



Evaluation of the Local Carbon Framework Pilots

4. In-depth learning themes

A report by CAG Consultants in association with Impetus Consulting and Dr Joanne Wade

Commissioned by the Local Government Association and the Department for Energy and Climate Change

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and Climate Change

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CAG CONSULTANTS
Gordon House
6 Lissenden Gardens
London NW5 1LX
Tel/fax 020 7482 8882
hq@cagconsult.co.uk
www.cagconsultants.co.uk

for direct enquiries about this report please contact:

Denny Gray
CAG Consultants
tel 020 8870 3050 mob 07875 008990
dg@cagconsult.co.uk

Prepared by	Denny Gray Gerard Couper Emma Jones Dr. Joanne Wade Alison Pilling Niall Machin Philip Matthews
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4. In-depth learning theme findings

Note to reader

This chapter is taken from the full report of the LGA and DECC Evaluation of the Local Carbon Framework Pilots, produced by CAG Consultants in association with Impetus Consulting and Dr. Joanne Wade.

One of the evaluation tasks was to draw out the experiences and learning of the LCF pilot projects against five 'learning themes', in order to provide councils with insights on taking forward action around key areas of intervention. These learning themes are:

- A. Housing retrofit and the Green Deal, providing practical insights from the pilots into the role councils can play in improving the energy efficiency of the housing stock in their area and prepare for the Green Deal;
- B. Sustainable energy generation, exploring how councils can take action on distributed energy in their local area;
- C. Mainstreaming climate change, highlighting how councils have gathered, collated and presented data that enables decisions to be assessed effectively in terms of carbon impact and to integrate action on climate change across all areas of their operations;
- D. Enhancing reputation, looking at how councils can utilise cross-sectoral partnerships to achieve a low carbon economy, build their carbon literacy and take a community leadership role on a key area of intervention.
- E. Winning hearts and minds, examining the role that communities can play on climate change and how councils can support communities to cut carbon.

This chapter sets out the findings from these in-depth learning themes.

A. Housing Retrofit / The Green Deal

Overview of the learning theme

This theme uses the learning from the LCF pilot projects to provide practical insight into the role councils can play in improving the energy efficiency of the housing stock in their area.

To meet its carbon reduction targets, the UK's existing housing stock will have to be dramatically improved in order to cut carbon emissions. The Green Deal, due to be launched in autumn 2012, is intended to revolutionise the energy efficiency of the UK's housing stock. The projects featured in this learning theme have useful lessons that other councils can benefit from when planning energy efficiency retrofit schemes, whether or not they are planning to link these schemes to the Green Deal.

Summary of learning for other councils

Key lessons from the pilots in relation to housing retrofit programmes are:

Householder engagement. Engagement is much more successful if a programme is tailored to, and involves representatives from, the community. Councils are a vital gatekeeper to these local communities;

Collaborative working. There are substantial benefits to be had from councils and social housing providers joining forces on retrofit programmes, as well as offering scope to share best practice. Collaboration can create a project that is big enough for the energy companies to be interested in getting involved with;

Skills. There are currently insufficient numbers of local, suitably qualified workers to implement large-scale retrofit programmes. This is true of everything from standard skills, such as scaffolding, to the more technical skills involved in installing solid wall insulation. It takes time to develop the skills of the local supply chain so this is something councils should focus on as early as possible; and

Local employment. All councils are interested in programmes that will generate local employment opportunities, but there are concerns that Green Deal will predominantly be delivered by large national organisations. However, councils can help to encourage the development of partnerships between local small and medium-sized enterprises (SMEs) and larger companies to ensure that local companies benefit from the opportunities presented by Green Deal.

What have LCF Pilots been doing under this theme?

Three of the LCF projects have focused on housing retrofit, each with the objective of achieving substantial reductions in carbon emissions. Each project involves collaboration between a number of councils.

Leeds City Region's 'Domestic Energy Efficiency Programme' (DEEP) aims to reduce domestic carbon emissions in the region by 35% by 2020. It has involved a pilot study to measure the additional carbon saving benefits of a whole house, whole community approach. The programme, which has been run in York and Calderdale, has delivered whole house surveys and measured customer response. It has also measured the choices that customers make when informed of carbon saving opportunities and costs.

Greater Manchester's LCF funding was used to support the Greater Manchester Retrofit Programme, which focuses on social housing. It targets the 260,000 homes managed by the ten Association of Greater Manchester Authorities (AGMA) and Registered Social Landlords (RSLs) and aims to achieve a 55% reduction in carbon from the housing sector by 2022. The LCF funding was used to help develop understanding of the housing stock and to assess the technical constraints, challenges and opportunities for delivering planned interventions.

The London Borough of Haringey's project involved carrying out a feasibility study to enable a major retrofit programme across six north London boroughs. The first phase has resulted in developing an understanding of the technical potential and investment opportunity for an area-based housing retrofit programme, whilst the second phase involves creating a business plan and procurement strategy for retrofitting up to 30,000 homes a year in the sub-region.

Challenges, solutions and lessons

This section outlines the challenges that the pilots have faced, how they have overcome them and what the lessons are for other councils looking at setting up retrofit projects.

Engaging with the community

Even schemes offering completely free insulation can struggle to get good levels of take up. The pilots have found that the following steps can help to encourage take up and maximise carbon reductions:

- Offering a free Energy Performance Certificate (EPC) survey;
- Making the customer journey as easy as possible – any break in the process will result in interest being lost;
- Developing an easily recognisable brand, which makes the most of the council's 'trusted' status, and which householders will respond to. This can also help to reduce householders becoming confused between the council's scheme and the plethora of companies currently offering energy measures to householders (such as free solar PVs). The Manchester and York's schemes have both found that having a recognised brand that is shared between the council and, for example, the EST advice centre and energy utility (or, in future, the Green Deal provider) has worked well;
- Incorporating behaviour change into programmes. Manchester's project has identified the vital role of behaviour change work in meeting carbon reduction targets and has concluded that action to encourage householders to change their energy consumption behaviour should be a key component of any retrofit programme. They have found that neighbourhood partnerships between (for example) energy companies, councils,

community groups and academics are most likely to achieve results that reduce greenhouse gas emissions over a longer period of time. In particular, community based working is likely to be more effective than relying on large scale campaigns due to the ability to make messages relevant to the target audience and the fact that the message is coming from a trusted source;

- Linked to this, training up volunteers from within the community to offer face-to-face, bespoke energy advice to those in their neighbourhood can be very effective. As part of Manchester's scheme, one council worked with Groundwork to train up to eight volunteers who received free training in exchange for providing the equivalent of a working week of their time to provide advice in their neighbourhoods. These volunteers were able to achieve uptake levels of around 35% (compared to 0% uptake in another area where the same offer of free measures was promoted just through a leaflet drop). For every £1 the council spent on this training, they estimate it has levered in a total of £12 in other investment, as well as other benefits to the public purse, such as reduced health expenditure. Similarly, in Haringey's Low Carbon Zone, a take up rate of 40% has been achieved by engaging local volunteers to door knock their neighbours promoting home energy services;
- Recognising that, in relation to whole house surveys, householders won't want to have all the measures installed at once; and
- Recognising that technical assessors aren't necessarily the best people to explain the benefits of measures to householders.

Collaborative working

The pilots have all found that partnership working was beneficial. A consortium of councils will find it much easier to engage with the private sector than a small council trying to work alone. Leeds City Region found that once you have close to a million properties, the energy suppliers are very interested in working with you. However, the Haringey feasibility study found that there is a balance to be had between having sufficient scale and being able to incorporate local providers; if a scheme becomes too big, the only option may be to work with one of the big six energy companies.

The pilots were all building on already established partnerships, but nevertheless found some challenges in relation to joint working. For example, Manchester's partnership faced challenges regarding the efficacy of its structure, and with ensuring that each group had sufficient resources to produce outputs and to report.

Those involved in the Manchester scheme recommend collaborating on the basis of similarities; the AGMA authorities have similar stock and local installer capacity. However, in Leeds City Region, the collaboration has involved councils with very different housing stock and a mixture of areas that have already had energy efficiency programmes (with the cheaper measures already installed) and other areas that haven't. They have found that this is beneficial in terms of attracting energy supplier partners (since they have a high number of 'easy to treat' properties) and then being able to discuss with them options for improving the harder to treat properties.

In Haringey, the project started out as a geographical investment model based around six North London boroughs. However, as the project developed, the boroughs realised that the scale of investment opportunity rather than the geographical proximity of boroughs is the most important thing in terms of putting together a viable model.

Skills and job creation

Green Deal and other retrofit programmes have the potential to create large numbers of jobs. However, all pilots reported having insufficient numbers of suitably skilled trades people currently available to implement retrofit at the scale they were seeking.

To help ensure that that Green Deal jobs are created locally, councils will need to work with local providers of skills training to ensure that the necessary courses are being provided, whilst also signposting potential installers towards the available training. Training people takes time – one pilot reported that it took some of their volunteers six months to gain their City and Guilds energy advisor qualification – so this is an area that councils should consider at the earliest opportunity, working with local colleges as necessary.

To ensure local SMEs don't miss out on Green Deal opportunities, councils can help to encourage the development of partnerships between the big energy companies (which can provide leadership and governance) and local organisations, as demonstrated by Manchester's 'Mr Toasty' scheme, which is led by British Gas. When tendering projects, councils can specify that contractors must be locally based.

Energy Performance Certificates (EPCs)

It is generally recognised that EPCs have their limitations. For example, in Calderdale's pilot, the EPCs failed to pick up on pre-1920 properties that have cavities, and therefore recommended solid wall insulation (at a cost of around £10,000) for homes where there is an option to insulate the cavities (at a cost of a few hundred pounds).

Area/street based approaches

Solid wall insulation dramatically affects the appearance of a property. In Manchester, in response to the installation of solid wall insulation by one housing association, local 'right-to-buy' homeowners in one area petitioned the association, complaining that their homes (which were not having insulation installed) were being devalued as a result (since the improved properties looked more attractive). The housing association has now engaged with these householders and is working with them to help them secure finance and creditable contractors so that they can also have solid wall insulation installed. Ideally, the same deal would be available to all, irrespective of tenure, as is planned under Green Deal.

Working with energy suppliers

Two of the pilots reported problems in getting the interest of energy suppliers, particularly when seeking to tackle hard to treat homes. One solution is to develop a large consortium; as Leeds City Region found, if you have large number of homes (over million in Leeds' case), plus the offer of a long-term contract, then suppliers will be interested in partnering.

Data

The pilots reported challenges in data collection, stemming from a lack of a unified approach to collecting housing data stock. Haringey Council's feasibility study used local land register and post office datasets, which required some work to match up. However, there are plans to unify these in future.

Social housing

There are particular challenges around introducing 'pay as you save' principles in the social housing sector, where tenants have been used to getting improvements, for example new bathrooms and kitchens, for free under the Decent Homes programme. One housing provider suggested that there is a need for consensus regarding which measures it is appropriate for tenants to pay for through Green Deal (or similar) finance (perhaps more expensive measures such as solar water heating) and which should be supplied by the housing provider as standard (such as loft and cavity wall insulation). Linked to this, Salix Homes in Manchester is trialling taking empty properties and upgrading them to a substantially higher standard and then charging a higher rent (justified by their lower running costs).

Many housing providers believe that they must decant householders, at considerable expense, before undertaking disruptive work such as solid wall insulation. However, Manchester's project found that disruptive work can be carried out with tenants in situ and was thus able to keep costs down. They reported that there were initially a few complaints from tenants, but the tenants all agreed it was worth it after they saw the improvements.

Haringey Council's feasibility study concluded that including social housing (which accounts for more than 30% of the total stock in many London Boroughs) in a Green Deal programme will help to generate economies of scale.

What outcomes can be achieved in relation to retrofit programmes

Housing retrofit should be seen as a core activity by any council because of its numerous benefits. With Green Deal due to be launched next year, councils and social housing providers can make very effective Green Deal facilitators, with excellent knowledge of the local housing stock, routes into local communities and contacts throughout the local supply chain. Green Deal should be viewed by councils and housing providers as a significant business opportunity.

The Haringey feasibility study has summarised the benefits of councils' involvement in Green Deal as follows:

- Their focus on delivering wider social, economic and environmental benefits such as mitigating fuel poverty, promoting local jobs and skills and maximising carbon savings. This in turn will help to develop local supply chains thereby creating a positive multiplier in the area and delivering multiple benefits. It will also demonstrate community leadership in tackling social and environmental problems;

- Their ability to deliver area based programmes, which can both help to reduce capital costs and encourage higher levels of uptake;
- Their lower expectations on financial return which in turn will translate into lower interest rates for consumers thus increasing uptake rates; and
- A clear social agenda when developing an investment portfolio, thereby creating a more balanced portfolio with potential to reinvest the benefit from high Green Deal potential properties (or other initiatives) to more hard to treat/fuel poor properties.

The key outcomes of retrofit programmes are as follows:

Reduced carbon emissions. The Greater Manchester programme is aiming to achieve a 55% reduction in carbon in the housing sector by 2022, whilst the Leeds City Region programme is aiming for a 35% reduction by 2020. The Haringey feasibility study calculates a potential to reduce carbon by 27% in the housing sector based if 'optimised' cost effective energy efficiency packages were installed in every home. Taking evidence regarding likely uptake levels into account, the study estimates that, without council intervention, Green Deal will achieve only a 2.6% reduction in housing sector carbon. Local authority investment, with its lower expectation on financial return, could increase this to 4% and, if there is also a targeted programme by the council to incentivise Green Deal uptake, it could rise to an 11% reduction in carbon emissions by 2020.

Reduced expenditure on energy. The Haringey study estimates that resident's energy bills would reduce by around £2.8m per annum for the base case scenario (or around £370/yr on average per dwelling), rising to £5.3m for their optimistic scenario.

Lower fuel poverty. Quantifying the impact of retrofit programmes on fuel poverty is complicated, since it is affected by factors such as future energy prices and income levels. Therefore, the pilots have not attempted to quantify the degree to which their programmes will cut fuel poverty, but all recognise this as an additional benefit of their programmes.

Improved comfort and reduced public health expenditure. Increased energy efficiency will result in increased comfort levels for many householders, and a consequent reduction in public health expenditure in terms of treating cold related illnesses. Calderdale Borough Council (one of the Leeds City Region LCF pilots) has calculated that a **£1.4m investment in the coldest homes could save over £4m a year in health care costs.**

Job creation. Haringey Council's feasibility study suggests that, in their base case scenario, around **600 Full Time Equivalent (FTE) jobs could be retained or created.** These are 'direct jobs' associated purely with installation of the measures; retrofit measures will create additional associated jobs (such as administration, energy advice, manufacture and retail of products) which are likely to be supported elsewhere in the supply chain.

Success factors and context which support retrofit programmes

The following factors were instrumental to the success of the pilot programmes:



Corporate commitment. In Manchester, a good degree of corporate commitment already existed prior to their retrofit project, linked largely to the city's designation in 2009 as a Low Carbon Economic Area. However, in Leeds, some work was needed to get the council chiefs on board. Presentations were made to the council chief executives and leaders to ensure that they were familiar with the DEEP approach and understood the value of the whole house approach. The fact that housing retrofit programmes deliver against so many targets (including carbon reduction, fuel poverty, job creation) means that it was fairly easy to get support for the programme.

Partnership. Collaborative working gives a better chance of delivering good practice, sorting out procurement and capacity building. Councils cannot participate in Green Deal alone; collaborative working provides capacity and allows for greater influence. The pilots were all building on existing partnerships.

Targets. It can help to have clear targets on carbon reduction. Following Manchester's designation in 2009 as a Low Carbon Economic Area, AGMA developed a set of objectives which were agreed with the Department for Business, Innovation and Skills. These have resulted in the setting of hard, ambitious targets, which have reportedly been very helpful in driving activity.

Funding. Both the Manchester and Leeds programmes had secured substantial amounts of funding for their retrofit programmes, which enabled them to offer free insulation measures. As well as CERT funding, Greater Manchester has secured over £50m of European funding from the European Regional Development Fund (ERDF). Green Deal will offer the finance in future, whilst ECO will replace CERT. It is likely that there will also be European funding available for programmes in this area. However, additional council investment will undoubtedly help to secure higher levels of take-up.

Implementing learning elsewhere

The following lessons from the pilots provide useful information for DECC and the LG Group in terms of designing Green Deal and encouraging council action on housing retrofit.

One of the pilots felt that Green Deal should not be viewed as the only solution for housing retrofit. Green Deal will be market led, and therefore will not result in a systematic, area-based approach to improving the efficiency of all homes. Therefore, Greater Manchester is calling for there to be a council-led, strategic approach to housing retrofit, geared at meeting the carbon targets set for 2050.

Those involved in the pilots believe that Green Deal take up rates are unlikely to reach the levels required for the UK to meet its 2050 carbon target. One of the Leeds City Region pilots suggests that where consultation and negotiation fails, local land charges through appropriate well-being powers should be used to enforce participation.

The limitations of EPCs have been widely reported. In particular, those involved in one pilot cited the failure of EPCs to account for occupancy and the need for thermal comfort has been cited as a problem, as well as their inability to recognise cavities in older properties. They feel that there needs to be a recognition that bespoke approach and

solutions needed for the housing stock. There is a feeling that there is too much emphasis by DECC and the National Insulation Association on solid wall solutions.

Further information	
Projects	<ul style="list-style-type: none"> • London Borough of Haringey - Domestic and Commercial Energy Retrofit • Leeds City Region - Domestic Energy Efficiency Programme • Manchester City Region - Domestic Housing Retrofit
Info	<p>London Borough of Haringey The North London Sub-regional Housing Stock Analysis and Business Plan www.haringey4020.org.uk/camco_north_london_retrofit_potential.pdf</p> <p>Greater Manchester City Region The Missing Quarter – Integrating Behaviour Change into Housing Retrofit www.svha.co.uk/downloads/svha_downloads/behaviour%20change%20report.pdf</p> <p>From Red Brick to Green Brick http://www.claspinfo.org/sites/default/files/retrofit_spreads.pdf</p> <p>Leeds City Region Report - not available at time of writing - will be available from www.leedscityregion.gov.uk when published.</p>
Contacts	<p>Haringey Domestic and Commercial Energy Retrofit Jessica Sherlock Policy & Projects Manager, Carbon Management & Sustainability jessica.sherlock@haringey.gov.uk 0208 489 3525</p> <p>Greater Manchester Domestic Housing Retrofit Tim Barwood Programme Manager, Manchester City Council t.barwood@manchester.gov.uk 0161 245 7415</p> <p>Leeds Domestic Energy Efficiency Programme Colin Blackburn Leeds City Region Housing Lead colin.blackburn@leeds.gov.uk 0113 395 2261</p>

B. Sustainable energy generation

Overview of the learning theme

This theme uses the learning from LCF pilot projects to highlight how councils can take action on distributed energy in their local area. It includes information about the tools that have been developed and are now available to help councils with action in this area.

There is an opportunity for councils to shape the future of energy generation in their area. Their role in land-use planning and economic development offers the potential for them to take a strategic overview of energy needs and how resources in the local area can contribute to meeting these.

The work involved is relatively complex technically and needs to be based on a good understanding of local energy needs and potential resources.

Summary of learning for other councils

Key learning points from the pilots, in relation to distributed energy work, are:

A range of opportunities exist. Projects within the LCF pilot have progressed work in this area that ranges from investigation of single Energy-from-Waste or District Heating schemes, through development of toolkits, to the drafting of a city-region-wide overall energy plan;

Collaborative working. All the pilot projects included here have stressed the importance of partnership working for their successful delivery. All have involved some degree of collaboration between councils, and all have also involved private sector partners;

Skills. This is a technically complex area of work and in-house capacity building is recommended. Many of the projects described here have helped to build this capacity, but a base level is needed prior to starting this type of work;

Confidence. A lack of understanding of the benefits of action or a lack of confidence in them is a key barrier to commitment from project partners. The LCF pilots have developed and used a number of tools that can help to overcome this barrier;

Local economy. All the projects described here have focused to some extent on the economic benefits of the investments they are considering (either to partners or to the local economy as a whole). Economic arguments can be powerful in developing support for this work and persuading partners to commit time and resources.

What have LCF Pilots been doing under this theme?

Many of the LCF pilot projects have some relevance to this theme. Four of them are examined in more detail here:

Bournemouth, Dorset and Poole Multi-Area Agreement (MAA)'s Energy-from-Waste project investigated strategic opportunities for waste management contracts to support the development of energy from waste facilities. Waste Resources Assessment Tool for the Environment (WRATE) software was used to model scenarios for different waste management options¹.

The Bournemouth, Dorset and Poole MAA's Dorchester District Heating feasibility study was commissioned to evaluate the technical and financial viability of a district heating network within the town of Dorchester. A key aim of the project was to increase confidence in the potential benefits of the scheme amongst public sector partners (the county and district councils, a hospital and a prison).

The London Borough of Haringey's Energy Master Planning toolkit was developed for them by specialist consultants, together with a spreadsheet based pre-feasibility tool. The toolkit is intended to help officers with little or no existing knowledge in the area to be able to develop a distributed energy master plan. The pre-feasibility tool enables rough calculation of the economics of possible schemes before commitment of resources to a full feasibility study. Haringey have used the toolkit to help them develop a master plan for the area, through a working group comprising officers from planning, transport, housing, procurement and environmental resources, and from the council's Arms Length Management Organisation (ALMO), Homes for Haringey.

Greater Manchester's Energy Plan has been produced under one of their LCF pilot projects, together with a template and guidance that will help others to develop such plans. The plan examines the key elements of the current energy situation in the city region, and explores priorities for action. It was developed collaboratively by ten councils and a range of private sector partners with energy expertise. The work involved producing a definitive and agreed interpretation of the current position in Greater Manchester regarding energy demand and future mapping needs; understanding the spatial opportunities and planning implications of proposed actions and strategic interventions to reduce energy demand; and engaging with government to understand and inform the direction of travel on energy policy, roles, responsibilities and fiscal instruments.

Other projects with particular relevance to this theme include Haringey's Light Supply Licence project, Nottingham City Council's energy mapping toolkit, and Plymouth City Council's energy services company.

Challenges, solutions and lessons

This section outlines the challenges that the pilots have faced, how they have overcome them and what the lessons are for other councils looking at carrying out similar work.

Developing the necessary partnerships

¹ This is a lifecycle analysis tool developed by the Environment Agency to assess the environmental impact of waste management processes: www.environment-agency.gov.uk/research/commercial/102922.aspx.

Partnership working has been crucial to the success of all the projects here. These partnerships have included internal links across council departments, working with other councils in the local area, and partnerships with a range of private sector partners.

Internal partnerships need to be developed carefully, taking into account the time constraints of other officers. The involvement of a range of departments in the development of the Haringey Masterplan has been very valuable, but officers were initially reluctant to join a distributed energy steering group, due to time pressures. Setting up a working group instead, with the specific aim of developing the Masterplan, was a more attractive option.

Partnership with other authorities can enable sharing of resources and expertise, and joint working to increase in-house capacity. And for some activities, such as the development of an energy plan, partnership working is logical because of the spatial scale at which data are available and decisions need to be taken is greater than that of a single authority. Also, energy industry stakeholders are more likely to be attracted to working with partnerships of councils rather than individual authorities.

However, care must be taken to ensure that the needs of partners are sufficiently aligned. For example, in the Energy-from-Waste project, the fact that the partner authorities were not all in the same place in terms of waste management did present a challenge for the project. In this case some redesign work overcame the issue, but in a situation where councils' waste strategies were less well aligned, separate, rather than joint, working might be easier.

Historically, many councils have been reluctant to work closely with private sector partners, but these pilots have demonstrated the value of building partnerships with the private sector. Developing the Manchester Energy Plan involved significant stakeholder engagement work. The project team regard this relationship building as crucial to the current and future success of low carbon work in Greater Manchester. Local Economic Partnerships can be the key to better understanding of the drivers and challenges for the private sector. The process of developing the plan has helped to bring together public and private sector approaches in this area.

There are a number of challenges associated with partnership working that the pilot projects have overcome:

- It can be very difficult to engage with some businesses to update information, for example on an area heat map, but in these cases estimates can be used (e.g. based on business type and floor area) and a lack of engagement should not prevent progress being made;
- District heating networks are more challenging when the anchor loads are not all owned by the same organisation, as all stakeholders need to see a benefit from participating. Building relationships with potential heat end-users can be very time consuming, especially if there are no operational district heating networks in the locality. But these relationships are worth building since they may result in significant investment in local infrastructure;

- The Manchester Energy Plan project has made use of an online consultation platform to make partner participation as straightforward as possible. This has been a very useful way of working together and the platform is directly usable by other councils.

Council capabilities and confidence

This is a relatively complex area for action, technically, and there is a need for council officers to develop capability and confidence in the area. Councils are operating with reduced resources and wish to avoid using consultants to carry out work that could be done by council officers.

At the heart of the development of the Manchester Energy Plan was the recognition that energy is becoming a significant and important issue for many leaders and managers, and they do not readily have access to the information they need to make effective decisions.

There are points at which specialist help is a good idea however. For example:

- The Bournemouth, Dorset and Poole MAA feasibility study found that the use of expert consultants during the study was essential to the success of the project so far. There may well be a continuing need for this type of support to build the necessary confidence in the technical and economic appraisals that will enable the project to progress to implementation;
- Haringey found that it was useful to have the Masterplanning toolkit properly demonstrated through a workshop with Arup (the consultants who developed it). Arup and the GLA were also invited to attend the first meeting of the working group; their knowledge proved invaluable, especially for engaging with colleagues on the technical details of schemes.

Due to the technical complexity, this is an area of action that may be more suited to councils that already have some experience in tackling carbon emissions. However, the LCF pilot projects have developed some resources that may make it easier for a wider range of councils to act on distributed energy investment:

- The tender documents developed for the Bournemouth, Dorset and Poole MAA feasibility study could be used by other councils, and the project's economic evaluation would give a useful indicative cost benefit analysis prior to commissioning a similar site-specific feasibility study;
- The aim of the toolkit and pre-feasibility tool developed in the Haringey work is to provide officers with the knowledge and tools to carry out the work. Both these tools are likely to raise confidence within councils about their own level of understanding of decentralised energy systems and hence about their ability to move forward in this area. The pre-feasibility tool will also reduce the risk associated with committing funds to feasibility studies and hence should increase support for this activity.

The pilots have also found that the effort to build internal capacity is worthwhile: Manchester feel that using in-house resources to secure and get to grips with key

information has built institutional capacity, and that this is preferable to contracting the work to consultants.

Links to economic development

Carbon reduction is not an aim that will guarantee partner engagement. However, most potential partners are interested in the economic benefits of projects, either to themselves or to the local area. For example, in both of the Bournemouth, Dorset and Poole MAA projects, the potential financial savings from carbon emissions reduction actions were a key motivator for partner engagement.

In Manchester, the process of developing an energy plan helped to identify the role and importance of an integrated investment strategy in progressing energy infrastructure, and that the energy infrastructure should be positioned, planned and delivered alongside transport, housing and major building schemes as a core economic development priority for Greater Manchester, rather than as a separate 'low carbon' niche.

Moving from studies to implementation

All the LCF pilot projects reported here have been focused on studies and the development of plans, rather than on the implementation of carbon emissions reduction projects. There are a series of challenges that they face in moving on from the success of the studies to ensure implementation.

The most significant of these are the capital costs involved in most of the projects and the fact that very little public sector funding is available. Options being considered include the use of Energy Services companies to provide financing and management of infrastructure investments.

What outcomes can be achieved in relation to distributed energy?

The pilot projects have demonstrated the potential for a number of significant outcomes.

Carbon emissions reduction

The Bournemouth, Dorset and Poole MAA Energy-from-Waste scoping report included options for residual waste processing that could provide carbon emissions reductions of up to 50 tonnes per year. The district heating feasibility study identified the potential to reduce carbon emissions across the participating public sector heat users by between 33% and 43%.

Understanding

All the pilot projects have contributed to an increased understanding of the area amongst officers in the councils involved. In some cases this understanding is transferable via the tools developed (e.g. the Haringey Masterplanning tools); in others, it is a result of involvement in the project process itself.

Sustained action

The projects should lead to sustained action in the field of distributed energy: the Borough of Poole continues to work with its waste partner Viridor to actively seek disposal opportunities using new technologies; Dorset County Council and its partners are in discussion with an ESCo about implementation of the district heating project and expect that successful implementation will encourage the council to invest in further feasibility studies; and Greater Manchester expects that the engagement of strategic players in the development of the energy plan, and hence in the work of the energy group, will have a sustained impact on the ability to actually get things done in the region.

Success factors and context which support distributed energy work

There were a number of key success factors identified by the projects.

Internal support and resources

Political backing, senior management and in-house support were identified as key success factors by Manchester, whilst strong political buy-in was also noted by Haringey.

Manchester City Region and the London Borough of Haringey both pointed to the need for excellent project management skills to ensure successful delivery, and the Bournemouth, Dorset and Poole MAA also pointed out that openness to new ways of working and consideration of new technologies was important. For the Manchester Plan development, strong economic development and investment capabilities were also important.

Links to other objectives

The need to link carbon emissions reduction to other objectives, to secure partner engagement, was frequently mentioned. Manchester referred to wider economic development goals for the city-region, whilst Bournemouth, Dorset and Poole MAA and the London Borough of Haringey referred to financial benefits for partners as a key persuasive message.

Support for partnership development

Partnership development has been key to all these projects, and a number of supporting factors that aided this development were identified. The Local Economic Partnership was identified as the partnership vehicle most likely to support future work in this area, although regional capacity (including the CLASP programme in the North West and the GLA in London) was also cited as providing useful support.

Policy

A number of policy drivers have helped to push forward action in the pilot projects. These include: National Indicator 186 on community-wide emissions, landfill reduction targets, and the CRC.

Implementing learning elsewhere

The Manchester Energy Plan begins to address the need to improve understanding about what are the most effective actions that councils can take. Not all councils will have the expertise or other resources to develop similar plans at this point and therefore it would be helpful if guidance on effective areas to take action could be included as part of the new resources developed in conjunction with the new Nottingham Declaration by the Nottingham Declaration Board and the LGA.

There are a number of useful tools that have been produced by the pilot projects, but at the moment these are not made readily available from a single point. It would improve the dissemination of these tools if a nationally recognised host site could be agreed where all outputs from the LCF pilots could be placed, e.g. on the new Nottingham Declaration Website.

At several points in the pilot projects, independent external advice has proved valuable. For the pilots this was either directly provided or paid for by the LCF programme. It is not clear how such support will be resourced in future but there remains a clear need for it.

Further information	
Projects	<ul style="list-style-type: none"> • Bournemouth, Dorset and Poole MAA - Energy from Waste • Bournemouth, Dorset and Poole MAA - district heating feasibility • London Borough of Haringey - Energy Masterplanning Toolkit • Manchester City Region - Energy Plan
Info	<p>Bournemouth, Dorset and Poole MAA Energy from Waste Carbon Analysis – Poole, Bournemouth and Dorset Councils: Review of Potential Waste Management Options Using WRATE www.boroughofpoole.com/environment/sustainability-and-carbon-reduction/carbon-management-programme/</p> <p>Bournemouth, Dorset and Poole MAA District Heating Feasibility The final report of the feasibility study and the specification for the study are available on request (contact details below).</p> <p>London Borough of Haringey Energy Masterplanning tools Masterplanning toolkit and pre-feasibility tool, available from Arup: denetenquiries@arup.com</p> <p>Greater Manchester Energy Plan Available on the web from early November 2011: www.agma.gov.uk/environmentcommission</p>
Contacts	<p>Bournemouth, Dorset and Poole MAA Energy from Waste Paul Cooling Carbon Reduction Manager, Borough of Poole p.cooling@poole.gov.uk 01202 633 719</p> <p>Bournemouth, Dorset and Poole MAA District Heating Feasibility Pete West</p>

Renewable Energy Development Officer, Dorset County Council
P.West@dorsetcc.gov.uk
01305 228 530

London Borough of Haringey Energy Masterplanning Toolkit

Jess Sherlock
Policy & Projects Manager, Environmental Resources
Jessica.sherlock@haringey.gov.uk
0208 489 3525

Greater Manchester Energy Plan

Sarah Davies
Head of Strategy and Programmes, Greater Manchester Environment
Commission Strategy Team
Sarah.Davies@oldham.gov.uk
0161 770 3362

C. Mainstreaming carbon reduction: measuring carbon impact

Overview of the learning theme

This theme draws on five LCF pilot projects that show how councils have gathered, collated and presented data that enables decisions to be assessed effectively in terms of carbon impact. The councils concerned have done this through the development of databases, metrics, Geographical Information Systems (GIS) and models.

With demanding and legally binding carbon reduction targets set at a UK level and much local commitment to action it is vital that councils integrate action on climate change across all areas of their operations. These carbon tools are designed to help ensure that councils are able to properly quantify the impacts of measures (in terms of carbon and cost), choose the best options for carbon reduction action and review progress. They can also help identify new sources of funding and underpin partnerships between councils and the public, private and third sectors.

Summary of learning for other councils

Carbon impact tools can be extremely useful in helping assess the effectiveness of different options for carbon reduction and in monitoring their implementation. Many tools can be applied at different scales, from the corporate functions of a small district council to the interaction of economic sectors across a city-region. The choice of tool type, and the scale at which tools are applied, will depend on a council's desired outcomes and the resources available.

The proper development and maintenance of tools can be onerous although this is not always the case. It is good to have a proper framework in place before developing tools. This can be achieved by ensuring that proper consideration is given at the start of the process to what is required and therefore what data will be most appropriate. It is also important to make sure that proper resources in terms of staff and finance are allocated.

The work of the LCF pilot councils has provided a huge amount of learning on a wide variety of tools. Other councils can significantly reduce the work required in developing tools, and enhance their outcomes, by consulting with these and other councils that have developed such tools.

What have LCF Pilots been doing under this theme?

The five LCP pilot projects have been working to deliver better carbon outcomes by developing tools to quantify carbon impacts. The projects have focused on areas as diverse as procurement and planning.

Two of the projects were operated by **Greater Manchester** authorities working together. The first, the low carbon investment appraisal project, aimed to determine a mechanism for delivering and measuring financial returns, outputs and outcomes, including carbon savings and energy efficiency improvements, from low carbon investment. This covered housing retrofit, heat networks, decentralised energy projects and public and private sector estate retrofit. The second project has been working to develop the basis for a consistent and comprehensive approach to carbon metrics across Greater Manchester, in support of the area's climate change strategy.

The **Leeds City Region (LCR)** low carbon economic analysis project is intended to model carbon across the LCR to 2020, identify the technically feasible options for carbon reduction at the city region and local scale and consider the broader economic cost of *not* moving to a low carbon economy.

Nottingham City Council's 'Developing low carbon generation capacity and awareness through energy mapping' study has prepared a city-wide energy map. The map is GIS based and provides interfaces with the flexibility to overlay spatial planning, renewable energy potential, adaptation, transport, sustainable energy supply/procurement and energy policy which promotes large scale energy awareness.

Bristol City Council's procurement carbon footprinting project has developed a cost effective methodology to calculate the carbon footprint of Bristol City Council's procurement, including outsourced services, identifying where to focus effort within the supply chain to reduce carbon. It has led to the preparation of guidance and the Council is now focussing in on those areas that offer the greatest carbon saving potential.

Challenges, solutions and lessons

This section outlines the challenges that the projects have faced, how they have overcome them and what the lessons are for other councils looking at setting up similar projects.

Deciding on the scale of action. In going down this path councils should consider what the most appropriate scale of action is; the view of the pilots is that action can work at any level from a small district council to a sub-region and there are strengths and weaknesses of each. In the case of Manchester, tools were developed across 10 councils (with AGMA). This was useful as it enabled the incorporation trans-boundary carbon emissions across a travel to work area. However it also added to the complexity of getting agreement and co-ordinating action. Other councils acted alone and felt this was effective, although they recognised they lost the opportunity to incorporate regional carbon flows.

Ensuring the right data is available. It is important to be clear what data is required and then to ensure it is available in a usable form. A starting point for councils is assessing what information and assets they already have; they may hold more information than they realise. For example, Nottingham City Council managed to save £25,000 by finding a free data set that met some of their needs.

Those working on the Manchester metrics project realised, after working on the project for some time, that much of the data required was in an existing data set - ENIGMA – an emissions inventory funded by Defra through air quality work. The link between air quality emissions data and climate change emissions data hadn't been properly recognised; if it had it could have saved time and effort.

There can also be issues with some data sets that were not anticipated. Leeds City Region used national MACC curve data downscaled to the local area, replacing national with local data sets where possible. However, once the national model was analysed by Leeds University it became clear that there were certain problems that had not been anticipated.

While such issues can be difficult to avoid entirely, seeking the advice of those already working in this area can be very useful.

Allocating appropriate resources and ensuring proper planning. Work on tools and assessment can, though not always, be resource intensive. It is best for a council to consider from the outset what it wants as an output as once it has designed the tools and started assembling the data it is far more difficult to change. It is also important to allow enough time for the process – consulting others who have already undertaken such work can help.

What outcomes can be achieved in relation to measuring carbon impact?

These pilot projects have been focussed on assembling the data that will be required in future. All can be expected to deliver longer-term positive outcomes as the knowledge developed is employed by councils, businesses, stakeholders and citizens. These outcomes can be summarised as:

Making better decisions. All projects have demonstrated how the development of accurate data can be an enormous contributor to better decision-making. In Nottingham the council has now been able to draw together a wide variety of data in one place and, as it is stored on a GIS, can use it to assess a whole range of issues.

Bristol City Council's work on procurement has for the first time provided the detail required to drive forward low carbon (and often low cost) procurement decisions and to engage with suppliers to encourage them to improve their practice.

Inspiring action by others. Nottingham City Council's energy mapping work has two elements – an internal tool of use to planners and a domestic facing tool that can be used by members of the community. Members of the public can access a user friendly interface that allows them to see their property and the effectiveness of different measures they could adopt e.g. for solar PV it can provide information on their effectiveness based on the aspect of the roof of the property. Nottingham City Council is now using the data to underpin workshops with internal and external stakeholders including the wildlife trust, NHS and social landlords. In all cases the GIS data has contributed to discussion and been positively received by the public.

Manchester metrics' Total Carbon Footprint (TCF) tool has proved to be an excellent way to engage with partners and stakeholders, developed as it has been from an end user perspective.

Understanding the appropriate scale for action. All pilots are of the view that tools and models can be employed at a variety of scales, from that of a small community or district council to a large city-region. The choice as to what is the most appropriate scale must be based on a detailed appraisal of what is required, the resources available and the potential for collaborative working with other authorities and other parts of the community. In general regional or sub-regional studies provide a useful overview and enable an analysis of interconnected actions but can lack granularity unless significant resources are applied. Action at the level of a council can enable one to consider individual buildings and actions in more detail but lack a broader spatial perspective.

Building 'carbon literacy' and demonstrating the financial benefits of low carbon. Work in Bristol and Manchester on low carbon tools and assessments has helped push this agenda into the mainstream. Manchester City Region employed consultants who were experts in finance working alongside council finance staff and planners. This built the understanding of all. Manchester also has a Chief Executives Investment Group looking at all infrastructure investment across the Greater Manchester area. At their inception carbon was only a minor part of considerations but it is now, as a result of work on tools, mainstreamed alongside transport and regeneration.

The data produced by the pilots has also proved extremely useful in arguing the economic case for low carbon. For example the work in Manchester has helped to develop a better understanding of how to construct low carbon investment portfolios and in the process created much greater carbon literacy among senior staff and Elected Members. Leeds City Region's work has help ensure that carbon is mainstreamed within the Local Economic Partnership and through its production of a 'mini-Stern' report shown how cutting carbon makes economic sense, while Bristol City Council's procurement work has shown to suppliers the benefits of low carbon.

At the same time the pilots have helped build the technical and financial literacy of staff in sustainable development and environment teams.

Lessons

The projects have all produced tools, metrics and other information (such as reports) that are useful to any other council thinking of going down such a path. All the councils involved are keen to share their experiences and advise others. Some of the data used in these projects may be directly relevant to others, dramatically cutting down the time others will have to take to develop such tools.

Other important lessons are:

Political support is essential to this work as are committed staff. This work cannot be a 'bolt-on' extra and must be at the core of council operations, integrated with finance and human resources functions and backed up with senior level elected member and officer support.

Outside partners can provide knowledge not always found in-house. Much work in this area is cutting edge and not all necessary skills may be available in-house. Learning from others (such as these LCF pilots) can therefore prove very useful, as can

external support from academics, consultancies and those working elsewhere in the public sector.

Such tools work most effectively as part of a wider framework. Those working on the pilots felt that they had benefited from having a framework in place that stressed the importance of action on carbon, backed by clear and challenging targets. The setting of local carbon budgets and the existing use of other tools to assess programmes and individual projects is also useful.

Low carbon investment is a relatively new discipline and no-one knows everything. In terms of those tools working on low carbon investment it has become clear that an active engagement between councils, private sector investors and academics/consultants can really help move projects on. In Greater Manchester a key success has been the strategic partnership development with financial institutions, the invitation from Greater Manchester to host meetings with these institutions and then the strategic briefing of chief officers to engage in these meetings.

Getting people from different disciplines, e.g. planning and finance, to work together can be challenging but rewarding. A number of the pilots involved staff from across the council departments and beyond in tool development and application. This can be challenging, as many staff not involved directly in work on carbon may not see the relevance. However, through joint working, the pilots reported that many staff have developed a greater understanding and knowledge of the priorities and challenges of other council departments.

Success factors

The following factors were instrumental to the success of the pilot programmes:

Corporate commitment. It is very useful to have in place a strategy or plan that sets the framework for such work. Also important is having a political champion and also support from more senior officers to ensure the process moves along smoothly. Building a solid business case for the project is important for securing such buy-in. Haringey also found that creating a Member-led committee to steer the work also promotes political buy-in.

Effective partnerships. Many such projects involve collaboration between councils or between the council and other stakeholders. These partnerships can be a real strength, ensuring a strategic approach is taken and that the project can draw on the resources and expertise of a range of organisation. To be effective however it is important that clear lines of responsibility and management are in place. It is also important that mechanisms avoid those who are moving forward more slowly from impeding the progress of those taking this work forward more rapidly.

Ensuring the correct resources are in place. Some of this work (though not all) can prove resource intensive and take a significant period of time to complete. A clear plan for such work should be devised with a long lead in time to ensure that everything that needs to be is in place from the outset.

Financial conditions are challenging for all councils at present and this may prove a barrier to action. However, as the pilots have demonstrated, such tools can lead to cost

saving action and can be easily integrated into overall performance management systems.

Clarity of objectives. In embarking on this process councils should be clear what the end result is in terms of the data required and how it is intended to be used. It is vital that time is spent in properly considering this at the start as changing course later on can prove time consuming and costly.

Implementing learning elsewhere

The development of tools depends on DECC publishing emissions data in a useful form and the pilots felt it is vital this continues. There was a feeling there was a lack of clarity from DECC about what future plans are on carbon-related data, for example on local reporting requirements.

Further information	
Projects	<ul style="list-style-type: none"> • Bristol City Council- procurement carbon footprint • Leeds City Region - low economic analysis • Manchester City Region - carbon metrics framework • Manchester City Region - low carbon investment appraisal • Nottingham County Council - energy mapping and costed pathways
Info	<p>Greater Manchester Low Carbon Investment Appraisal A set of case studies on Greater Manchester’s low carbon investment programme, including a feature on the investment appraisal project, are available on the CLASP website: www.claspinfo.org</p> <p>Greater Manchester Carbon Metrics Framework A combined data set and framework has been produced and is being used by the 10 councils in the Greater Manchester area. The Total Carbon Footprint tool has also been prepared. All are specific to Manchester and not openly available but officers are happy to advise others on their experience.</p> <p>Nottingham City Council’s energy mapping and costed pathways Work is still in development but the council are happy to arrange visits to show what has been developed and discuss the council’s experiences.</p> <p>Bristol City Council procurement carbon footprint Carbon Footprint of Procurement report and guidance (two documents, will be available on an LCF page on the council’s website (not yet operational at the time of writing), accessible via:</p>



	<p>http://www.bristol.gov.uk/page/council-action-climate-change</p> <p>Leeds low carbon economic analysis The outputs will be an interim and final report. These will be made available on Leeds City Region website when published: http://www.leedscityregion.gov.uk/sustainability.htm</p>
<p>Contacts</p>	<p>Greater Manchester low carbon investment appraisal Lisa Hoyland, Greater Manchester Environment Commission c/o Oldham Council Lisa.Hoyland@oldham.gov.uk 0161 770 1416</p> <p>Greater Manchester Carbon Metrics Framework Bryan Cosgrove, Manchester City Council b.cosgrove@manchester.gov.uk 0161 234 3218</p> <p>Nottingham City Council energy mapping and costed pathways Alex Moczarski, Nottingham City Council Alex.Moczarski@nottinghamcity.gov.uk 0115 9152270</p> <p>Bristol City Council procurement carbon footprint Christine Storry, Bristol City Council christine.storry@bristol.gov.uk 0117 922 4336</p> <p>Leeds City Region low carbon economic analysis Melanie Taylor, Leeds City Region Melanie.Taylor@leeds.gov.uk 0113 395 0382</p>

D. Enhancing reputation: cross-sectoral partnerships

Overview of the learning theme

This theme uses the learning from the LCF pilots to show how councils can utilise cross-sectoral partnerships to achieve a low carbon economy, build their carbon literacy and enhance their reputation. It uses examples of effective internal working across council functions, as well as wider partnerships with business, the community and other stakeholders.

While councils have a clear leadership role in community action on climate change, the great majority of carbon emissions are out of their direct control. Through engagement with others and the building of partnerships they can deliver far more effective action on climate change while promoting a more sustainable economy and a more engaged community. They can also achieve more efficient internal working.

Summary of learning for other councils

- Much of the carbon agenda necessitates work in co-operation with others, whether that be neighbouring councils or other parts of the local community. Such collaborations can prove extremely useful in cutting carbon emissions and can also boost skills and capacity within councils;
- There is no 'right' approach to building successful partnerships but some critical success factors include ensuring political buy-in, identifying 'champions' within all important organisations involved and taking forward action at the most appropriate geographic scale. Time spent building support early in the process can yield great benefits later on.

What have LCF Pilots been doing under this theme?

This case study highlights five LCF pilot projects:

The **Greater Manchester** low carbon investment appraisal project aimed to determine a mechanism for delivering and measuring financial returns, outputs and outcomes, including carbon savings and energy efficiency from low carbon investment. This covered housing retrofit, heat networks, decentralised energy projects and public and private sector estate retrofit.

Bristol Smart City LCF pilot has investigated how the 'Smart City' concept developed by the Council can assist Bristol City Council meet its CO₂ targets and what practical actions can be put in place in the next 5 years. Consultants undertook an analysis of what a 'smart city' is and benchmarked Bristol against this, identifying key areas that Bristol can take action on. A round table discussion was held with 80 representatives from the local digital, economic and environmental sectors.

The **Leeds City Region (LCR) Low Carbon Economic Analysis** project is intended to model carbon across the LCR to 2020, identify the technically feasible options for carbon reduction at the city region and local scale and consider the broader economic cost of *not* moving to a low carbon economy. Another Leeds project has worked with stakeholders to **develop a local renewable energy investment strategy and prospectuses**.

The London Borough of Haringey led a study on the opportunities for green enterprise growth in the upper Lea Valley. This work has involved two other councils in the area and has led to recommendations on action to support 'green' growth.

Challenges

The pilots raised a number of challenges in relation to delivering projects through partnership working, including:

- Difficulties in maintaining progress in a project that has a number of partners. It is important to devise ways in which the projects profile can be maintained and all partners can see the benefits of continued involvement. Joint working across councils can, if not properly managed, lead to a degree of inertia with everything moving at the pace of the slowest. A key task is to get people to communicate and explore potential opportunities together;
- Reaching out beyond the core project team has become more difficult over the last year as the impact of the spending cuts starts to bite. Reductions in staff may reduce their ability to support work that is not part of their core role; and
- In undertaking studies involving a wide range of interested parties it is important to ensure that the final outcome (e.g. in terms of a report) provides the detail and addresses the crunch issues in a way that is necessary to move things forward. The temptation can be to reach consensus through the avoidance of difficult issues - to overcome this requires good engagement and effective relationship building with all partners.

What outcomes can be achieved in relation to Enhancing Reputation?

These pilot projects have been built around collaborative working within and between councils. All are expected to deliver longer-term positive outcomes as the knowledge developed is taken forward by councils, businesses, stakeholders and citizens. These outcomes can be summarised as:

Developing work at a scale appropriate for success Partnership working can ensure that a project is applied at an appropriate scale. For example the upper Lea Valley, a clearly defined geographic area, covers three London boroughs - any action that did not involve all relevant authorities would be far less effective in promoting green growth across. Action on a low carbon economy in Greater Manchester's has benefited greatly from the involvement of the 10 authorities covering a city-region, enabling strategic planning and engagement.

Linking work to relevant initiatives elsewhere In Haringey it has been useful to link the green growth study to the existing Sustainable Procurement Strategy and

Action Plan – it is hoped the two can complement each other as this work is taken forward. Manchester has a Chief Executives Investment Group looking at all infrastructure investment across the Greater Manchester area. At the start carbon was a minor part of considerations but it is now mainstreamed alongside transport and regeneration.

Harnessing the skills and expertise needed Modelling carbon and economic development at the local level, or establishing tools and metrics for measurement, is a complicated process. Councils do not always have the requisite skills in house, and so joint action can help pool expertise to everyone's benefit. Even within a council there can be a divide, for example between those with financial know-how and those with carbon skills. Drawing these together can lead to action that is better in carbon and financial terms.

Cross-community working is the only way to deliver area wide emission reductions effectively Councils are only responsible directly for a small percentage of their community's emissions. Ambitious targets set by many councils – such as Haringey's target of a 40% cut in community emissions by 2020 – can only be realised through effective partnerships with universities, business and citizens as well as by linking local action to national support.

Lessons about how to approach Enhancing Reputation within the context of low carbon activity

The pilots have all engaged a range of external partners and found this to be essential in achieving successful outcomes. Based on their experience, key lessons are:

Identify skills available and supporters of work across all relevant bodies An assessment of skill requirements for a project is a useful first step. An internal mapping of skills can be beneficial in building awareness and collaboration within an authority. Such work can reach out to other partners in the private sector, universities and the community.

Time spent securing senior level backing early on can have many benefits later Building such partnerships can be a resource intensive process but by working together councils and other organisations can share the costs and staff time required. For Haringey it has really helped the project to get political sign up from the other two boroughs and to develop a co-ordinated approach. It has proved very useful to have an Elected Member who has championed the work.

Linking carbon to action in other areas can be very useful It can be very useful to marry action on carbon to other priorities for the council or area. The Haringey work has made a clear link between greening the economy and the Council's priority of promoting employment. The integration of 'green' ideas with regeneration work has made it easier for Elected Members and officials to push this work forward and defend it from current financial pressures. Bristol City Council was helped by having both targets for carbon reduction and plans for the digital economy – their Smart City work has married the two.

Understanding other organisations' culture can be very useful in bringing them on board As a city, Bristol has expertise in electronics and IT and a long history of action on green issues and sustainability. Drawing on the expertise of the electronic industry has proven an exciting and rewarding process that has shown the potential of new technology and how energy, transport and the digital economy are linked. Bristol Smart City work also connected well with the European Smart Cities and Communities initiative launched in June 2011, providing additional support and networking opportunities.

External input can boost credibility and add to skills The commissioning of the Bristol study from independent and respected consultants was felt to be useful in lending credibility to the work and building reputation. The Manchester finance project employed consultants who were experts in finance but ensured they worked alongside council finance staff and planners. This boosted understanding and capacity in both the private consultants and council staff.

Success factors and context which support Enhancing Reputation

The following factors were instrumental to the success of the pilot programmes:

Champions In working across councils and with external partners it is useful to have a 'champion' within each organisation, preferably someone of sufficient status to maintain momentum. For collaborative working between councils progress can be slowed if some of the partner authorities lack a strong supporter of the work internally. It can also result in the project being viewed as being owned by others.

Corporate Commitment Moving projects on requires support of senior staff. Officer groups that are managing projects need either the direct involvement of senior staff, or at least their strong support, if momentum is to be maintained. This is equally important in securing buy-in from staff across a council and in engaging with businesses and others externally. The same is true of political support which ideally should be secured at the start of the process.

Scale For Bristol Smart Cities it was felt that such work would be most effectively taken forward elsewhere at the scale of a medium sized city or above. Small councils could get involved in such work but may be best to collaborate and share resources and experiences between a number of councils.

Build on existing structures Where possible it is good to build on existing structures, for example inter-council working groups on local economic partnerships. It is also not always the case that the Council is best placed to lead. Putting the private sector in the driving seat can prove beneficial provided the project still supports the council's overall approach. In the current economic climate a partnership with business could be very useful and might help secure extra resources.

Councils should also look to natural geographic or economic boundaries and base work on there – this can enhance the effectiveness of the outcomes and also make connection with the public easier.

Implementing learning elsewhere

The support provided by the LCF proved positive both in terms of resources and in providing an extra layer of credibility that helped in engagement with partners.

The collaborative action undertaken by the LCF pilots was felt to be applicable to most councils. However, as highlighted already, the most appropriate scale of action may involve joint working across council boundaries e.g. at the level of a city-region or a natural geographic area such as a river catchment.

Further information	
Projects	<ul style="list-style-type: none"> • Bristol City Council – Bristol smart city • Leeds City Region – low carbon economic analysis • Leeds City Region - local renewable energy investment strategy and prospectuses • Manchester City Region - low carbon investment appraisal • London Borough of Haringey - green enterprise growth
Info	<p>Greater Manchester low carbon investment appraisal The Decarbonising the City range of case studies: Low Carbon Investment Opportunity, District Heat Networks, GM Domestic Retrofit Programme, electric revolutions, learning – available on www.claspinfo.org</p> <p>Bristol Smart City Smart City Bristol Final Report (with audio track) http://www.slideshare.net/Bristolcc/bristol-smart-city-report-7579696 Smart City Bristol Benchmark report http://www.slideshare.net/Bristolcc/smart-city-benchmark</p> <p>Leeds City Region Low carbon economic analysis study not completed as yet but will be published on the Leeds City Region website http://www.leedscityregion.gov.uk/sustainability.htm</p> <p>Haringey Green Enterprise Growth A report on the Upper Lea Valley Low Carbon Economy has been published and supported by a study tour involving DECC, the Department for Business, Innovation & Skills (BIS) and DCLG. The plans are now to produce a vision and set out a future direction for the work http://www.haringey4020.org.uk/index/about4020/lcf_studies/green_enterprise_growth.htm</p>
Contacts	<p>Bristol Smart City Lorraine Hudson, Bristol City Council lorraine.hudson@bristol.gov.uk 0117 922 4470</p> <p>Greater Manchester low carbon investment appraisal</p>

Lisa Hoyland, Greater Manchester Environment Commission
c/o Oldham Council
Lisa.Hoyland@oldham.gov.uk
0161 770 1416

Haringey Green Enterprise Growth
John McGill, London Borough of Haringey
John.Mcgill@haringey.gov.uk
020 8489 0000

Leeds City Region
Melanie Taylor, Leeds City Region
Melanie.Taylor@leeds.gov.uk
0113 395 0382

E. Winning hearts and minds

Overview of the learning theme

This theme uses the learning from LCF pilot projects to highlight the role that communities can play on climate change and how councils can support communities to cut carbon. In particular, it looks at the toolkits and resources being produced by the different pilots and their relevance to other councils.

Summary of learning for other councils

- Work undertaken by these pilots can be used directly by other councils e.g. Oxford City Council's Low Carbon Living website and its tools and resources. There is no need for others to reinvent the wheel;
- Engagement and winning hearts and minds means finding the right local drivers in order to inspire and work with local communities (this does not have to be directly energy related – e.g. local open space issues can bring people together);
- Incentives in the form of grants have been used and could be particularly helpful in low-income areas. Economic benefits are often the key driver for local community involvement;
- Websites and reviews are useful methods for consolidating an area's community energy projects, sharing information and developing action into a more coherent whole. Contracting the work to develop the web pages to a community organisation can improve ownership.

What have LCF Pilots been doing under this theme?

This case study draws on five LCF projects which have produced specific resources to enable and encourage communities to act on climate change.

Bournemouth, Dorset and Poole MAA has developed a community sustainable energy network, which aims to build capacity in the third sector and relieve pressure on council resources.

The Community pathways pilot, led by **Bristol City Council**, is a national project funded by the Welsh Assembly Government (WAG), DECC (via LCF) and the Sainsbury Family Charitable Trust. It aims to characterise the role communities can play in moving society to a low carbon future, and clarify how local councils and other stakeholders can help create conditions for this community role to flourish.

Bristol City Council's community energy support programme aims to help local community sustainable energy projects increase their outputs and impact on the energy and carbon footprint of the city.

Northumberland County Council's delivering community leadership on climate change project aimed to explore the role that local government could play in enabling communities to take action on carbon reduction and to critically explore how to improve the relationship between local communities and local government. The project provided communities with access to tools in the form of thermal imaging cameras and energy monitors and ways of sharing experience, best practice and solutions to problems through opportunities to learn from each other. A series of exchange visits between communities were established and the possibility of a network of exchange explored.

Oxford City Council's Low Carbon Living (LCL) toolkit comprises a website which contains materials and information to help individuals and communities take practical action to cut their carbon footprint and lead a lower carbon life.

Challenges, solutions and lessons

The projects highlighted a range of challenges, solutions and lessons for council support of community action on climate change.

Awareness, acceptance and involvement

The pilots believe there is a need for community initiatives to build awareness and enthusiasm amongst the wider community; carbon reduction is not often a priority issue for most people in the current economic conditions and misunderstanding about the issue is still common. In Bristol, for example, almost 40% of community energy groups reported little engagement from the wider community: public awareness, acceptance and involvement was their biggest barrier. Start-up and capital funding were the next biggest barriers, suggesting more support could be needed in the provision, facilitation and identification of future funding opportunities.

The use of websites can help in terms of presenting a more coherent picture of local community energy projects and activity, showcasing benefits, demonstrating how others have overcome barriers and providing easy to use tools and support.

In Dorset, the project responded to a need identified by the community, in particular by the 12 Transition Towns² within the sub-region, with new community energy pages on its [Sustainable Dorset](#) website. The website includes a map of existing projects and a number of resources to help people (e.g. PlanLoCal, 'Funding Revolution' and information about EnergyShare). The aim of the project was to enable and inspire further community based energy action. The work to develop the web pages was contracted to a community organisation, which meant mean that they have taken ownership of the project and the resource.

Oxford City Council's low carbon toolkit comprises a website called [low carbon living](#) containing materials and information to help individuals and communities take practical action to cut their carbon footprint and lead a lower carbon life, which can be used and adapted by any community in the UK. The toolkit uses three key elements – measuring, goal setting and practical support – to provide residents with a practical framework from which to make significant reductions in their carbon footprint. Information and support

² See www.transitionnetwork.org for more about the Transition Town movement.

including training packs, tools such as the Quicksilver calculator and imeasure, and mentoring packages is available through the LCL website.

The website contains organisers' support packs for running a low carbon living programme, from planning the programme, through facilitation and the related energy measuring and goal setting elements. Supporting information includes meter reading forms, carbon cutting pledge sheets and postcards.

One key issue is going to be finding the time for council officers (and others) to upload all the information they have on to new web sites, and to promote the existence of the resource to others.

Having a specific project focus (e.g. PV scheme on local village hall) was seen to be important in relation to achieving public engagement on climate change, bringing groups together and overcoming some of the challenges.

Recognise community diversity/ complexity and tailor support accordingly

Organisations and their networks involved in community action can be complex and diverse, presenting a challenge for councils and others in supporting such activity. Support needs to be flexible enough to take account of this complexity and tailored to individual circumstances.

Social demography can be an influencing factor in terms of enthusiasm and ability to push forward community action. Some areas lack an existing social network or infrastructure which can be a barrier in terms of replicability.

In some parts of the country, Parish and Town Councils can see themselves as consultative bodies or lobbyists (rather than active service deliverers) with very long standing members taking 'traditional' stances. Whilst their local open space/environment interest may make them appear as natural climate change champions, this cannot be assumed. There can be a fractious relationship between elected and participatory organisations often related to the questioned legitimacy of participatory organisations with no established mandate.

The pilots recognised this issue and as a result sought find out what is important at the local level. Working with the local Community Association can be the way to find the right driver for the local community. Issues such as loss of local green space, or opportunities for food growing can offer the opportunity for mobilising communities and raising awareness on climate change issues.

Bristol City Council's Community Pathways national pilot has launched a new web resource where users can self-characterise to receive the most appropriate guidance/resources. It includes 45 community approaches around carbon reduction and links to other information. The site aims to enable

- **Communities** to plan and deliver more successful and effective community energy projects. In particular the site is helping communities to:
 - Identify what could be achievable given different community circumstances and contexts in order to fashion realistic goals;

- Decide how to best deliver chosen climate change related outcomes, for example energy efficiency or renewable energy; and
 - Identify further sources of information, resources and example projects;
- **Community partners** develop, frame and deliver programmes that better reflect the needs of communities and reduce the barriers to the growth of community energy action. Community partners could for example be community support officers in councils and NGOs or private sector partners like energy suppliers;
 - **Funders and policy makers** understand better the potential community energy action has and support their role in creating the conditions within which community energy action can flourish.

Finance

The pilots revealed that the key driver for community carbon reduction activity is the perceived economic benefits. Benefits envisaged include both direct energy cost savings from improved energy efficiency, as well as income from FITs for renewable electricity generation. This means that much of the focus for carbon reduction is on community buildings, rather than behaviour change. As this is precisely the issue that the Green Deal is seeking to address with householders, it raises the question of whether similar mechanisms could be developed for community groups.

Raising sustainable finance is a challenge for many communities, particularly low income areas where share issues are unlikely to succeed. For example, despite a very active local energy network operating in Bristol, there is currently little systematic co-ordination of resources to support these groups or funding to enable such support to take place. There is a risk that the support activities will not be sustained in the future without further support and remain rather piecemeal in their coverage and impact.

Some communities see the issue in terms of 'quid pro quo': renewable technology will make the community groups more self sufficient economically, reducing their reliance on the local council, so the council should provide some up front funding for the technology. Providing them with access to grants or loans from the council, local partners or other organisations for renewable energy projects is therefore very useful.

In order to support the development of community-owned and community-driven sustainable energy enterprises in the city, Bristol City Council set up a £50,000 [Bristol Community Energy Catalyst Fund](#) in March 2011. The fund provides access to finance to help local enterprises and projects 'break through' key business development hurdles and catalyse the transition from a well thought-through idea into a successful working enterprise. Intended as a revolving fund, it aims to primarily cover costs of professional expertise such as legal documentation, market research, technical studies or detailed financial modelling rather than staff costs, company 'start up', or capital funding. Two groups had been awarded funding by early October 2011.

In Oxford, Barton is an area of high deprivation where the partners realised that the share issue was unlikely to be supported. So an OXCO₂ grant was made available to install a PV roof on building owned by community group who will get the income generated.

Data and measurement

The lack of appropriate baseline data at a neighbourhood or Supra Output Area level is a barrier in terms of measuring community carbon reductions. Demonstrating what has been achieved elsewhere is one way of engaging and enthusing people to act themselves.

The new web sites developed by the pilots refer to a range of new and existing tools and resources that communities – and individuals – can use to help them understand energy issues and calculate their impact. Some have been developed specifically for the LCF work, like Oxford City Council's [Quicksilver carbon calculator](#) (which uses information about your home, transport and lifestyle choices over the past twelve months to build up a comprehensive picture of your household's annual carbon footprint) others are external to LCF such as [PlanLoCaL](#) (a suite of resources including films, a resource pack and this website which aims to support communities and groups that are planning for low carbon living).

A coherent community energy sector

Bristol City Council produced a report 'Supporting Bristol's Community Energy Initiatives: Projects and priorities (Centre for Sustainable Energy, July 2011). The report provides detailed capacity profiles of community energy groups in Bristol, identifies key support needs and makes recommendations for actions to support the sector in future, including:

- Improve web-based information for and about groups (e.g. by supporting the setting up and maintenance of a dedicated website for Bristol Community Energy projects);
- Support the development of an online forum for groups to share information, ideas, resources, and requests for volunteers and support; and
- Explore approaches to funding for significant development and capital costs of community renewable energy projects that can be applied and shared city-wide in order to reduce duplication of effort and costs.

Dorset's new community energy pages on its [Sustainable Dorset](#) website also provided sectoral support and information.

A related issue is clarifying the role of the local council in community energy schemes is unclear. Councils must balance their roles as 'planning authority' (custodian of acknowledged local assets) and partner/potential funder. The Northumberland County Council's project explored this role in further detail, finding that communities saw various roles for their local councils, including:

- Acting as a broker for community owned renewable energy technologies by providing loan financing;
- Acting as an educator about carbon reduction and climate change, providing (or signposting to) information such as case studies, technological information, funding opportunities, local and national initiatives;
- Taking on an initiator function, suggesting projects to communities; and

- Facilitating workshops for smaller community groups to help them develop skills for writing funding applications.

What outcomes can be achieved in relation to winning hearts and minds?

It is too early to assess what the outcomes are for this activity. Long lead-in times are required for community projects and that whilst the work is necessary, its impact is often difficult to quantify in terms of carbon saved.

The main outcome is the creation of a strong and vibrant community energy sector, sustainable over time. Building capacity in this sector should ease pressure on council resources in the long term.

Work undertaken by the pilots has successfully drawn local action together into a more coherent community energy 'sector'. Sectoral barriers and needs have been identified, which should enable more effective support to be provided in the future.

In Bristol, the £50,000 catalyst programme, designed as the 'bait' to draw people in has successfully granted funding to two organisations, with another round of grant imminent. Meetings held to discuss sectoral capacity and needs were packed with standing room only and were met with a huge amount of enthusiasm. The final report has produced a list of recommendations which will hopefully clarify the role of the council in supporting the fledgling sector.

In Oxford, the Low Carbon Toolkit is one aspect of a wider approach to achieving 40% cuts in carbon emissions across the City by 2020. However, coverage of the overall project locally has resulted in new low carbon groups being set up.

The new Dorset website has been well received (Bristol now want something similar). The work to develop the web pages was contracted to a community organisation, which means that they have taken ownership of the project and the resource.

Supporting success factors and context

The following factors were instrumental to the success of the pilot programmes:

- Favourable local context and successful predecessor scheme. In Oxford, much of the project built on work already demonstrated to work to date (Low Carbon West Oxford (LCWO), Oxford is My World, ad hoc support from council for community groups). The City Council has adopted 40% carbon reduction target for the City by 2020, and the Low Carbon Oxford partnership been launched to help deliver it. The Council harnessed the experience and local expertise developed within LCWO to help other communities in Oxford develop a similar approach, but tailored to their own circumstances.
- Bristol also had a tradition on local energy schemes and activity. There was considerable enthusiasm for work aimed at consolidating this sector and identifying needs and opportunities.
- Finding the right driver for the community. For example, share issues might not be supported in low income areas. Various local issues can bring groups together and develop the local social infrastructure which then can be used for renewable energy projects.

Implementing learning elsewhere

Many of the recommendations coming out of the pilot reports (e.g. Bristol, Northumberland) on how this sector can be supported are relevant to other areas and nationally.

In addition, the tools and resources developed by these pilots (in particular the tools and training/mentoring packages developed by Oxford City Council) are suitable for use by any council. Other tools and resources have a high degree of replicability with some tailoring for local context.

Further information	
Projects	<ul style="list-style-type: none">• Bournemouth, Dorset and Poole MAA - Community sustainable energy network• Bristol City Council's Community pathways and Community Energy Support Programme• Oxford City Council's- low carbon living toolkit• Northumberland County Council - Delivering community leadership on climate change
Info	<p>Sustainable Dorset: http://www.sustainabledorset.org.uk/community-energy</p> <p>Oxford Low Carbon Living Toolkit: http://www.lowcarbonliving.org.uk/index.php</p> <p>Bristol pathways: at the time of research, the website was due to go live in Autumn 2011</p>
Contacts	<p>Bournemouth, Poole and Dorset MAA Pete West Dorset County Council P.West@dorsetcc.gov.uk, 01305 228530</p> <p>Bristol City Council <i>Pathways project</i> Steve Marriott steve.marriott@bristol.gov.uk 0117 9224462</p> <p>Pete Capener pete_capener@blueyonder.co.uk 01225 315147</p> <p><i>Support programme</i> Graham Starmer graham.starmer@bristol.gov.uk 0117 9224917</p>

Bristol Community Energy Catalyst Fund
Bridget Newbury
Centre for Sustainable Energy
bridget.newbery@cse.org.uk
0117 934 1413

Oxford City Council

OxCo2
Paul Robinson
Oxford City Council
probinson@oxford.gov.uk
01865 252541

Toolkit

Saskia Huggins
saskyah@hotmail.com

Northumberland County Council

Hugh Clear-Hill
Northumberland County Council
hugh.clear-hill@northumberland.gov.uk
01670 534067