to be a predictable combination. The Council aimed to keep the Park well maintained and active to offer residents and visitors the possibility of benefitting and using a green resource within an urban space. The Friends of the Vale who are in (apparent) control of the site aim to foster community involvement within the site. The group, through the green roof and solar panel initiative, probably also aimed to offer an example for community members or other community gardens on alternative/eco possibilities which can be developed in different sites.The Friends of the Vale group became involved as it is representative of the community involvement – its opinions and plans about the site's development. The council is the institution which formally controls the Country Park and ensures it is kept active/well-managed by community members. The community members seem to be involved in this project as required by the Council – their involvement is not independent from it. The partnership between the Friends of the Vale and the Council appears to be strong. The Vale Country Park is part of the community development plan of Stockport Council (http://www.stockportpartnership.org.uk/521360/671117/comdevstratcasestudies). Its case study has been illustrated in the community development strategy which has been carried out within the Stockport Borough. The emphasis of this strategy is on the partnerships and collaboration among actors. The Council specifies that community development in Stockport has been enhanced by voluntary organizations, agencies, the community which received external funding form, for example, the Healthy Living Centre and the Single Regeneration Budget.

City:	Sharston / Northenden, Manchester
Project:	**Rosehill Community Farm and Garden**
Summary:	This is a community-led and innovative project to transform a disused allotment site and wasteland into an environmentally friendly open space to provide recreational, educational and training facilities for the community.

WHY DOES THE RETROFIT PROJECT EXIST?

Rosehill Community Farm and Garden project was founded in July 2011 and it has its registered office in Manchester. It was founded by Ms Sarah Loiuse Madeley, Ms Gaynor Evelyne Marshall, Mr Kevin Reveley, Mr Andrew Trevor Dopson who are all members of the community of Northenden/Sharston area in South Manchester (Wythenshawe). Rosehill Community Farm and Garden does not have any child companies. Funding for the project has been raised through a variety of sources including grants from the Big Lottery Fund, Procure Plus, Parkway Green House Trust and Veolia Environmental Trust. In addition, Unicom donated £500 in May 2013 through its community support scheme for the development of the project. As specified on the project's website, Manchester City Council Culture and Leisure have also supported the growth of the project, in terms of land, facilities and expertise. Additionally, Rosehill Community Garden received £11,376 towards fencing and gates from Manchester City Council's "Cash Grant Program" via Wythenshawe Regeneration programme. Another £2000 was donated by Manchester Airport Community Trust for the provision of a large raised bed, compost bays and hedgerow plants to ensure the full participation in the project of the more disadvantaged people within the community. The project does not have an ending date but it has already established future plans as it recently received an extra donation of £500 from Unicom to further develop.

UNDERSTANDING RETROFIT ACTIVITY

The project aimed to transform a disused allotment to improve the health and the well-being of the community of Wythenshawe in Manchester. Among the aims of the project, as stated in its website, there is the creation of a community storage and meeting facilities; a large raised bed to be used by elderly and disabled people within the community; composting system and manure bays for the recycling of green waste and the introduction of a greenhouse for incentivising greater diversity of plants and training purposes. The project, as it emerges from the website, highlights the importance of rejuvenate a specific area of Manchester through the involvement of the community and environmental progresses. The community aims to develop gardening practices to rejuvenate an allotment which was not in use anymore. Therefore, gardening techniques are not only performed but also shown to other, less expert, members of the community. The experimental and educational purposes of the project merge in the attempt to environmentally and socially transform the area where the project developed in South Manchester. The main actors involved in the development of the Rosehill Garden project are some members of the community who registered the company under their names, Manchester City Council as a landowner, and all the funding bodies mentioned above for their financial support. On the website of the project, it is also mentioned that several organisations helped it to gain the necessary knowledge and expertise to initiate gardening (and other environmental) activities. However, from the information on the web, it is not clear whether the Council commissioned the development of the project - as part of the Wythenshawe regeneration plan - to community members as it had a disused allotment or if the idea originated by some community members. These actors became involved in developing the Rosehill Garden and Farm project because of social, environmental and economic reasons. So, the social elements flagged by the community members merged with the financial need of the community to develop the project and with the environmental aims of the project. The Council became involved also because it had already a Wythenshawe regeneration plan established. It is not clear, as previously mentioned, whether the community or the Council initiated the project. However, there are partnerships and cooperation among several actors involved. The donors became involved to support the project both financially and materially and the Council was involved because of its role as landowner and for financial purposes.

City:	Saddleworh, Oldham, Greater Manchester
Project:	**Saddleworth Community Hydro**
Summary:	Saddleworth Community Hydro was set up to produce renewable energy, reduce CO2 emissions and provide funds for local environmental projects organised by the community of Saddleworth.

WHY DOES THE RETROFIT PROJECT EXIST?

The idea of having a community-owned system which produced renewable energy started in 2008, partly as a reaction against a proposed wind power scheme which created local opposition. However, although many residents did not want to have wind turbines on the horizon, they were enthusiastic about the idea of being able to produce renewable energy, so the Saddleworth Community Hydro was officially born as a society later in 2010. Afterwards, in December 2011, the share offer launch begun.

The project was originally established by the members of the community of Saddleworth. Initially, residents planned to build on Saddleworth's heritage of water power in the early days of the textile industry. However, the remaining weirs on the River Tame were insufficient to generate power as they were only five feet high. That is when Tony Bywater, a retired paper maker and one of the founders of the scheme, had the idea of connecting the outflow from the dam to originate the Community Hydro. The Regional Carbon Challenge Fund, a scheme which promotes low-carbon technologies offered by Defra, contributed £223,000 in conjunction with the European Agricultural fund for Rural Development. The other £120K needed to be raised by the Society in order to start the hydro project which was estimated to cost £343,000. In the document that the Society produced with details on the project, it is specified that the organisation is not aiming to obtain a loan for financing the scheme so it will not have to pay any interest on such a loan.

The extra £120,000 needed from the shares have been secured and currently the project is developing.

UNDERSTANDING RETROFIT ACTIVITY

The community of Saddleworth did not want the proposed wind turbines installed but it was still enthusiastic about the idea of developing a community-owned renewable energy scheme. The Society aimed also at generating sufficient revenue by selling 'green' hydro-electricity to be able to contribute to other environmental projects within Saddleworth area. The plan was to install a 50kW turbine at Dove Stone Reservoir near Greenfield in Saddleworth, Oldham. This was going to be England's first community-owned hydro scheme. It uses some of the height of the reservoir dam, and the flow of compensation water from the reservoir, to generate renewable electricity. The turbine was envisage to generate 170MWh of renewable electricity each year, enough to supply approximately 45 houses, allowing to save approximately 1,000 tones of CO2 per year. The key actors were the members of the local community of Saddleworth who had the idea of creating a renewable energy system. The other two main partners were the governmental department Defra in conjunction with the EU (European Agricultural Fund for Rural Development). Another important actor is the represented by the individuals who bought shares of the community hydro in order to fund the remaining £120,000 to build it.

Although marginal, there is another party involved in the implementation of this project which is the United Utilities, the owner of the reservoir where the turbine had to be installed and which gave permission for the development of the project. The community became involved because it opposed to the installation of wind turbines around Saddleworth area. However, the community members were still enthusiastic about the idea of owning a renewable energy system which could have been, first, sustainable and, second, financially beneficial. The other actors became involved for the permission to have a turbine installed (United Utilities) and to secure the funding (Defra). The community aimed to be in control of the hydro system in Saddleworth. However, the Society had to negotiate with several different agencies and a number of different legislations to stat the project and receive the necessary funds. Community hydros are expensive. It is also easier to develop them by big companies but it is difficult for a voluntary- led Industrial and Provident Society. That is why governmental actors were involved in the project. Planners, Environment Agency authorisers and network operators needed to find ways to make it easier for communities to move these schemes forward.

City:	Manchester
Project:	**Sow a Seed**
Summary:	Sow a Seed project aims to help schools to reuse green spaces within their premises to grow food, plants and practice sustainable horticultural techniques.

WHY DOES THE RETROFIT PROJECT EXIST?

Sow a seed is one of the organic gardening projects that Hulme Community Garden Centre offers. This project started when the organisation received funding from the Local Food Grants programme. The exact date in which the project started, however, is not specified on the web. The project is one of the several green projects developed by Hulme Community Garden Centre which is a not-for-profit organisation that provides low-cost plants to the local communities of Hulme and Moss Side. Hulme Community Garden is also a volunteer and education hub which promotes horticultural and sustainability practices to schools, colleges, the local community and wider public. It was established by four local residents who noticed that the regeneration plan of Moss Side and Hulme areas which developed in the 1990s was mainly focused on infrastructural redevelopment and social housing rather than on the environment and social resources. The levels of unemployment and exclusion were still significant problems. Hulme Community Garden Centre and Debdale Eco Centre gained funding from Local Food as part of the 'Growing People' project (which is now closed to bids). Local Food is a £59.8 million programme that distributes grants to a variety of food-related projects which help make locally grown food accessible to local communities. According to the Local Food Grants the projects have to be completed by March 2014.

UNDERSTANDING RETROFIT ACTIVITY

The project aimed to introduce sustainable gardening practices within local schools, particularly around Moss Side and Hulme areas. Those green spaces which were not in use constituted the places where the children and the members of the Community Garden could experiment planting and horticultural techniques. In conjunction with the desire of making use of spaces in schools which were not developed and looked after, the Community Garden aimed to show the sustainable possibilities which could have been generated in urban spaces, to teach children about green issues and to help the development of marginalised urban areas of Manchester. The project focused on 8-9 year olds, preferably attending schools local to Hulme Community Garden Centre, to introduce them to healthy soils and healthy plants, sowing seeds, potting and planting. The project made use of green spaces within school buildings to demonstrate both horticultural techniques and food production in urban spaces.
The main actor is the Hulme Community Garden Centre which had the role of introducing and training the children (and the schools) to sustainable horticultural techniques and possibilities. Involved in the development of Sow a Seed there is also the Local Food Grants programme which is the main funding body. The Hulme Community Garden Centre is a no profit organization which aimed to bring the community together through gardening projects. The centre was born in 2000 with the idea of building 'a city wide infrastructure of community garden centres in order to foster a city wide movement of driving long-term positive change through education and training, food-growing, horticulture, volunteering and community activity' (http://www.hulmegardencentre.org.uk/who.php). It is evident that the Sow a Seed project fitted well with the principles and mission of the Centre. The Local Food Grants became involved as the main funding body of the project. Local Food was developed by a consortium of organisations and is managed on their behalf by the Royal Society of Wildlife Trust. This programme runs until December 2014, whereas all the projects supported have to be completed by March 2014. The Hulme Gardening centre was the founder of the project and became involved because Sow a Seed project puts into practice part of the values which constitute the philosophy of the Centre (i.e. sustainable living; enhancement and development of socio-environmental spaces) whereas the Local Food Grant programme was the funding body for the development of the project.

City:	Stockport, Greater Manchester
Project:	**Stockport Hydro (Otterspool Weir)**
Summary:	Stockport Hydro at Otterspool Weir on the river Goyt, Greater Manchester, is the first community-owned renewable energy project, generating electricity since October 2012.

WHY DOES THE RETROFIT PROJECT EXIST?

In 2011 the Hydro-Electric Power Scheme started to be developed. The project has been generating community renewable energy and has been feeding it into the National Grid since October 2012. The project was established by a Stockport community group. The society 'Stockport Hydro Ltd' "has been established as an industrial and provident society for the benefit of the community for the specific purpose of owning a Hydro Electric Scheme" (from http://www.stockport-hydro.co.uk/uploads/Prospectus-180213.pdf) once that the development of the project was approved. The funding system of this project developed over time and proved to be complicated because of the different actors involved. At first, the project has been funded by a community share offer, with supporting grants and loans. The members of the Society, who own the scheme and who are entitled to receive dividends when it is in profit come from different areas. All the shareholders have the common interest in community-based initiatives which allow generating renewable energy. A recent document dated February 2013 invites more community-minded investors to own a part of the Stockport hydro as this can help the community to pay back the loans required to set the project up. The scheme is funded through a combination of bank finance (i.e. Charity Bank) and a community share offer. The share offer raised £280,000 towards the total cost whereas £360,000 of capital costs has been funded by grants and a bank loan (North West Development Agency, Charity Bank and Key Fund). In addition, the project required further financial assistance from Stockport Council in the form of a 10 year loan at 7% interest for up to £45,000 to assist the scheme. From the community project proposal it is foreseen that the project will generate enough green electricity per year to power approximately 60 average houses, which will allow to save over 4,000 tones of CO2 over an expected lifetime of 40 years.

UNDERSTANDING RETROFIT ACTIVITY

The Stockport Hydro project was established to make use of river weirs to generate power and, more specifically, to generate electrical energy. It is believed that hydro sites last for decades and that this could last for much more than 40 years. The main purpose is to move towards environmental sustainability and produce green electricity, reduce carbon emissions and provide a tangible benefit for locally run projects. Another aim is – in the long-term – to save money in the production of energy relying on a renewable energy system. The above mentioned issues (i.e. production of electricity and reduction of CO2 emissions) were addressed through the development of a community-owned renewable energy system. The innovative approach to a renewable energy system is framed by the involvement of the community and their ownership. The key actors involved are the shareholders of the hydro, the different funders of the project – i.e. Charity Bank, Stockport Council, North West Development Agency, etc. Also H2ope, a social enterprise specialised in developing hydro schemes, became involved. Stockport Council is the landowner of the site where the hydro scheme developed. The main actor, the community of shareholders of the hydro project, required the involvement of banks, charities and the Council to raise the necessary amount of money to have installed the two Archimedes screws in order to generate renewable energy from the river Goyt, in Stockport. Although the interest rate was low, the funders were said to have an economic return in the investment and also, it could be 'prestigious' for them to be involved in the first community-owned renewable energy scheme. The scheme asked the financial support of Stockport Council. From the Council's proposal in regards to the scheme, the 7% loan over a 10 year period is a good investment rate for the Council and could be reinvested into other schemes through the Green Regeneration Fund. The loan would be offered from the Council's Green Regeneration Fund, part of which (£375,000) is assigned to supporting the deployment of sustainable energy projects in the Borough. Whereas the community approach has shown not only an environmental concern but also the social element of owning a renewable energy scheme, the funders are involved more as investors who act

under specific regulations and interest rates.

City:	Manchester
Project:	**The Manchester College**
Summary:	The Manchester College went through a restoration project to refurbish its older campuses and make them more efficient for the environment, the students and the local communities in the neighbourhoods.

WHY DOES THE RETROFIT PROJECT EXIST?

The sustainable and retrofit projects at Manchester College developed in three different locations: Wythenshawe Campus, Fielden Campus (West Didsbury) and North Manchester 6th Form College (Harpurhey). It is not clear whether they all started at the same time as, from the information gathered, it emerged that the College encountered problems in receiving the necessary funds. It appears that the works commenced in 2009 at Fielden Campus (West Didsbury), one of the branches of Manchester College, which opened its doors in 2010. Although the refurbishment of Fielden Campus was due for completion in September 2009, the Learning and Skills Council (LSC), the national body which offered funds as part of the 'Building Colleges for the Future' programme, announced it would be unable to fund all the major projects it had commissioned. However, LSC funded £7m of the Manchester College's new £28m Wythenshawe site and gave permission to Manchester College to fund the remaining work themselves. The cost of the project was £6.8 million and it lasted for 37 weeks. The funds came partially from the Learning and Skills Council and from the College itself. The construction project was completed in 2010. However, small local initiatives are still happening in the University's campuses (e.g. working the garden).

UNDERSTANDING RETROFIT ACTIVITY

The retrofit projects of Fielden Campus (a 1970s building) and of North Manchester Sixth Form College (a 1910 building) aimed to demonstrate the college's commitment to sustainability and to the development of its green agenda. As underlined on its webpage, the College highlighted its key role (the expression 'world leader' is used) in developing green and sustainable buildings. There is also a focus on the local residents who the College aspires to involve in the development of its gardens. The benefits for the communities are also generated by the retrofitted buildings which constitute a resource. The 1970's Fielden Campus building was refurbished to minimise environmental impact and maximise its energy efficiency. Changes have been made to the facade to reduce carbon emissions and to reduce heat loss. The project aimed also to make more use of natural light which would have allowed a reduction of lighting costs. The green spaces around the building have been protected and enhanced in order to offer a sanctuary for wildlife. Among the initiatives taken there was also the introduction of ground source heat pumps, of photovoltaic panels and of rainwater harvesting. The main actor was Manchester College which not only launched the idea of having its buildings refurbished but which also had to finance most of the project. There is also the Learning and Skills Council, the national body which at the beginning of the project offered its financial support until it realised it could not afford it. Although these two are the main actors involved in the refurbishment of Manchester College, there are also less significant actors involved, represented by the building and developing companies. The College wanted to develop its green agenda and – presumably – keep its reputation for being the world leader in developing green and sustainable buildings. Some courses offered by the College focus on sustainable buildings/urban sustainability and, in line with their teaching, the college wanted to prove that sustainability was at the core of their philosophy/agenda. They focused not only on the restoration of old buildings (e.g. Fielden Campus) to make them more efficient – through the use, for example, of renewable energies produced by solar panels - but also on the social element underlined by the involvement and concerns for the local communities and their well being. Accordingly, the preservation and enhancement of green spaces around the buildings were established to engage the community. This, according to the College plan, could have fostered community cohesion and development. The other actor involved in the refurbishment of the College, the Learning and Skills Council, established the 'Building Colleges for the Future' programme (£55 million) which aimed to rebuild and refurbish 3,500 secondary schools in England by 2020. However, it soon realised that it could not afford to fund it – as many other projects across the country.The Manchester College became involved because it launched and partly financed the refurbishment project of its campuses. The LSC became involved because the

College applied for funds to the ‘Building Colleges for the Future’ programme.

City:	Manchester
Project:	**The University Hospital of South Manchester (UHSM)**
Summary:	This is one the first green hospital in England. Among its sustainability measures, it had fitted in its building efficient lighting, a biomass boiler and ground source heating pumps.

WHY DOES THE RETROFIT PROJECT EXIST?

In 2008 the hospital started to implement green initiatives as, for example, more efficient lighting, double glazed windows and insulation and heat exchangers. In 2009 the hospital updated its branding in order to "incorporate its 'green' credentials" (http://www.sdu.nhs.uk/documents/Slide_Sets/Green_Hospital.pdf). In 2009 a biomass boiler was installed as well as energy-efficient ground source heating pumps in the Cystic Fibrosis Unit. In the 2010 Guardian Public Services Awards, the Hospital was awarded the Innovation Award for Sustainability and the 'Winner of Winners' Award. Currently, the hospital is still operating in accordance to its sustainability plan. The hospital is run by the University Hospital of South Manchester NHS foundation Trust. In 2007 the UHSM started implementing a structured carbon management programme, led by the Director of Estates and Facilities with the support of the Trust Energy Manager and other senior management. This programme was informed by the Carbon Trust and resulted in the production of a Carbon Management Implementation Plan (CMIP). Since the begun of this implementation in 2007, UHSM has spent £3.3 million on energy efficiency and renewable heating equipment (which included a grant of £1.3 million to install the two 2MW biomass boilers), with a further £0.5 million still to be spent to reduce energy consumption and carbon emissions further. In an article published by the Guardian (11 Sept. 2011, http://www.guardian.co.uk/healthcare-network/2011/sep/14/hospitals-saving-energy-green-nhs), it is reported that the hospital could develop its green plan through the financial help of the central Government. Furthermore, in an annual report and accounts of the University Hospital dated 2011/12 it is specified that the hospital has on site almost a dozen charities which raise funds for equipment and projects in specific areas of the hospital. In addition to this, over the years the University Hospital has established strong relationships with Manchester City Council and Trafford Metropolitan Borough Council. These relationships have implied – presumably – some financial benefit/contributions by the partners. The sustainability plan of the Hospital is long-term and will keep on developing over the next years.

UNDERSTANDING RETROFIT ACTIVITY

The hospital started the retrofitting project to reduce its costs and to move towards sustainability. As specified in the University Hospital website, hospitals in general consume large quantities of energy. So the idea behind the retrofit project links to costs reduction for the hospital, to the development of independent energy systems and to be the first green hospital in England - which, it believed, also acts as a branding strategy. According to the news published by http://www.energyshare.com/case-studies/university-hospital-south-manchester/ the University hospital produced 32 million kWh of energy a year just to heat the buildings, which, as reported, is enough to heat over 1500 homes. Because this high energy consumption and the need to be as cost effective as possible, the hospital decided to reduce its energy use and becoming more self-sufficient by generating its own renewable energy. To do so, the specialist cystic fibrosis centre started to be heated and cooled by a ground source heat pump. In addition, biomass boilers have replaced two of the hospital's gas boilers that heat the building. The biomass boilers installed run on wood chips which cut the hospital's CO2 by 21% (http://www.energyshare.com/case-studies/university-hospital-south-manchester/). Other green measures introduced in the hospital, included energy saving lighting, better insulation, heat exchangers and boiler economisers. The main actor is the Hospital and the Foundation Trust which decided to cut the hospital's costs and become more energy efficient. In addition, the hospital, as stated above, established strong relationships with Manchester Council and Trafford Metropolitan Borough Council. They are believed to be key actors for their financial support to help the implementation of this project. The hospital became involved because of its need to cut costs, reduce energy consumption and be more self-sufficient. The local institutions are focused on green initiatives so the green programme put in place by the hospital represented a valuable initiative for them to

support.

City:	Moss Side, Manchester
Project:	**The Urban Gardening Project**
Summary:	This project aims to re-use and transform disused spaces around Manchester to make them greener. The project also aims to grow food and redistribute it to people in need.

WHY DOES THE RETROFIT PROJECT EXIST?

On the internet a precise starting date of the project is not specified, however a document of the minutes of the first meeting was dated 21 September, 2011. Presumably, this can be interpreted as the date in which the project was established. The project was established by a little community group in Moss Side, Manchester. From the minutes of meetings, it seems that there are four people in charge (Michelle, Simon Beard, Graham and Simon Bate) who are the same that probably initiated the project. In the Constitution of the Urban Gardening Project published online, the group states that the project is a non-profit organisation and has no shareholders. It is also specified that any donations or funding are only used for the maintenance of the organisation, for example in buying materials, tools, seeds, plants, compost, printing costs, land registry checks etc. There is not an ending date for the project.

UNDERSTANDING RETROFIT ACTIVITY

The Urban Gardening Project aims to rejuvenate disused urban lands across Manchester to grow food primarily for the community. It also aims to donate to other organisations (e.g. Bikereach and Abundance) the food produced in order to redistribute it to people in need. In reading the minutes of the meetings held by the group of the Urban Gardening Project, it appears that the members are looking for disused spaces around Moss Side area and other parts of the city where they have connections (e.g. friend who works in local schools to start developing/using their gardens).For example, in the meeting held on 11 January 2011 the group discussed the possibility of gardening in Carnforth Street. The passage below is taken from the minutes published online:
"Sunniest corner also most visible. Good for raised beds.
Need to think about shady area. Nut trees.
Growing mushrooms? Try out low tech methods -NB remediation properties of mushrooms.
Pond on the site? Issue with primary school aged children. Shallow 'wetland' pond/marsh?
Need to contact residents associations. Contact house at the end?
Speak to Joel, Cranswick Square Gardens
Find out history of site? Photos? Ask Tom Cass? Finish ID of trees –Michelle to ask botanist to help
Plan for meeting: rough out what to go where, activities to do with kids.
Estimate rough costs, look at some possible funding pots.
Aim to start work in March?"(http://urbangardeningproject.files.wordpress.com/2011/11/ugp-minutes-11th-january-2012.pdf). From the plan, it is clear that the group is trying to define a structured scheme of work which is in line with the resources available and also with the history/background of the land they are going to garden.
The group clearly stated on its Constitution that they are non-profit, independent and volunteer run. Although they collaborate with other organisations, local groups and with the Council for land permissions, the group remains the main actor in the development of this project. Among the groups and organisations mentioned in the minutes of the meetings, the Urban Gardening Project referred to Kindling Trust, Glossopdale allotments, Manchester permaculture network, Eat Your Streets, Ashton allotments, Bikereach and Abundance, OK café, etc.
The community group started the project because it wanted to create urban sustainable green spaces from disused areas in order to benefit the communities around Manchester. The members of the group shared the common value of urban sustainability and environmental concerns. As only one main actor has been identified in the development of this project, there is not a variety of approaches from different stakeholders in implementing this initiative. The group of the Urban Gardening Project, in every meeting, has a defined structure on the previous discussed problems and plans. Who is in charge and how these plans are going to be followed is also specified in the minutes. There is always a section on future actions established by the group members. From the information on the project's website, it also emerges that the group participated or planned to participate in local events (e.g. fairs, markets, festivals, etc.).

City:	Trafford, Manchester
Project:	**Trafford eco-house**
Summary:	This is an old house (1934) in Sale which has been retrofitted for sustainable purposes. The retrofit project has been undertaken by the family of four who lives there.

WHY DOES THE RETROFIT PROJECT EXIST?

The project started in 2008 when a family of four who lived in Australia decided to go back to England and start their new life in Manchester. Here the family bought a house which constituted their eco-experimental project to reduce their costs and to be more sustainable. The project was started by Andrew and Judith Leask. The couple and their two young children began the experiment initially to save money. Afterwards, they started to develop a deeper environmental awareness and they aimed to change their habits to fight climate change and environmental issues. The project is supported by Trafford Council and urbangrown.com. However, on the website it is not clearly specified if they also finance it. The project is currently developing and although it does not have a specific ending date the family who lives in the house planned to transform it into an eco-self-sufficient building within 5 years since they moved there (2008). In their website, they specified that, within 5 years, they will switch to solar power and plan to turn off the central heating for good.

UNDERSTANDING RETROFIT ACTIVITY

The family relocated to England from Australia where everything, as they comment on the website, was much cheaper. In aiming to be self-sufficient, they decided to transform their house in Sale to reduce the energy consumption and produce their own. They also wanted to grow most of their own food. They soon realised how much everyone will have to work to meet any global warming targets. So they decided, through their experimental project, that they would like to make environmental changes demonstrating to other people and families what can be done and what does not work. In order to reduce energy waste and to be more self sufficient the house has been fitted with PVC double glazing, cavity wall insulation and loft insulation. The key driver for the family is to reduce fuel bills and reduce dependency on fossil fuels whilst also being able to accommodate the growing needs of their family without being forced to move house. Among the numerous transformative elements that they introduced into the house, they also created an Aquaponics system. This is the combination of Aquaculture (keeping fish in tanks) and Hydroponics (growing plants without soil). Aquaponics aims to deliver a system requiring very little water or added fertilisers. The family is supported by Trafford Council and Urbangrow.com. Urban grow shares the same environmental principles of the Trafford eco-house and Andrew Leask is its director. The aim of the Manchester-based organisation is to raise awareness about the environment and to inspire and encourage people to reduce their living impact on the earth. The Trafford Council joined the Leask's initiative because, as the sustainability department comments on the Council website, they share similar concerns for climate change and the environmental impacts that individuals are having in urban spaces – particularly within the Trafford area. Therefore, because the Council aims to promote green initiatives in Trafford area they are inclined in supporting and sharing the experiments developed by the family of the eco-house. Urban grown is directed by the same family member, Andrew Leask and the Trafford Council institutionally represent the whole area where the project developed. This is believed to be reason why it became involved. Also because in the past few years in Manchester an increased awareness for environmental issues emerged and this project represented a good example to retrofit old houses and inspires families to be more self-sufficient within the specific area of Trafford.
These actors became involved because of similar values and because their involvement could have increased the visibility of the project. Although not clearly specified in the website, it is possible that the eco-house received some funding from the Council to have parts of the house retrofitted – for example to install solar panels or to have URBED designers working in the building.

4. Summary

The second part of this paper presented the empirical material collected throughout the nine months of desk-based research. In total 30 retrofit alternative projects across GM have been identified and analysed. The narrative behind the projects has been reconstructed through the use of *proformas* which are reported in section 3 (p. 21). This leads to further analytical approaches developed through the use of a table (Appenix A) and mind maps (Appendices B and C). In regards to the methodology, this study, as any other research process, faced some limitations. Although the Internet search of retrofit alternatives across GM proved to be qualitatively successful, it is believed that some projects could have not been discovered because the key-words entered in the search engine were not matching the content of the websites. In addition to this, this research acknowledges that Internet may be used only by some community groups leaving others unknown to the study. In the light of these considerations, it is advocated that future investigations adopt different sets of methodological tools to uncover the existence of those retrofit alternatives which have not been identified in this context.

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Appendix A - Analytical Table

PROJECT	GOVERNANCE OF SPACE	PRIORITIES	CONCEPTION OF RETROFIT	REPRESENTATION	COMPARING SPACE	KEY THEMES
SPACE						
Incredible Edible Beer Garden	**Individual-Charity-Community**	In 2011 – no end An individual (the pub's owner) To *learn* and *experiment*; to *inspire* and *engage* the local community	A piece of land adjacent to the pub. Refer to material and symbolic retrofitting.	Space is socially represented. Rehabilitation of youngsters out of work. The land is producing food.	The community feels empowered and in control. Financial certainty of the pub. Less dependency.	Community **engagement; empowerment** of disadvantaged community members, **self-sufficiency** in the production of food. Mix of **environmental and social** elements
Fallowfield Loopline	Friends of the Fallowfield Loop, Sustrans; Manchester University and the Council **Charity-Community-institution**	In 2001 – no end Sustrans started it. To *develop a green open space* in chaotic urban spaces; to create/seek/strengthen **partnerships** for its promotion	An old railway line	Space is socially constituted. Popular cycling spot. Community activities are regularly organised (e.g. litter picking): fostered community involvement and cohesion	The intervention of the charity in transforming the space. The formation of the Friends of the Loop – group that emerged from local campaigns to convert the land into a green space	**Transformation** of the local group Friends of the Fallowfield Loop – they were born from campaigning to have a green space. **Active role of the community**. Creation and reinforcement of **partnerships**
Nutsford Vale	Residents of Nutsford Vale; Red Rose Forest; Manchester City Council **Residents-Council-Council Department**	In 2009 – 2011. There are still activities. A group of residents To have a **open green space**; to maintain and manage it over time Clear **long-term commitment**	An abandoned piece of land which belonged to the Council	Environmental and social elements in the construction of space.	The idea generated from a group of residents	Active group of residents…**however**: Lack of knowledge in applying for funds (bid proposals) allowed the Council/Red Rose Forest to get involved (**Knowledge-power-control over the residents-lack of independency**). There's a **shift from individualistic** (e.g.

PROJECT	GOVERNANCE OF SPACE	PRIORITIES	CONCEPTION OF RETROFIT	REPRESENTATION	COMPARING SPACE	KEY THEMES
						safety in the land from a resident perspective) **to collective reasons** (Council's plan to achieve sustainability/to be greener)
Saddleworth Community Hydro	Members of the local community; individuals who bought the shares; United Utilities (owner of the place); DEFRA and EU **Residents-Individuals from the outside-Government-EU-Private company**	In 2008 the idea was launched An individual with the support of a some residents **To contrast** the installation of wind turbines; **to developed a community owned** renewable energy scheme; to become **self-sufficient; to contribute to the environment**	A part of the river where the turbine was installed Renewable energy	Constrained space where the community operates: lack of funding/planning permissions Social space/Private interests/Politics/Authorities	Community owner of the renewable energy system	**Residents in (apparent?) control** (own the renewable energy system). Sustainability mixes with the economic benefits. **Negotiations** with several agencies and legislations. Uncertainty of funding. Community group which **'formalised'** and **transformed** in developing the Society. Retrofit projects shape the environment but are also shaped and adapt to the surrounding environment. **Adaptation or resistance?**
Fallowfield Secret Garden	City South tenant; City South; Actions for Sustainable Living (+other funding org.) **Social business-Tenant-Charity**	In 2011 – still on **To grow** food; **learn** horticultural techniques and sustainable ways of living. To **share** knowledge; to make it **look nicer**	An abandoned space was transformed into a greener area	Socio-environmental elements in the construction of the space. Social business focused on the community welfare: propaganda and use of community to be more competitive.	It is alternative because the land has been given to a tenant to be managed and transformed into a socio-environmental resource	Involvement of the social business: **propaganda or community welfare**? The alternative element is **not independent**. Involvement of the charity to prepare the bid. **Lack of residents' knowledge** about the

PROJECT	GOVERNANCE OF SPACE	PRIORITIES	CONCEPTION OF RETROFIT	REPRESENTATION	COMPARING SPACE	KEY THEMES
						process.
Miss Cordingley's Garden	Trafford council; The friends of Walkden Gardens (+Biffaward fund) **Council –Volunteers from the community**	In 2001 – activities still on To make the Garden **accessible** to the public; to **restore** its **green aspect;** to keep it **active** (various activities develop there)	An abandoned garden owned by the Council was transformed for community purposes	The space represents a social ground where community members can meet, organise activities and socialise. The social space constructed by the community is materially owned by the Council	The alternative element is represented by the group of volunteers The Friends of the Walkden Gardens which formed in 1985 to contrast the decision of the Council to use the Gardens as a play field for a local school	The Council **relies** on the volunteers to keep the area tidy, safe and accessible. **Cooperation** born from an antagonistic response. Community engagement in sustainable activities: institutional priority. **Council involvement but external funds** and volunteering work.
Raddison Edwardian Hotel green roof	Raddison Blue Hotel and Actions for Sustainable Living **Enterprise-Charity**	In 2012 – not specified end Green agenda of the hotel to achieve high environmental and social standards worldwide	The roof of the Hotel was transformed into a green space	The green space represents an environmental alternative to a chaotic urban context. The roof should be also a space where staff members relax and enjoy growing plants and herbs	The alternative element is constituted by the unconventional initiative developed by a business	The **concept of sustainability is re-defined and re-used** in this context by a commercial body. **Sustainability as a profitable strategy**?
Didsbury Dinners	Didsbury Dinners; residents of South Manchester; local organisations and initially the council (funds to publish the book) **Community interest company-residents-local organisations**	In 2011 – ongoing The idea generated from an individual **To grow** fruit and vegetables; to develop a **degree of self-sufficiency**	Unused pieces of land to grow fruit and vegetables	The green spaces used by the group are a response not only to environmental problems but also to economic restrictions (idea of being self-sufficient). The spaces where the group meet and work are also a social environment to socialise and be more in contact with the outdoor.	The alternative element is represented by the strong involvement of the community group and local organizations. Whereas the involvement local institutions is not mentioned/marginal	**Independent** character. **Wealthy area** of Manchester. **Grow food to bring people together. Environmental and social purposes.**
Rosehill Community Farm and Garden	A group of community members of Whythenshawe; Manchester City	In 2011 – ongoing **To improve the well-being** of the community;	A disused allotment was environmentally and socially transformed	The retrofitted area gained a strong **social meaning** for the members of the	The space in this context appears to be socially constructed by the community members –	The involvement of the community group seemed to be filtered by the institutional

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	Council; funding bodies **Community-Council**	**to experiment gardening practices**; **to educate**		community of Whythenshawe; it was made **accessibl**e to disable and elderly people. The Council focused on the **regeneration plan** of disadvantaged areas	whereas from an Council perspective it is part of a more institutionalized/politicised agenda	(Council) and political interests – involvement of the labour party. Strong emphasis on **different agendas** (e.g. social for the community vs economic/propaganda for the Council)
Local Energy Assessment Fund (LEAF)	Chorlton Community groups and Government **Community-Government**	January 2012 – March 2012 To make houses more **enviro**nmentally friendly, to **reduce energy waste** and to **save money**	Retrofit old Victorian houses around Chorlton	The space constructed here is **tangibly represented** by old, not energy efficient houses in Chorlton. **Domestic retrofit**	The alternative element is represented by the origins of this initiative. **Mobile community** within a wealthy area of Manchester who applied for funds to develop the project Local experts/consultants have been involved	Here the community presented a proposal to establish the project. Active but also affluent part of the city. Is urban sustainability increasing **social inequalities** (**think about mobile/active communities vs communities that are mobilised by institutions/businesses)**? **Political party involvement** in praising the success of the project on its website
Stockport Hydro	Stockport community group; charity bank; Stockport Council; North West Development Agency **Shareholders – Council - Bank – Social Enterprise**	In 2011 – ongoing The idea generated from the community **To produce green energy; to save money**; to **be self-sufficient**	Community use of renewable energy	The scenario here is **complex** because of the nature of the project (complicated itself) and the multitude of actors involved. It is not only one space but different ones represented in accordance to the needs and expectations of the actors. There are	The alternative element is represented by the involvement of the community in owning and managing the project. BUT: is it real ownership or an institutional strategy?	**Interrelation and interdependency among environmental, economic and social factors** held by charities; individuals; banks; council; political parties. **Opportunistic coalition**: the community needs

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				economic social and environmental factors which mix, each predominant in accordance to the socio-economic role covered by the actor (e.g. individuals/organizations/institutions)		funds but wants to be independent; the council owns the land, want to meet the environmental targets of its sustainability agenda. **Paradox:** dependency-independency. **Is it possible to be completely separated/independent from institutions in the regeneration plan of a urban context?**
Bowes Street	**Manchester City Council – community members**	It started between 2008-2011 – lasted for two years although once that the Council intervention was over the community group kept on meeting/organizing activities **To reduce poverty and social exclusion; to enhance economic opportunities**	**Transformation of the built environment** to make Moss Side a more attractive area but also focus on the social issues (e.g. criminality) → by enhancing community cohesion the attractiveness of the area could improve	The space here is formally socially constructed by the Council. The initial intervention was part of its sustainability agenda although once the project was over the community kept on meeting in the attempt of organize local activities. Through the involvement of the residents the council can achieve its plan; through the involvement of the council, **the residents have been mobilised to** be more cohesive	The alternative element is represented by the **(real?) degree of autonomy** *given* to community members as they could decide which type of project they could develop. This case poses the question whether an alternative is possible or if it is the results of the government/council decisions and wants.	**Residents as a means to achieve economic results and prestige on a larger scale (i.e. national level?**) And position competitively on a national level in regards to sustainability goals and achievement?
BUILDING						
The Manchester College	**Manchester College-Learning and Skills Council**	2010 To meet the College's **sustainability plan**; to **develop green**	Restoration old buildings to minimise environmental impacts	**The space is mainly constituted by buildings** – environmental and economic factors are the main motivations. The	The alternative element is represented by the College. It is a private entity which developed and finance the retrofit	Meet environmental targets to achieve **visibility** and **be competitive** in a time when sustainability is

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		buildings; **community involvement** (development of the garden)		interests represented here are those of the college which came up with the retrofit project and also financed it	project for self-interest (be more competitive among educational centres) by meeting environmental targets	at the core of many businesses/institutional practices. **Transitory and uncertain nature of the funding** → the connections/partnership between actors changed/evolved. **Dynamism.**
Markaz-al-Najmi Mosque	The **Muslim community** of Levenshulme Mobile community	Between 2003-2008 **To create an environmentally and community friendly** Mosque; **to improve the quality of life** of the Muslim community in Levenshulme	Retrofitted the traditional idea of Mosque with a new one of eco-mosque	The space is represented through strong **social inter**ests which mix with **environmental ones**. Eco-mosque as a **nice space** where the community could gather together respecting the environment Are social motivations stronger in justifying the involvement of the community?	The alternative element lies in the **singularity of this project** – I have not found many eco- mosques around Manchester area. **Detachment from institutions**.	**New (intangible) conception of retrofit** within the Muslim community of Levenshulme. Strong **social motivations** – cohesion within the Muslim community enhancing the feature of the Mosque – making it more welcoming
Ashton Sixth Form College	**The school**	2008 – ongoing **To reduce carbon emissions**; to make the area (Timeside) more sustainable (**example** of sustainability); to **benefit financially** and to use the turbine as an **educational resource**	Installation of a wind turbine within the school space and solar panels	The interests/spaces represented in this project are those of the school which has initiated and financed the project.	The **involvement of the school detached from other institutions** and funding bodies allows it to be considered alternative	**Long-term sustainability plan**. **Uncertain financial support** – it has not received funding because the scheme allowed only the installation of horizontal turbines. **Visibility** gained by the school among other less environmental friendly schools. Perhaps the long term sustainability plan represents a **marketing strategy**.

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Loreto College	The School; the Learning and Skills Council; a project team (architect; bream; engeneers, etc.) **School – Government – Private companies**	In 2009 the building was completed **To promote** sustainability; **to give an example** to the community; **to show an innovative** eco-building; **to provide an efficient learning space**	The School has been fitted with eco-features	The school creates an innovative space for the local community (e.g. staff members; neighbours; families; students) where environmental and social issues mix. The space is representative also of commercial/corporate interests held by the school. Through an innovative eco-strategy it has the potential to be more attractive than other schools.	The interest of the school to apply for funds to retrofit its building represents an alternative to institutionalised sustainable initiatives. The channel to receive funds, however, appears to be less alternative. What happen to the schools that did not receive the 'promised' funds? **Why LSC was put in place**? What did the Government wanted to achieve and why?	**Unstable nature of the funding** (go back to the LSC scheme); **prestigious** eco-features for the school; **commercial** strategy; environmental element (nature) and social one (example)
Barton Village	City West Housing Trust (no profit); Salford City Council; Homes and Communities Agency (National housing and regeneration agency for England) **Social Housing – Council – Government – Residents** (clients but also involved in planning)	In 2011 - 2014 To improve the well-being of the residents (saving money for example); to be environmentally friendly; to increase working opportunities	4 tower blocks in Barton Village (Eccles) were refurbished Installation of eco-pods	Different actors and interests mix in the development of this project. City West like other social housing associations is in need of attracting funds, partners and cooperation. Homes and Communities Agency's website: 'Working with our local partners, we use our skills and investment in housing and regeneration to meet the needs of local communities; creating new affordable homes and thriving places". The space built by the residents – however – remains inaccessible for the lack of information	The alternative element is represented by the involvement of a social housing organization in retrofit project which supposed to '**mediate**' between the needs of the tenants and sustainability pressure imposed by the Government. The alternative, however, is not representative of the residents in this context and their opinions remain unknown through a first online research.	The **tangible retrofit** of 4 buildings aimed also to an **intangible social regeneration of the area** (e.g. introduce youngsters to work). Environment and social retrofit project. Residents were consulted since the first planning stage of the project. Role of a not-for profit organization in retrofitting properties → **commercial, no-profit and social?;** Commercial driver in social operations? **Ethical role** undermined by the **commercial side** of the operations?; **Lack of**

PROJECT	GOVERNANCE OF SPACE	PRIORITIES	CONCEPTION OF RETROFIT	REPRESENTATION	COMPARING SPACE	KEY THEMES
				found. It seems as their main concern is the financial benefit of having the buildings retrofitted.		**residents' voices** on the web (e.g. comments; forums; blogs)
Chimney Pot Park	Salford City Council; Residents and Tenants Association of Chimney Pot Park; Urban Splash **Council-Architects-Private Companies/Residents**	2010 **To socially rejuvenate** a derelict area; **to convert old houses** into modern **eco-efficient** buildings	Victorian houses in Chimney Pot Park have been refurbished	Mainly economic reasons justify the development of this retrofit project. The space formed by the local residents contrasted the interests of the actors involved in the planning and management of the refurbishment plan. When the development project started, a group of residents formed an association to take decisions about their area and have an active role in the development process. – Their space is strongly separated from the set of interests and motivations behind the involvement of the other actors. The alternative element has to be considered differently in this scenario and it forms once that the retrofit project has been put in place by 'external' actors/outsiders who lack, in some cases, of socio-cultural and environmental	The residents are not the producers in the development of the project as it has not been originated by them; however, they have key role of respondents which contrast the motivations/expectations of the other actors involved. The residents' response to change-in this case-is negative and underlines a fracture between groups of stakeholders which are representative of different agendas.	**Fostered exclusion and separation** between institutions/commercial entities and residents; **evolution of the 'alternative' element:** it forms from a community level once that the 'institutionalised' retrofit plan has been imposed by higher level of society.

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				knowledge of the context where they operate.		
The University Hospital of South Manchester	The Hospital is run by the University Hospital of South Manchester NHS Foundation Trust; relationships established with Manchester Council and Trafford Metropolitan Borough Council. **Hospital-Trust-Councils**	2008-on-going **To reduce its costs**; to be **greener**; to **develop an independent energy system**; to **be the first green hospital** in England	Retrofit the hospital building Heat pumps installed; biomass boilers; energy saving lighting; insulation	There are two spaces which intersect represented here: a micro space represented by the interests of the hospital and its members and a macro space where a multitude of interests, agendas, actors mix (the national government, the local council, charities). The environmental, economic and social issues although shared by all the stakeholders involved, are approached differently, according to the different socio-economic role of the actors and the space where they are approached.	The alternative element is characterised by the planning and managing role of the hospital and trust. It developed the project independently although funds came from other bodies (government and charities)	**Environmental and economic reasons** behind the development of the project; **branding strategy**: the hospital is the first green hospital in England. **Institutions attracted** to invest in it. **Self interest of the hospita**l/trust members (cut costs; be sustainable; be independent) mix with the public national and local priorities related to sustainability. Shift from a micro space represented by the hospital to macro space where interests, policies, institutions and agendas are interrelated
Reddish Vale Country Garden	Friends of the Vale (maintenance and management of the place); Stockport Council; Tame Valley Community Group **Volunteers-Council-Community Group**	2011 Wood stove, solar panel installed, green roof installed	The visitors' centre has been fitted with a solar panel and a green roof	The main interests of the volunteers are of environmental and social (e.g. community involvement; community cohesion) nature whereas the Council keeps the focus on a broader national level of sustainability and targets to achieve	The alternative element lies in the role played by the groups of volunteers 'Friends of the Vale' in partnership with the community group to install the solar panel and to create a green space on top of the centre. It is specified however that the two groups are in charge of the	The control of the place by the groups of volunteers is partial. The involvement played by the council seems to be of key importance. **Community members are not (or seek) independent from the Council. Partnership. Use of volunteers** by

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					maintenance and management of the Vale but the involvement of the Council is key for making sure the place is kept accessible and active for visitors	the Council to meet its targets and gain positive visibility among its competitors (cities; city-regions). **Knowledge-power**: make (believe that) volunteers/community groups are key in the management of the site.
Trafford eco-house	Family; Trafford Council; Urbangrow **Family-Council-Family run company**	2008- ongoing Eco-experiment to reduce costs and be more sustainable	The family house in Sale has been retrofitted: double glazing; wall & loft insulation	There is a common space represented where similar ideals and values are shared (environmental; experimental) between the family and the council. There is also an opportunistic relationship between the two as they can both gain visibility and rewards for their approach to sustainability by supporting each other.	The family initiated the project and it represents the alternative feature of it.	**Eco-experimental project**. Eco, **self-sufficient** building; CHECK what Urbangrow does. Economic constraints faced with **costs reduction and food production.** Meet global warming targets. **Demonstrate** to other families/people what works and what doesn't.
NETWORKS						
Bierchfields Park Forest Garden	Friends of Bierchfields Park; group members of the Bierchfields Park Forest; Red Rose Forest and Manchester City Council **Volunteers-Council**	2007 – ongoing To be **engaging**; to be **productive**; to be **educational** and **sustainable**	The forest garden has been developed from a disused green space in south-central Manchester	The volunteer group – Friends of Bierchfields Park – uses the land to produce its food in a time of climate and economic uncertainty. The use of the land is experimental – environmental reasons to develop this project mix with social – community cohesion in	The alternative element is represented by the involvement and work done by the community group and the Friends of the Park. The alternative component is also underlined by the use that the group makes of the 'space' given.	**Demonstration** on how a urban space can be used to produce and experiment; **example** for other communities; self-sufficiency (food production)

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				working the land, producing food and be self-sufficient. Again the space framed by the Council follows a more institutionalised path of sustainability goals which should be achieved to be a competitive city within a national (European?) scenario.		
Manchester Garden City	City-Co (independent not-for-profit organization); BDP (Building Design Partnership); City Council; Groundwork; community and business members. **Not-or profit-Council-Designers-Volunteers**	2011 – ongoing To **rejuvenate** city areas (temporarily) transforming them into green spaces; **to encourage** gardening and sustainable practices; increase the amount of public green spaces	Transformation of derelict land and car parks into green urban spaces	The space 'built' in this project is structured and allowed a strong involvement of institutions and commercial businesses. The City Council has a share with the other actors the same aspirations of making Manchester city centre a greener place. Environmental priority and involvement of people in the initiative. Constructed space – vices of residents unheard.	It is alternative because the original idea started form an informal chat among friends. CityCo is a not-for profit	*Green* and *sustainability* appears to be used for visibility purposes. Offer an image of Manchester which is in line with the pressure imposed on a national scale
Love your bike	Friends of the Earth; Council, Creative Concern (communication agency) and Greater Manchester Cycling Campaign (voluntary group) **Charity – Council – Volunteers' group**	2006 – ongoing **Increase** environmental sustainability; **to reduce CO2**; **to promote** the use of sustainable means of transport	(Mainly) to transform the mindset of those people who are not into cycling and promote it as a sustainable and accessible way of living	The interests behind the development of this project appear to be shared among stakeholders – charity and council. The charity and the council seek partnership to have an impact on people's lifestyles. The space in	The alternative is represented by the charity which developed the project and applied for funds and the voluntary group – although the role of the council seems to be strong	**Environmental issues** (reduction of CO2) but also social concern: cycling is **accessible** to everyone. Friends of the Hearth and Greater Manchester Cycling Campaign mediators between the council (and

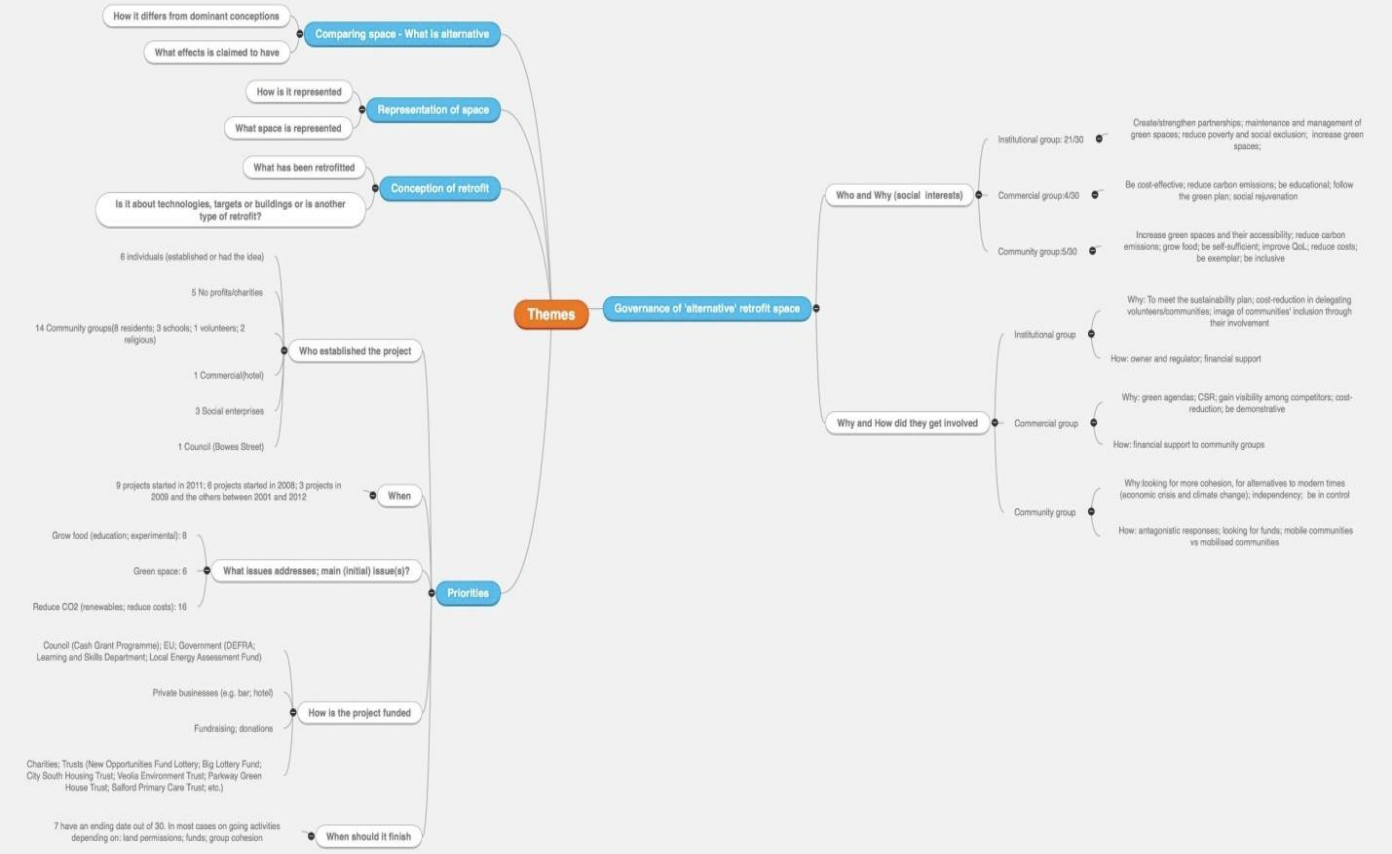
PROJECT	GOVERNANCE OF SPACE	PRIORITIES	CONCEPTION OF RETROFIT	REPRESENTATION	COMPARING SPACE	KEY THEMES
				which the council operates is a large scale one (macro-environment, national level) whereas friends of the Hearth establish the direct contacts with people. They seem to be almost the mediators between national/regional interests and the individuals (between the macro and the micro)		government) and Mancunians – who are directly approached by the organisations. **Macro and micro meet through the 'use' of mediators**
Davyhulme	Church-based community group; Local residents of Davyhulme; Council; Energy Trust Advice Centre; Veolia Environmental Trust **Church group-community-council – energy centre**	2006-ongoing To introduce **energy efficient** measures; **to reduce CO2**; **to raise awareness** about environmental issues; **to save money**	To enable houses in Davyhulme to save energy through retrofitting techniques	Trafford Council has a strong environmental focus. Through its department it gets involved in community-run initiatives. Davyhulme group needed (financial) support to keep active and involve as many families/members of the community as possible. The space constructed here is of shared interests and values. And the main focus is on environmental and economic factors	The project originated from a church-based group and this is considered to be the alternative element although partnerships have been made throughout its growth	**Partnership** among community group and the council; **council supports community run initiatives** to achieve the sustainability targets; environmental and financial elements justify the project
Sow a seed	Hulme Community Garden Centre (no profit); Debdale EcoCentre; Local Food programme; Urbed **No profit-communities**	Start date not specified - 2014 The Community Garden was established by 4 residents in 2000 **To work with local**	Use green areas adjacent to schools to develop and experiment sustainable gardening practices	The space in this case-study is representative of the aims and interests of the not-for profit organization Hulme Community Garden Centre. Through its projects, the centre	The alternative feature of this project is represented by the key role of the not-for profit community centre. Its focus on social and environmental infrastructures within the areas where they operate	Residents noticed that the regeneration of Moss Side and Hulme in the 90s was focused more on infrastructural redevelopment and social housing rather

PROJECT	GOVERNANCE OF SPACE	PRIORITIES	CONCEPTION OF RETROFIT	REPRESENTATION	COMPARING SPACE	KEY THEMES
		residents; to train people **to grow food**; **to practice horticultural** techniques		aimed to build 'a city wide infrastructure of community garden centres in order to foster a city wide movement and long-term positive change…' **Long-term changes in an old structured city?**	is also a significant alternative component	**than environmental and social capital**→the Community garden was born as a response to this. Usually in the projects, when the funds are over community groups keep active and organise other activities/projects. **Transformative element** of the project (funds; image; variety of projects)
Marple, Mellor and Marple Bridge Energy Saving Strategy	Local community of Marple, Mellor and Marple Bridge; Energy Saving Trust; Stockport Borough Council **(church based group)- Community- Council**	2009 To **retrofit old houses** to save energy consumption (e.g. cavity wall insulation); promote carbon emissions' reduction; to get local residents involved	Retrofit of old houses to save energy consumption and raise environmental awareness	The space represented here is the one 'built' by the community group where **environmental factors mixed with social elements** particularly in the aspiration of including local residents in planning and developing initiatives. The involvement of the Council seems to be more instrumental. It aims to achieve its sustainability goals through the support (material) offered to the community group	The alternative feature is represented by the **community group which formed originally in the local Church** after a workshop on environment and climate change. Community-run initiative	Environmental and social issue (behavioural change-change in people's habits and lifestyles). **Instrumental** role of the council. **Mobile community**. **Example** of sustainable house for the community.
The Urban Gardening Project	Urban Gardening group; Kindling Trust; Glossopdale allotments; Eat your streets; Ashton Allotments; Bikereach;	2011 – ongoing Grow food for the community;	Rejuvinate disused urban lands to grow food	The environmental focus of the project is underlined by the desire of rebuilding green spaces in Manchester.	The project was established by a **small community group i**n Moss Side. This is a no profit with no share holders	This community group has a well defined constitution and structured/regular minutes of the

PROJECT	GOVERNANCE OF SPACE	PRIORITIES	CONCEPTION OF RETROFIT	REPRESENTATION	COMPARING SPACE	KEY THEMES
	Council (land permission) **No profit-Charities-Council**			The social component is addressed by the effort made by the group in redistributing extra food to people/communities in need. Constraints		meetings. The plans are made in accordance to the (limited) resources available and the contacts. **Independent** group. **Food production** for people in need/**limited resources available**.
Fairfield Composting Project	Fairfield Material Management; funding bodies **Social enterprise-funding bodies**	2003 – ongoing An individual who campaigned against the creation of an incinerator in East-Manchester **To produce compost** from wasted fruit and vegetables; **to be sustainable and cost-effective**	To use an area of the market to produce compost	The space constructed here is embedded in environmental (wasted use); economic (cost-reduction) and social (educate people) elements. In this space the commercial element of the enterprise is combined with the social aspect which characterises it. Complexities in the status and values.	The Fairfield Material Management is registered as a social enterprise. It originated from an individual antagonist response to the plan of building an incinerator.	Fairfield Composting established in 1996 became Fairfield Material Management in 2003 – evolution of the projects/groups involved. **Educate** people to compost production. As a **social enterprise** there is the commercial element which mixes with ethical values. Does it work? Which are the implications of this mix? **Antagonistic response** to institutions. Projects and community groups change over time and shape **evolutionary processes which adapt to new contexts**.
5 Oaken Clough Terrace	**Medlock and Tame Valley Conservation Association and community members**	2008 Initiated from a resident **To restore** the house; **to experiment** new/sustainable ways of	The house has been retrofitted to experiment and demonstrate **Retrofit to transform and conserve**	The Association and the community members have originated a space where share values and aspirations. Environmental features are predominant	The values and mission which characterise this project belong to the local Association and to the community members. This represents the alternative element of this project	**Education, demonstration, experimenting** and at the same time **conserving** are all key themes associated to this project. Possibly

PROJECT	GOVERNANCE OF SPACE	PRIORITIES	CONCEPTION OF RETROFIT	REPRESENTATION	COMPARING SPACE	KEY THEMES
		energy production; **to conserve** the biodiversity in the outside garden; **to educate** members of the community		although there is also a social element in the educational purposes (e.g. of younger generations)		middle class community members involved. **Knowledge → not involvement of the council**/local institutions. **Mobile community. Self-dependency** with the development of renewable sources of energy. Definition of communities.

Appendix B - Mind map: Retrofit Alternative Projects in GM


Themes
Governance of 'alternative' retrofit space
Who and Why (social interests)
Institutional group: 21/30
Create/strengthen partnerships; maintenance and management of green spaces; reduce poverty and social exclusion; increase green spaces;
Commercial group:4/30
Be cost-effective; reduce carbon emissions; be educational; follow the green plan; social rejuvenation
Community group:5/30
Increase green spaces and their accessibility; reduce carbon emissions; grow food; be self-sufficient; improve QoL; reduce costs; be exemplar; be inclusive
Why and How did they get involved
Institutional group
Why: To meet the sustainability plan; cost-reduction in delegating volunteers/communities; image of communities' inclusion through their involvement
How: owner and regulator; financial support
Commercial group
Why: green agendas; CSR; gain visibility among competitors; cost-reduction; be demonstrative
How: financial support to community groups
Community group
Why:looking for more cohesion, for alternatives to modern times (economic crisis and climate change); independency; be in control
How: antagonistic responses; looking for funds; mobile communities vs mobilised communities
Priorities
Who established the project
6 individuals (established or had the idea)
5 No profits/charities
14 Community groups(8 residents; 3 schools; 1 volunteers; 2 religious)
1 Commercial(hotel)
3 Social enterprises
1 Council (Bowes Street)
When
9 projects started in 2011; 6 projects started in 2008; 3 projects in 2009 and the others between 2001 and 2012
What issues addresses; main (initial) issue(s)?
Grow food (education; experimental): 8
Green space: 6
Reduce CO2 (renewables; reduce costs): 16
How is the project funded
Council (Cash Grant Programme); EU; Government (DEFRA; Learning and Skills Department; Local Energy Assessment Fund)
Private businesses (e.g. bar; hotel)
Fundraising; donations
Charities; Trusts (New Opportunities Fund Lottery; Big Lottery Fund; City South Housing Trust; Veolia Environment Trust; Parkway Green House Trust; Salford Primary Care Trust; etc.)
When should it finish
7 have an ending date out of 30. In most cases on going activities depending on: land permissions; funds; group cohesion
Comparing space - What is alternative
How it differs from dominant conceptions
What effects is claimed to have
Representation of space
How is it represented
What space is represented
Conception of retrofit
What has been retrofitted
Is it about technologies, targets or buildings or is another type of retrofit?

Appendix C – Mind Map: Space Construction