



Evaluation of the Local Carbon Framework Pilots

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

Local Government Association and the Department for Energy and Climate Change

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Foreword

This report is an excellent example of how councils, if they are given the opportunity, can rise to the challenge and tackle the issue of climate change. The breadth of work that the 30 councils in the 9 pilot areas undertook deserves to be applauded. This sector-led approach to improvement has to be the most effective and efficient way for local authorities to make progress – by learning from each other.

These pioneering councils have provided us with a good starting point for launching the Green Deal, which will provide an opportunity for residents and businesses to improve the energy efficiency of their properties at no upfront costs, reaping the benefits through lower bills.

The good work that has gone into the Local Carbon Framework Pilots will form the basis for the development of a 'council framework on climate change', which will underpin our new improvement offering to the sector, 'Climate Local'.

I'm sure councils of all shapes and sizes from across the country will be able to look at the work the local carbon framework pilot councils have undertaken and learn something from it that they can take back to their own council.



Cllr David Parsons

Chairman of the LGA Environment and Housing Programme Board

1. Introduction

Background

The Local Carbon Framework (LCF) pilots programme has sought to develop demonstrable lessons about how councils can integrate measures to combat climate change into their core business. These lessons also provide a practical basis for the development of a new Council Framework for Climate Change. This Framework will seek to act as a local action plan on delivering carbon emissions, encapsulating the varying portfolios of carbon reduction measures relevant to individual or grouped councils¹.

Against this background, the Local Government Association (LGA) and the Department of Energy and Climate Change (DECC) commissioned CAG Consultants, in association with Impetus Consulting and Dr. Joanne Wade, to undertake an evaluation of the LCF pilots. The evaluation's purpose was to identify the learning from the LCF pilots in order to share learning and good practice with all councils, and to inform the development of the new Council Framework on Climate Change. This report presents the findings from this evaluation.

Research objectives

The key objectives of the evaluation were to:

- Identify and make explicit the replicable models, processes, frameworks, documentation, accounting and monitoring procedures, projects and methodologies that the pilot councils have developed as a LCF pilot;
- Identify practical outputs, good practice and learning that will inspire other authorities to replicate these projects and processes;
- Identify any barriers the councils have experienced in executing their projects, including legislative, policy, ideological, organisational culture, knowledge and resourcing;
- Prepare a report for the LGA that sets out how the learning and processes development through the local carbon frameworks can be developed and taken forward with local government; and

¹ In March 2011, the Local Government Group and the Department of Energy and Climate Change agreed a Memorandum of Understanding MoU setting out how they will progress the Local Government's Offer on Climate Change. In the Offer, local government offers to build on the LCF pilots to create a framework for all councils to develop local carbon reduction plans. See chapter 2 for more details.

- Share learning, good practice and outputs (such as tools) as appropriate given the content, across the pilot areas as well as the whole local government sector.

Research approach

The evaluation was undertaken in three main research phases:

(1) **Scoping phase** (Jan to Mar 2011). The purpose of the scoping phase was to gain an understanding of LCF pilot activity to date and expected timescales for delivery. This involved desk-based analysis of the main documentation and data relating to the LCF pilots and telephone interviews with key contacts from each LCF pilot, with members of the Energy Saving Trust (EST) Expert Group², and with national stakeholders including Friends of the Earth and the Department for Communities and Local Government (DCLG).

(2) **Headline evaluation phase** (May to Jul 2011). This phase sought to identify the key – or headline – learning from each of the LCF pilot projects. The work involved telephone and face-to-face interviews with one or more contacts involved in the delivery of each project, combined with a review of supporting literature.

(3) **In-depth learning phase** (Aug to Sep 2011). The phase involved in-depth research to explore the collective learning from the LCF pilots on five 'learning themes': housing retrofit, winning hearts and minds, enhancing reputation, mainstreaming climate change and sustainable energy generation. The work involved a combination of in-depth interviews and desk reviews of supporting literature.

In addition, the research draws upon the findings from a workshop held for LCF pilot practitioners by the LG Group in June 2011.

Research parameters

Project delivery timescales. The projects within the LCF pilots were at various stages of completion during the research. The pilots received funds for their projects in December 2010 and so most had just begun as the scoping phase started. The pilots had until the end of March 2011 to spend their funds, but project delivery has continued beyond this and many projects were still underway as phase 3 was being completed in September 2011.

The learning for this evaluation from each project has therefore varied depending on the progress of each project and when the various aspects of the research took place. As such, some of the findings in this evaluation should be regarded very much as a 'snapshot' in time rather than a definitive record of the learning from programme. The

² The EST Expert Group was a group of policy experts and consultants convened by the EST to provide support and advice to the nine pilots.

learning from projects and from the programme as a whole will continue to evolve beyond the publication of this report.

Council-led learning. Readers should be aware that much of the learning presented in the report – particularly chapters 3 and 4 - represents the councils' own experiences of the LCF pilot programme. The descriptions of the individual projects, and the learning points from the individual projects in these chapters come from interviews with the project officers. They should not be read as individual project evaluations, or judgements on the quality of individual projects. In addition, the choice of projects discussed in chapter 4 has been based on the need to reflect a range of different issues, and should not be read as a judgement on the quality of projects not included.

Report structure

Chapter 2 of this report explains what the LCF pilots programme is and the context within which it is set. A summary of the learning from each of the LCF pilot projects is presented in Chapter 3. Chapter 4 outlines the findings from phase 3 of the research, highlighting the collective learning from the LCF pilots around five learning themes. In chapter 5, the report discusses the common learning from the pilots and sets out recommendations building on this learning. Finally, Chapter 6 sets out how the learning from the pilots could be developed and taken forward to inform a Council Framework for Climate Change.

2. LCF pilots programme and wider context

The LCF pilots programme

The UK Government originally launched the LCF pilots programme in recognition of the substantial contribution councils can make to carbon reduction within their sphere of influence. The initial concept was to explore both the feasibility and validity of applying a national carbon budgeting process at a local level.

It was soon agreed that more work was needed on the relationship between local action and monitoring, and achieving national targets. The importance of councils being able to shape and lead on locally appropriate and relevant carbon reduction programmes was regarded as essential in order to gain buy-in for any national-to-local programme. As such, the shape of the programme evolved from establishing 'local carbon budgets' to a broader, more inclusive and exploratory concept of 'local carbon frameworks'. The 'local carbon framework' programme was launched at the Local Government Association's Climate Change Conference in January 2010.

The aim of the LCF pilots programme was to:

- **Integrate** measures to combat climate change into the core business of local authorities as stewards for community action on carbon (at business, commercial and neighbourhood level);
- **Align** carbon reduction to the growth of the green economy and public sector efficiency; and
- **Optimise** the local authority contribution to the national carbon budget and secure local carbon accountability in line with the Government's localism agenda.

Nine pilot areas were selected, representing a range of different scales, council types, geography and levels of progress on climate change:

- Bournemouth, Dorset and Poole Multi-Area Agreement;
- Bristol City Council;
- Leeds City Region;
- London Borough of Haringey;
- Manchester City Region;
- Northumberland County Council;
- Nottingham City Council;
- Oxford City Council; and
- Plymouth City Council.

The pilots are fundamentally an “action learning process”. They were asked to explore what barriers and obstacles may be limiting local authority ambition – whether national, sub regional or local – and to help understand more about the support councils needed to assemble these strategies, and to secure buy-in from all the parties involved.

Wider context

In March 2011, a Memorandum of Understanding (MoU) was signed between the DECC and the LGA. The MoU publically establishes that both central and local government need to work in partnership in order for the carbon reductions the country needs to be realised. It acknowledges that it is the responsibility of DECC, and other government departments, to set positive policies that enable local government to act on climate change, and that it is the responsibility of local government to be ambitious and use these opportunities to act on climate change.

The MoU sets out a partnership arrangement between DECC and the LGA to help councils meet national and local climate change, fuel poverty and renewable energy targets. DECC and the LGA are working together to help and encourage all councils to take firm action - underpinned by locally ambitious self-set targets - that enables councils to:

- **Reduce** the carbon emissions from their own estate and operations;
- **Reduce** carbon emissions from homes, businesses and transport infrastructure, creating more, appropriate renewable energy generation, using council influence and powers; and
- **Participate** in national carbon reduction initiatives at the local level, particularly the roll out of the Green Deal, smart metering and renewable energy deployment.

Part of this locally-led approach to acting on climate change is the revitalisation of the Nottingham Declaration. The new Declaration will encourage signatory councils to strategically address the causes and effects of climate change. The Declaration will be applicable to all councils, regardless of their position on the journey of addressing climate change, and will encourage them to commit to various actions and targets to challenge themselves to act on climate change, and to demonstrate publically their progress. Key to the new Declaration will be the ability of the local government sector to benchmark, challenge and lead itself.

Critical to enabling councils to take action was defining how to generate the data and identifying consistent methodologies for assessing what steps need to be taken and at what spatial level. To this end the programme funded the EST to bring together a core group of experts to consider the issues, review the tools available and develop guidance – now published as the ‘Council Frameworks on Climate Change baseline Data and Methodology Review’, alongside an additional report on: ‘Local Authority large scale retrofit: A review of finance models’.

The EST package of materials, together with this evaluation, seeks to provide the foundation from which any council can begin to plan how it can optimise its contribution

to tackling climate change, and do so in a way that is wholly compatible with its core aspirations for economic growth, efficiency savings and community engagement.



3. Project summaries

This chapter provides a summary of the councils' experiences and lessons from each of the LCF pilot projects. It includes summaries for the 39 projects reviewed for the evaluation, grouped according to each pilot area.

Table 1, overleaf, contains an overview of these projects. They are listed against five 'learning themes', identified by LGA and DECC as important learning areas for this evaluation, and against the scale of the project. Hyperlinks are included to help the reader navigate through the chapter.

Note to the reader

These summaries are based on qualitative interviews with project officers conducted between May and July 2011, supported with reviews of relevant project literature. The summaries provide a snapshot in time of the learning of those officers interviewed for each project. In many cases, the projects, and the associated learning with them, will have progressed significantly since the interviews took place.

Table 1. LCF pilot projects 'at-a-glance'

Project	Theme						Scale of project					
	Housing retrofit/Green Deal	Winning hearts and minds	Enhancing reputation	Mainstreaming climate change	Sustainable energy generation	Other	Urban	Rural	County	District	Unitary	Sub-regional
A. BOURNEMOUTH, DORSET AND POOLE MULTI-AREA AGREEMENT												
Area based approach: maximising potential of appropriate energy efficient home improvement												
Carbon accounting for household waste prevention activities												
Community Sustainable Energy Network												
Developing a sustainable food supply chain for Bournemouth, Dorset and Poole												
Dorset Energy group Renewable Energy Strategy Review												
Electric vehicle charging demand study												
Energy from Waste												
Identifying the market for behaviour change interventions to encourage a switch to low carbon travel												
Low carbon CHP and district heating study												
Reducing car use and carbon associated with the school journey												
B. BRISTOL CITY COUNCIL												
Carbon costing toolkit												
Community Energy Support Programme												
Community pathways to action on climate change												
Critical local council leadership skills for LCF delivery												

Project	Theme					Scale of project						
	Housing retrofit/Green Deal	Winning hearts and minds	Enhancing reputation	Mainstreaming climate change	Sustainable energy generation	Other	Urban	Rural	County	District	Unitary	Sub-regional
Developing a standard methodology for an area based energy, climate and peak oil resilience strategy and plan												
Progressing area based solar schemes												
Smart City Bristol												
Sustainable building standards evidence												
Undertaking a carbon footprint of Bristol City Council's procurement including outsourced services												
C. LEEDS CITY REGION												
Commercial property retrofit fund												
Domestic Energy and Efficiency Programme (DEEP)												
Local renewable energy investment strategy and prospectuses												
Low carbon economic analysis												
D. LONDON BOROUGH OF HARINGEY												
Domestic and commercial retrofit project												
Energy Masterplanning Methodology and Decentralised Energy Pre-feasibility Assessment Tool												
Inter-borough Solar Renewable Energy Opportunity Analysis, Framework Contract and Buying Group/s												
Light Electricity Supply Licence – Template Supplier Services Contract for Decentralised Energy Schemes and Market testing												
Study to Identify the Opportunity for Green Enterprise Growth in the Upper Lea Valley and Recommendations on Local Action to Support Growth												
E. MANCHESTER CITY REGION												
Greater Manchester Carbon Metrics Framework												
Greater Manchester Housing Retrofit Programme												

Project	Theme						Scale of project					
	Housing retrofit/Green Deal	Winning hearts and minds	Enhancing reputation	Mainstreaming climate change	Sustainable energy generation	Other	Urban	Rural	County	District	Unitary	Sub-regional
Greater Manchester Energy Plan: an Energy Action and Investment Framework												
Low Carbon Investment Appraisal												
F. NORTHUMBERLAND COUNTY COUNCIL												
Delivering community leadership on climate change and implementing carbon reduction within protected historic and natural environments												
G. NOTTINGHAM CITY COUNCIL												
Developing low carbon generation capacity and awareness through energy mapping												
H. OXFORD CITY COUNCIL												
A partnership approach to carbon reduction across the city of Oxford (OxCO₂)												
Enabling large-scale carbon reduction projects for Oxford: Producing a standardised outline business case for renewable energy deployment.												
I. PLYMOUTH CITY COUNCIL												
Final steps towards a low carbon economy- carbon metrics, aspects of behaviour change and the provision of clear guidance on future delivery												
Enabling low carbon development – establishing a Plymouth Energy Services Company.												

A. Bournemouth, Dorset and Poole Multi-Area Agreement

This section contains summaries of the 10 projects led by Dorset County Council and the unitary councils of Bournemouth and Poole. Each of the summaries can be accessed using the hyperlinks below:

[Area based approach: maximising potential of appropriate energy efficient home improvement](#)

[Carbon accounting for household waste prevention activities](#)

[Community Sustainable Energy Network](#)

[Developing a sustainable food supply chain for Bournemouth, Dorset and Poole](#)

[Dorset Energy group Renewable Energy Strategy Review](#)

[Electric vehicle charging demand study](#)

[Energy from Waste](#)

[Identifying the market for behaviour change interventions to encourage a switch to low carbon travel](#)

[Low carbon CHP and district heating study](#)

[Reducing car use and carbon associated with the school journey](#)

Area based approach: maximising potential of appropriate energy efficient home improvement

Learning Themes	Housing retrofit / Green Deal
Project Summary	Improving councils' ability to effectively implement area based approaches by: increasing the quality of data on the housing stock in the local area; assessing the potential for a range of energy efficiency measures; and estimating the resources required for a large scale programme of work.
Learning outcomes	Councils in areas with housing stock that does not fit with the usual 'rules of thumb' used in modelling can see the potential value of developing more robust datasets to inform their work.
Applicability	Potentially relevant for any council, but perhaps of most relevance in areas where there is a significant amount of non-traditional housing stock.
Replicable?	✓✓

Summary of key learning for other councils

- Stock condition data is a very useful resource, councils should ensure they maximise its potential;
- National averages are not accurate enough for the assessment of potential in areas where there is a significant amount of housing stock that does not fit with the usual 'rules of thumb' used in modelling.

What was this project trying to achieve?

The overall aim of the work, which this project is one element of, is to generate the ability to set carbon reduction and activity targets for hard to treat properties on the basis of a robust local dataset. The aim of this particular project was the development of a more robust dataset to help with the planning of action in hard to treat and more conventional homes.

What was the approach?

This project involved reviewing existing data and scoping the need for more.

The main element of the work was mining existing datasets that the participating councils had access to, to develop a more robust picture of the local housing stock. This new data would enable modelling of the technical potential for improvement in each council area.

The next phase of the work would be to carry out market research to determine the market potential. From this research, actions and carbon reduction targets can be set. However, funding for this element of the work had not yet been secured.

What has been achieved?

Robust data. The council is now in possession of a robust dataset of local housing wall types. The improved level of confidence in the data should make it easier for the council to take action in this area, once other necessary information is collected.

Lessons for modelling. The housing in the local area includes many cavity wall properties built from the 1890s onwards (whilst modelling assumes that anything prior to 1930 is solid-walled). There are also older properties that have non-standard cavity walls that are more expensive to treat than standard cavities but probably less expensive than solid walls. The results of this project suggest that it may be worth examining in more detail the extent of inaccuracy in modelled information as this may offer lessons for use of modelled data in other areas as Green Deal is implemented.

Challenges

The amount of data needed. The results of modelling exercises such as Vantage Point are not useful in the project area because the housing stock is non-standard. Therefore, a significant amount of local data is needed and has to be mined.

Multi-area working. This was a multi-area project and involved data from six Dorset councils. Mining this information could have been very challenging, but in this case was made easier because all the stock condition surveys concerned had been carried out by the same contractor.

Key lessons for other councils

Councils in areas with housing stock that does not fit with the assumptions made in national modelling may have to invest in the construction of more locally relevant datasets to support their work on housing energy efficiency.

Stock condition surveys are a very useful resource for this work.

Replicating the work

The information flowing from this project is very locally specific and hence other councils would have to replicate the work to achieve the same benefits.

The key to developing a more robust understanding of the local situation is to mine datasets that the council already has. If these are insufficient, additional stock condition surveys may be required.

Relevance to other councils

This project is relevant to councils in areas with high proportions of housing stock that does not fit with usual modelling assumptions.

Outputs	A summary report of the results of the housing stock analysis has been produced. The report outlines the methodology used by the councils. The outputted results are specific to the councils involved. At the time of undertaking the research, it was not clear if the report would become publicly available.
Contact	Jon Bird

Energy Efficiency Development Officer Dorset County Council j.bird@dorsetcc.gov.uk 01305 221 895

Implications for a council framework for climate change

A good understanding of the housing stock and the potential for improvement is necessary to underpin strategic carbon emissions reduction work. In areas where there is a large proportion of housing stock that does not fit with modelling assumptions, modelled data based on national averages may not be sufficiently accurate and therefore additional work may need to be carried out, either in specific localities or at the national level to increase the range of house types represented in modelling work.

Carbon accounting for household waste prevention activities

Learning Themes	Mainstreaming climate change
Project Summary	A research project carried out by waste management consultants ERM to understand and report the carbon benefits of household waste prevention activities. This has resulted in the development of a carbon accounting tool.
Learning outcomes	Awareness of a toolkit that can help to incorporate carbon reduction in the planning of household waste prevention activities.
Applicability	The tool is relevant to all councils
Replicable?	✓✓✓

Summary of key learning for other councils

- Although it has not yet been completed, it is intended that the project will make it much easier for councils to take carbon into account in waste management decisions. It aims to do this by identifying the most effective opportunities for carbon reduction. This should support the mainstreaming of carbon reduction activity;
- Working with other councils to fund and feed in to the development of tools like this could be an effective and cost-efficient way of working.

What was this project trying to achieve?

This project has been funded by multiple councils around the country. The objective was to develop a carbon accounting tool and to use it to model the specific case for waste prevention and management activities for each of the project's partner authorities.

What was the approach?

The authorities involved each provided a relatively small amount of funding which, when brought together, enabled ERM to develop the tool. The partner councils are now piloting the use of the tool and refinements will be made based on their feedback.

What has been achieved?

The aim of the project is to make it much easier for councils to take carbon into account in waste management decisions. It will identify some of the big opportunities for carbon saving and hence enable councils to concentrate their efforts where they will make the most difference.

Challenges

There were no particular challenges identified at the time of review. It is likely that any that do exist will be encountered during the piloting phase.

Key lessons for other councils

Making it easier to include carbon in waste management decisions. Although it has not yet been completed, it is intended that the project will make it much easier for councils to take carbon into account in waste management decisions. It is hoped it will identify some of the big opportunities for carbon saving in waste management and hence enable councils to concentrate their efforts where they will make the most difference.

Examining the carbon impact of waste could be a way to mainstream action on climate change by including it in the core services councils are statutorily responsible for delivering.

Joint working. Working with other councils to fund and feed in to the development of tools like this can be an effective and cost-efficient way of working.

Replicating the work

The tool can be customised for use by any council.

Relevance to other councils

The tool is relevant to any other council. It does help to have a good awareness of local data for waste analysis, but if not the national defaults can be used, which are fairly realistic.

Outputs	A carbon accounting tool for waste reduction and management activities will be produced. When the tool will be available had not been determined at the time of writing.
Contact	Marten Gregory Waste Reduction Officer Dorset County Council m.k.gregory@dorsetcc.gov.uk 01305 228672

Implications for a council framework for climate change

It is important for councils to concentrate their efforts in areas where they can have the biggest impact on carbon emissions. It is also important for councils to do this in a cost-effective way and to capitalise on areas where they have direct influence. Waste is an area that has a large carbon impact and is a statutory responsibility for the council. By linking carbon and climate change to statutory responsibilities, this can help mainstream this agenda into the decision-making of other council services. This type of tool is intended to help that process.

Community Sustainable Energy Network

Learning Themes	Winning hearts and minds
Project Summary	Development of a network that will help to build capacity in the third sector and relieve pressure on council resources. The main focus has been on the development of a web resource.
Learning outcomes	This project demonstrates how a web resource to support community energy action can be developed and implemented.
Applicability	This project should be widely replicable. However, good existing links with relevant community groups are needed for maximum cost effectiveness and community ownership of the resource.
Replicable?	✓✓✓

Summary of key learning for other councils

- Developing a web resource to support community energy action can be cost-effective if hosted on an existing community organisation site;
- There is a significant time input required to ensure that information about existing projects and resources is uploaded on to the site;
- Success does in part depend on having strong existing relationships with community groups.

What was this project trying to achieve?

The project began the process of developing a network that will help to build capacity in the third sector and relieve pressure on council resources. This responded to a need identified by the community, in particular by the 12 Transition Towns within the sub-region. This included development of an online forum.

What was the approach?

The project involved contracting out the development of web pages that will act as a resource and networking site for local groups involved in community energy action. The site is hosted by a local environmental group and hence is seen as something owned by the community.

What has been achieved?

A new web-based resource. The website is up and running and contains information about local projects and useful resources. Community work often takes times before an appreciable impact becomes apparent, and it is difficult to separate the impact of these 'softer' projects from other supporting initiatives. However, this is a common challenge for projects that deal with changing 'hearts and minds' and should not stop councils adopting them.

Challenges

Community ownership. For this type of resource to be a success community energy groups need to feel ownership of it. This project has aimed to ensure this by finding a community group website to host the web resource developed, and contracting the development of the resource to this group.

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

Key lessons for other councils

Although a well-developed and well-used site such as this could remove pressures from local council officers by enabling interested groups to access information more directly, there is a significant time commitment needed to ensure that the relevant information finds its way on to the site.

For cost-effectiveness, the web pages need to be hosted on an existing web site. For community buy-in, it is important that this is the site of a community organisation rather than the council website.

Replicating the work

This project should be widely replicable. However, councils would need to have good existing links with relevant community groups to ensure maximum cost effectiveness and community ownership of the resource.

Relevance to other councils

The project could be relevant to any council. It is more applicable to councils who already have the necessary knowledge of, and relationships with, active community groups.

Outputs	Community energy web resource on the Sustainable Dorset website http://www.sustainabledorset.org.uk/community-energy
Contact	Pete West Renewable Energy Development Officer Dorset County Council P.West@dorsetcc.gov.uk 01305 228 530

Implications for a council framework for climate change

It will be interesting to monitor the extent to which the resource is used and developed, as this may be useful information to feed in to consideration of community capacity for local energy action and hence community capacity for supporting local area engagement with policies such as the Green Deal.

Developing a sustainable food supply chain for Bournemouth, Dorset and Poole

Learning Themes	Winning hearts and minds
Project Summary	Utilising and expanding the existing 'Direct from Dorset' accreditation scheme to enable rural food businesses to access market opportunities in the local tourism and hospitality sectors (and in the public sector). The project includes the development of a tool for measuring the carbon impact of changes in food supply chains.
Learning outcomes	This project demonstrates the potential for engagement in low carbon activity based on locally relevant economic issues (in this case the development of local food supply chains).
Applicability	Most relevant for urban centres with nearby rural areas.
Replicable?	✓✓✓

Summary of key learning for other councils

- Early engagement of stakeholders and working with the issues that are important to stakeholders can result in higher than expected levels of engagement;
- It can be difficult and time consuming to secure funding to take forward work, and hence a plan for maintaining engagement and enthusiasm is very important;
- Supply chain modelling is a very complex area, and realistic expectations are needed about how far along the chain carbon impacts can be modelled;
- It may be easier to begin this work with private rather than public sector organisations, as procurement rules in the public sector can cause barriers.

What was this project trying to achieve?

The project aims to reduce carbon emissions from the food supply chain by encouraging greater use of local produce.

It has started this process using presentations and workshops with agricultural and hospitality groups to general demand and supply awareness.

The project was also aiming to develop and use a carbon evaluation toolkit.

What was the approach?

A scoping study and initial research assessed whether there was a need for a dedicated local food distribution system and retail outlet, and a review of best practice identified the key elements that any new system should have. Local best practice was also reviewed.

Survey and focus group work was carried out with local producers, together with similar work with the tourism and hospitality sectors, and with the public sector.

The results of this preliminary work fed into the development of two business plans, one for a dedicated local food distribution system and the other for a local food retail outlet. The next stage of the work is to secure funding for these.

What has been achieved?

Interest and engagement. There has been a higher level of interest and engagement with the project than was expected. This is probably a result of the method used, with a partnership approach and use of focus groups and surveys during the early stages of the project, which has helped to secure buy-in.

Making 'low carbon' relevant. The exploration of the economic impacts of local food sourcing has helped to make 'low carbon' something that is seen as relevant by local businesses.

Challenges

Working with small businesses. This has been a challenge because these businesses have very limited time. Being clear about the objectives of the work and the long term benefits to the businesses involved can help to overcome this barrier.

Measuring carbon savings. It has been very difficult to develop the carbon evaluation toolkit due to a lack of existing tools. This work still requires further development, in particular to ensure that the final tool is not too complex for intended users. It is important to be realistic about things such as how far along the supply chain the modelling can go.

Maintaining engagement. A key challenge that the project is still grappling with is how to maintain engagement whilst funding for implementation is secured. The local food sector has experienced a lack of consistency in the provision of support. For genuine commitment to this project they need to be convinced that activity will not go away because of a lack of funding. There is also a risk to their reputations for project partners if the commitment is not maintained.

Public sector procurement rules. It can be more difficult for public sector organisation to participate in local sourcing because of procurement rules. If the carbon evaluation tool from this work can be sufficiently well developed, this could provide evidence to help public sector organisations work within these rules and still participate in schemes like this one.

Key lessons for other councils

Having very clear project objectives and communicating the potential long term benefits of the work can help to engage small businesses with limited time to spare.

Taking things forward, the key lesson is that you need to have a very clear plan in place at the end of a project to keep the momentum and commitment in place until you can find funding for future phases of the work, and to put in place some of the outputs of the project. Having a committed steering group who are willing to implement this 'interim' plan is essential.

Food procurement is a complex area, and it is important to ensure that the issues and solutions are communicated in a way that is both useful to businesses and understood by consumers. An accreditation scheme giving people confidence in the provenance claims of producers, and in the quality of the products offered, is a key element of this.

Replicating the work

There isn't a need for particular skills within councils for the replication of this work, but it does rely on partnerships. Hence established local economic development groups or sector organisations (in this case South West Food and Drink) are a pre-requisite for project success.

Public sector buyers have shown enthusiasm for this type of scheme, although procurement rules can potentially be a barrier to their participation.

Relevance to other councils

The ideal situation for this type of project is an urban centre with nearby rural areas. There is an issue about how to define 'local' food: is it very specifically from a defined local area, or should this simply be about procuring food from as close as possible? This was debated within the project and eventually agreement was reached that 'as local as possible' is what should be aimed for.

Although this project should technically be relevant anywhere, it is likely to be most effective in areas where there is a defined local food production sector. This is because of the value of demonstrating local provenance.

This is however, only one example of carbon action linked to local economic development issues, and similar schemes for other sectors may be possible in other areas.

Outputs	The Dorset Urban Food Project Phase One: Final Report www.bournemouth.gov.uk/Environment/Sustainability/TheDorsetUrbanFoodProject.aspx
Contact	Lee Green Environmental Strategy and Sustainability Manager Bournemouth Borough Council Lee.Green@Bournemouth.gov.uk 01202 451 144

Implications for a council framework for climate change

Projects such as this demonstrate how low carbon can be brought into the core of the work of Local Economic Partnerships. In this case, the local food sector was important and focusing on it was a good way to engage people. Looking for similarly important local economic issues in other areas should be seen as a core element of climate change action within councils.



Dorset Energy Group Renewable Energy Strategy Review

Learning Themes	Sustainable energy generation
Project Summary	A refresh and update of the existing Renewable Energy Strategy, including carrying out a public opinion survey and a renewable resource assessment, and developing an action plan for 2010 – 2015.
Learning outcomes	This project highlights the need for robust data on which to build renewable energy action priorities; it also shows the value of revisiting and refreshing existing strategies.
Applicability	City-regions, counties and sub-regions
Replicable?	✓✓✓

Summary of key learning for other councils

- Refreshing an existing strategy has many benefits: strengthening partnerships, uncovering new information, and providing fresh impetus;
- Significant resources are needed for strategy implementation and, even in a mature partnership situation, it is not clear where these will come from;
- Public opinion surveys can help to direct work, either to overcome barriers or to avoid them by concentrating on less contentious areas of work.

What was this project trying to achieve?

The aim of the project was to update the existing strategy, including carrying out a public opinion survey and a renewable resource assessment, and developing an action plan for 2010 – 2015.

What was the approach?

The work involved commissioning contractors to carry out a renewable energy resources assessment³ for the Bournemouth, Dorset and Poole sub-region. This was complemented by a public opinion survey. Both the resources assessment and the public opinion survey had been carried out previously, but the data for the previous assessment were not comprehensive or local enough and hence the usefulness of the resources assessment was limited. The council was interested to investigate the extent to which opinions and attitudes had changed, since this would help to highlight opportunities arising from increased support for some renewable technologies. It would also offer an up to date picture of where additional work to build support was needed.

³ Using the Department of Energy and Climate Change (DECC) and the Department of Communities and Local Government (DCLG) methodology for assessing the opportunities and constraints for deploying renewable and low-carbon energy development in the English regions.

The results of the resource assessment and opinion survey then informed the production of an issues paper that was put out to public consultation. The results of this led to the development of a draft updated strategy and action plan that was also put out to public consultation.

What has been achieved?

Strengthening partnerships and increasing confidence. The officers from all three participating councils feel that the refresh of the strategy has strengthened their working partnership and will enable them to take a large step forward in terms of the confidence they have in the actions they are taking. The evidence base from which the Group is working has been strengthened significantly and the refresh has enabled the identification of priorities for action that can be fed back to working groups. The refresh has helped to increase in-house knowledge and has uncovered things that no-one was aware of.

Reinvigorating action. The current context (localism, Green Deal etc.) strengthens the sense of opportunity. The revamp of the strategy offers the opportunity to reinvigorate action linked to a highlighted sense of urgency.

Linking to other key local issues. The issues paper makes a clear link between increased investment in renewables and an already agreed local economic development focus on the 'Green Knowledge Economy', indicating that cross-issue links are being made.

Challenges

Resources for implementation. The priority areas identified in the consultation document will require significant implementation work and at the moment it is not clear how this work will be resourced. The original strategy, produced in 2005, has not resulted in the significant level of increased action in the county that is required (although a number of intermediary activities – such as training and information dissemination – have been completed successfully). Hence this revamp will need to result in something different. There seems to be a lot of goodwill that has been generated or reinforced by the project and it will be very important to ensure that progress towards real actions is maintained so that this goodwill remains.

Resistance to onshore wind developments. Initial results from a public opinion survey suggest that acceptance of onshore wind and combined heat and power (CHP) remains far lower than of energy from waste and solar (thermal and photovoltaic (PV)). This might be useful in directing activities either towards overcoming resistance or towards a focus on the technologies that people are happier to see in the local area.

Data limitations. The project deliberately made use of a nationally approved methodology to ensure comparability with other areas. However, the contractor delivering the resource assessment has expressed concerns about the limitations of data for some resources, which may lead to errors in the estimation of resource availability. These are detailed in the technical annex to the issues paper, and include such issues as: the geographical scale used for wind resource estimation failing to exclude all areas where physical constraints (e.g. roads or inland waterways) would

prevent development; and the exclusion of non-food organic waste from Environment Agency data on biomass.

Key lessons for other councils

The project is useful for councils that are already active in addressing climate change. The review of the strategy has strengthened existing partnerships and has expanding the evidence-base upon which the organisations can act. It is important to balance data gathering with taking action. The evidence can be used to define focus areas, and this means actions can be re-prioritise quickly.

This type of work can be quite technically challenging and therefore expert input is required. It does also require significant project management. So, the development of strategies does need to be adequately resourced, and this should include consideration of whether or not nationally available data are adequate for local plans.

Replicating the work

This project was delivered by councils that had quite mature structures already in place (the Dorset Energy Partnership). For councils without these, significant extra partnership development work would be needed to ensure success.

In this case, the council had officers in place with a good level of understanding of the renewable energy field. Officers would need to have a broad understanding of the field but, as the work was contracted out to specialists, there is not actually the need for a high in-house level of knowledge. There is however, a need for strategy development skills.

Relevance to other councils

Scale is to a certain extent important, to avoid repeating very similar work several times over. Therefore this approach is most relevant to work at the county, sub-region or city-region level.

Both urban and rural areas were covered in this project, and it is equally relevant to both.

Outputs	Information on the renewable strategy review, including: Renewable Energy Updated Strategy - Consultation draft ; The issues paper ; Technical appendix ; Renewable Energy Strategy technical update ; and Survey of Public Opinion on the Development of Renewable Energy in Dorset . These can be found at: http://www.dorsetforyou.com/renewableenergyconsultation More on the Dorset Energy Group including the 2010 progress report can be found at:
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	http://www.dorsetforyou.com/dorsetenergygroup
Contact	Antony Littlechild Sustainable Development Manager Dorset County Council A.G.Littlechild@dorsetcc.gov.uk 01305 224 802

Implications for a council framework for climate change

Allocating sufficient resources to the development or refresh of a strategy can significantly strengthen the evidence base from which working groups start. This is key to the identification of priorities for working group action.

The process of developing or refreshing a strategy is in itself valuable, as well as the actual strategy. It helps with partnership building and increased understanding. It can be the point from which to start discussions and so can be useful for people who have done nothing, although as this project has shown, it can also be valuable to more experienced partnerships where there is a need for fresh impetus.

Electric vehicle charging demand study

Learning Themes	Mainstreaming climate change
Project Summary	A feasibility study with the aim of developing a business case for the roll out of an electric vehicle (EV) charging point network across the county. Note that the project was incomplete at the time of the headline evaluation.
Learning outcomes	The project offers information about ways to combine data to estimate markets for carbon emissions reduction technologies, and also demonstrates that development of an EV charging network will probably not need to be a high council priority.
Applicability	Any council
Replicable?	✓✓✓

Summary of key learning for other councils

- Datasets such as ACORN and Google earth can be combined to provide an interesting assessment of the potential for some carbon emissions reduction measures;
- Development of EV charging points is not likely to be core to council carbon emissions reduction activities.

What was this project trying to achieve?

The project examined the potential for a charging network for electric vehicles (EV). It has focused on the identification of the market for these vehicles and potential locations for charging points. The project is expected to move on to consider costing and development of a prioritised implementation plan.

What was the approach?

The project was delivered by the council's in-house consultancy with support from an external expert when required. It has used an interesting combination of data sources: census data and Green ACORN profiles have been combined to provide insight into the potential demand for EV charging, and then GIS and Google Street View information has been used to provide a visual check on the extent to which off street charging by individual households will be possible.

What has been achieved?

Information about the potential for the council to take effective action. The project report describes the potential market for EV and the locations where charging points may be needed. Although there has been no action to date, the report puts the council in a well informed position from which future action can be taken.

Challenges

Lack of progress and the national level. The lack of progress with a national strategy for EV has been a major challenge for the project.

Data reliability. The key issue is the extent to which Green ACORN accurately represents the likely demand for EV charging. This uncertainty includes whether or not the profiles accurately match the households in the area, and also whether or not the council has chosen to focus on the right profile in determining demand for EV charging.

Key lessons for other councils

In an area such as Dorset, where over 70% of people have off street parking, it may not be sensible for the council to try and provide on-street charging for the remainder. Work sites or other public places (e.g. off street car parks) may be the most appropriate sites.

Before the council can commit to action in this area, there needs to be greater certainty about national strategy. However, reports like this can put the council in a well-informed position; making them able to respond once the national situation becomes clear.

Replicating the work

The sorts of data used in this study are available to all councils, and hence any could replicate this work.

Relevance to other councils

The work is likely to be relevant to any council. It is relevant for districts with their street furniture / parking responsibilities, and it is probably also relevant to counties as they can take a more strategic, larger area view.

Outputs	It is understood that a report has been produced on the feasibility of a charging network. However, details of its availability were not known at the time of writing.
Contact	Adam Bows Principal Transport Planner (Strategy) Dorset County Council a.bows@dorsetcc.gov.uk 01305 228228

Implications for a council framework for climate change

It seems that EV recharging is likely to be dominated by a range of options other than council-provided on-street points. Hence this is probably not a core element of a council framework for tackling climate change.

Energy from Waste

Learning Themes	Sustainable energy generation
Project Summary	A study to investigate strategic opportunities for waste management contracts to support the development of energy from waste facilities. The study investigated carbon impacts, implications for waste collection procedures and also included a comparison of energy generated by anaerobic digestion with energy from direct incineration.
Learning outcomes	This project highlights the potential for significant carbon emissions reductions by using new options for waste management.
Applicability	Any council that is keen to look at new ways to tackle waste management.
Replicable?	✓✓✓

Summary of key learning for other councils

- There is significant scope to reduce carbon emissions from waste management activities, and this can have financial benefits for the council;
- For this type of study to be effective, council officers need to be open to the idea of considering new waste management options;
- Working as a group of councils to commission this type of work is only effective if all the different waste management strategies are reasonably well aligned. If they are not, then it is probably better to work alone on this.

What was this project trying to achieve?

The project investigated technologies available to councils to support the development of energy from waste plants. The carbon and energy benefits of disposal methods for the council's residual waste, exploring the possibility of using a local energy-from-waste Anaerobic Digestion (AD) plant as opposed to disposal via landfill, were examined.

Different options for waste collection strategies were examined, together with how they could be adapted to maximise energy-from-waste and economic viability through the use of any of three energy-from-waste options: autoclaving followed by AD; food waste separation followed by AD; and pyrolysis using transportable solid waste derived fuel.

What was the approach?

The procurement of the technical consultancy involved a series of discussions between officers in the different partner councils to ensure that their different waste management strategies were taken into account.

Expert consultants were contracted to review a series of options and produce a report on these.

What has been achieved?

Scope for significant emissions reductions identified. The report has raised awareness in relation to carbon management and has identified scope for significant carbon emissions reductions.

Increased in-house understanding and confidence. The project has given the councils more information about their waste management carbon baseline and a much better idea of the potential impact of different options. It has also increased understanding about one new technological option that may be of use to the council.

Challenges

Expectations management. A full stakeholder analysis should be carried out before a project begins: otherwise new partners may have unrealistic expectations about what the project can deliver.

Working with multiple partners. There were multiple councils involved in this project. Their waste management strategies were at different stages, and they did not all contract with the same waste management company. The project had to be re-designed to cope with these differences.

Key lessons for other councils

The expectations of private sector partners need to be carefully managed. Hence, a full stakeholder analysis is essential before the project starts.

If considering working with other councils, it is important to review whether waste management strategies are well aligned. If not, it is likely to be better for councils to work on their own to carry out this type of assessment.

Other lessons include the benefits of being open to new technologies, and the need to recognise the potential financial benefits of carbon reduction action in this area – through optimisation of waste collection routes and through income from renewable energy generation.

Replicating the work

There is no requirement for particular skills to carry out this project: the technical work was contracted out to consultants. However, there does need to be an appetite within the council, and within its waste disposal partners, for looking at new ways of working for waste disposal.

The final report includes information on waste composition and demographics, which is specifically intended to help other councils determine whether the results would be applicable in their own area.

Relevance to other councils

This type of approach is suitable for all councils. It is important for councils to understand the carbon baseline before doing anything else, but this project included developing that understanding for the waste management sector.

Outputs	Final reports from the study by Mouchel: Carbon Analysis – Poole, Bournemouth and Dorset Councils: Review of Potential Waste Management Options Using WRATE Carbon Analysis – Poole, Bournemouth and Dorset Councils: Review of Potential Waste Management Options Using WRATE – Technical Appendix http://www.boroughofpoole.com/environment/sustainability-and-carbon-reduction/carbon-management-programme/
Contact	Paul Cooling Carbon Reduction Manager Borough of Poole p.cooling@poole.gov.uk 01202 633 719

Implications for a council framework for climate change

Waste management contributes a large proportion of a council's carbon emissions and hence this type of activity should be at the core of action to tackle climate change.

Identifying the market for behaviour change interventions to encourage a switch to low carbon travel

Learning Themes	Winning hearts and minds
Project Summary	Carrying out market research to segment the Dorset sub-region according to its potential for a successful travel behaviour change campaign.
Learning outcomes	The potential value of combining environmental profiling data with other readily available datasets is explored, in this case in the context of personal travel choices.
Applicability	This project is relevant to all councils. Councils may wish to consider joint working depending on the extent to which travel flows in the local area cross council boundaries.
Replicable?	✓✓✓

Summary of key learning for other councils

- Combining environmental profiling data with other relevant datasets may prove to be a good way to develop a better understanding of the potential for success with different behaviour change programmes.

What was this project trying to achieve?

The project aimed to identify the socio-demographic groups and geographic areas within the Dorset sub-region where Smarter Choices⁴ measures have the greatest potential for impact. Based on this, the scale of the market and hence the scope for Smarter Choices work could be estimated and a detailed implementation plan developed.

What was the approach?

The project used nationally recognised data sources to combine environmental attitude profiling (GreenACORN data⁵) with journey to work information (from the 2001 Census).

This has produced a suggested list of areas where people might be expected to be receptive to behaviour change messages and have the infrastructure and journey characteristics that allow for alternative modal choices.

⁴ Smarter choices are techniques for influencing people's travel behaviour towards more sustainable options such as encouraging school, workplace and individualised travel planning. They also seek to improve public transport and marketing services such as travel awareness campaigns, setting up websites for car share schemes, supporting car clubs and encouraging teleworking.

⁵ GreenACORN is an individual level classification tool, grouping citizens' attitudes and behaviours to green issues - their choices, their thoughts, their motivations and barriers, into seven major groups, which range from Enthusiastic Greens to The Unconcerned - <http://www.caci.co.uk/399.aspx>.

The next stage is for the council to develop offers based on this analysis, including through testing the messages that people might respond to.

What has been achieved?

Winning ‘hearts and minds’. It is hoped that the information provided by the project will enable the council to communicate using messages that people will respond to. Although the project is focused only on personal transport, it could eventually become one of a series of projects that demonstrate the extent to which GreenACORN data, in combination with other datasets, can help a wide range of initiatives to target marketing messages more effectively.

More informed decision making. The feedback from the next stage of the work may enable more detail to be added to the council’s carbon modelling work, which will enable more informed decision-making.

Challenges

The work so far has focused on assessment of data and this is a fairly straightforward process. However, the challenges of this type of work are likely to become clearer once the messages to encourage behaviour change are developed and tested.

Key lessons for other councils

The project was not sufficiently developed at the point of evaluation for key lessons to be clear. However, the council does feel that the data analysis has given them a useful insight into to the local context that will impact on the effectiveness of behaviour change messages.

Replicating the work

The outputs from the work are specific to the local area concerned, and hence the process would have to be replicated in other areas. However, any council could gain access to the data used in this project and hence could replicate the project provided that money to fund the work was found.

Relevance to other councils

The project is relevant to any council, but an understanding of Smarter Travel Choices is a necessary starting point.

Outputs	It is understood that a report has been produced on the feasibility of a charging network. However, details of its availability were not known at the time of writing.
Contact	Adam Bows Principal Transport Planner Dorset County Council a.bows@dorsetcc.gov.uk 01305 228 228



Implications for a council framework for climate change

Developing a good understanding of the propensity to act, and receptiveness to different messages, within different localities within the local area is something that all councils will need to do, if they are to participate effectively in local delivery of carbon emissions reduction actions.

This project has begun to explore how environmental profiling data can be used in combination with other relevant data sources to develop this understanding. Further work will be needed however, before the full value of the approach within a framework for tackling climate change can be assessed.

The Department of Transport (DfT) have commissioned research on segmentation, which may be useful, but this project's findings suggest that the local context will still have a large role to play: there will be different infrastructure barriers and also potentially differences in how branding and messages are viewed.

Low carbon CHP and district heating study

Learning Themes	Sustainable energy generation
Project Summary	A study to evaluate the technical and financial viability for a district heating (DH) network within the town of Dorchester based on existing large public sector heat users to provide anchor loads.
Learning outcomes	That feasibility studies can help to convince council officers and potential partner organisations that there are significant financial benefits to CHP and DH schemes, and hence help to increase their commitment to this type of action.
Applicability	Urban areas, preferably for councils that already have a track record in action on carbon emissions reduction.
Replicable?	✓✓✓

Summary of key learning for other councils

- There are potentially significant economic benefits for the partners in CHP / district heating (DH) schemes and feasibility studies can demonstrate these;
- Potential partners may be reluctant to invest in the feasibility study as they are not convinced of the economic benefits prior to this being completed;
- It is important that the specification for the tender for the feasibility study is robust – using expert support or drawing on specifications from other councils may be the best ways to ensure this.

What was this project trying to achieve?

The project aimed to evaluate the technical and financial viability for a district heating network within the town of Dorchester based on existing large public sector heat users to provide anchor loads.

What was the approach?

Expert consultants were contracted to carry out the feasibility study, and external expert support was used in the specification of the tender for the work.

Officer time was focused on building relationships with partner public sector organisations and also ensuring that the consultants had the data they needed for a robust evaluation.

The project did include a three-day training session on district heating that was attended by an energy manager from each of the potential partner organisations.

What has been achieved?

A feasibility study. Reports on the first and second stages of feasibility work have been delivered, the council has committed some additional match funding to take forward an economic appraisal of the preferred option and dissemination of results to stakeholders.

Partner engagement. The potential public sector heat users have been engaged as a result of the project.

A step towards putting theory into practice. This project is seen as a huge step forwards towards putting theory into practice. If there is concrete activity, this makes the potential more real and gets people engaged. If the project progresses through to implementation it could help galvanise action in other districts. Using heat from the CHP will help to reduce CRC⁶ payments – so the CRC is an impetus and the feasibility work is demonstrating that there is an available solution.

Capacity and confidence building. The project included a three day training event on district heating, which was attended by one energy manager from each of the potential partner organisations. This may help increase their confidence in the option and make them more likely to participate in the scheme.

Challenges

Commitment. There was not a high level of commitment from partners to fund the feasibility study because they did not see the potential benefits. The LCF funding overcame this, and the level of analysis contained in the feasibility study has increased understanding that significant financial benefits may be possible. Hence there is an increased interest in investing in the scheme; this has resulted in the council's willingness to fund the next stage of the economic analysis.

Time. Going through a formal procurement process in the time available without sacrificing quality was a challenge.

Key lessons for other councils

Feasibility studies can help to build support for this type of action by demonstrating the likely economic benefits of schemes. Therefore they are very worthwhile.

Heat mapping data is sufficient for initial identification of potential, but for a feasibility study you need to use actual energy use data. Gathering this requires time and hence partner commitment.

Replicating the work

There is a need to build knowledge and confidence in this area. For this project, support from external experts was essential during the tendering and procurement process. There also remains work to be done to take feasibility studies through to

⁶ The Carbon Reduction Commitment (CRC) is a government policy that involves reporting and pricing of carbon emissions for all organisations that use more than 6,000MWh of electricity each year. The scheme is mandatory, and from 2012 organisations will have to buy allowances from the government to cover their carbon emissions in the previous year.

implementation and this will require more confidence in the technical and financial details.

Relevance to other councils

This project is relevant for any scale of council, but it is relevant to urban rather than rural areas and also, because it is relatively complex technically and involves large scale finance, it is probably more suited to an council with a track record of energy and carbon activity rather than one just starting out.

Outputs	Specification for the feasibility study tender. Reports on phases 1 and 2 of the feasibility study. Details of its availability of these documents were not known at the time of writing.
Contact	Pete West Renewable Energy Development Officer Dorset County Council P.West@dorsetcc.gov.uk 01305 228 530

Implications for a council framework for climate change

In urban areas, CHP and district heating will need to form a core element of the options considered, because there may be limited other low carbon options available. However, this is a relatively technical field of work and therefore councils should probably gain experience in other areas of carbon emissions reductions prior to considering this.

If the project runs through to successful implementation, it may increase the council’s willingness to invest in feasibility studies as the level of investment in the infrastructure of the local area is huge in comparison with the amount the council needs to spend on the feasibility. Dissemination of such successes could help to overcome barriers to action in other councils.



Reducing car use and carbon associated with the school journey

Learning Themes	Winning hearts and minds
Project Summary	Testing a social marketing campaign that aims to get parents to think about the potentially negative consequences associated with choosing a school beyond walking or cycling distance of their home.
Learning outcomes	An understanding of the usefulness of investigating reasons behind choices before designing behaviour change interventions.
Applicability	Some of the findings will be relevant to all councils; overall it is likely to be of greater use to councils that have already undertaken work on carbon emissions reduction.
Replicable?	✓✓

Summary of key learning for other councils

- Health and environmental messages will not override school quality in determining parents' choice of schools;
- Work to investigate the reasons why decisions are made is useful, prior to design of marketing messages to support behaviour change campaigns

What was this project trying to achieve?

The project aimed to assess the potential of social marketing campaigns designed to get parents to think about the potentially negative consequences associated with choosing a school beyond walking or cycling distance of their home. These negative consequences include for their child's health, development, social interaction and free time.

The eventual aim was to reduce carbon emissions from the school journey if parents could be persuaded to choose schools close enough to home to avoid the need for car use. The hope was that this could also have spin-off effects on carbon emissions as people began to think about doing things more locally, and also positive effects on the health of children and their parents.

What was the approach?

The project involved focus groups and one-to-one interviews with a small number of mothers in Dorset. One focus group involved mothers who had already chosen a school for their child; the other involved mothers who were yet to choose a school. Half of the one to one interviews were pre-choice, the other half post-choice.

What has been achieved?

Improved understanding within the council. The project has confirmed that health is a key message for parents. However, it found that parents will override most issues

to get their child into the school of their choice. So, it has not achieved its aims, but it has improved the council's understanding of how they might affect school choices and journeys to school once that choice has been made.

Alternative interventions. The interesting finding from the work is that school choice is made on the basis of word of mouth reports rather than official assessments by Ofsted. This suggests that there is significant potential for schools to market themselves better, particularly when they are wrongly perceived in a negative light.

Effective targeting of communications. The findings of the research may help the council to target its communications with parents more effectively. It has shown that health and other messages will not stop parents choosing a school that is not their closest. However, health messages may well work for parents who have already chosen a nearby school and yet still drive. Marketing by schools to counter negative hearsay may encourage more people to choose local schools.

Challenges

Resistance to messages. Responses to the questions posed to parents demonstrate that there is significant resistance to the messages that the project was trying to deliver. Although health is a concern, there are many other factors that take precedence when parents are choosing a school and, having chosen it, deciding how children will travel to that school.

The long-term nature of change. It may be that eventually the project will lead to a better understanding of how to encourage parents to choose schools closer to home, but this is likely to be a very long term outcome.

Key lessons for other councils

This is a difficult issue to tackle, and therefore it is perhaps not something to address early in the delivery of climate change action. It will require a good understanding of the local population and their travel habits.

Interviewing parents may provide some surprising and useful information on school choice, which could be of value in education provision as much as in carbon emissions reduction.

Replicating the work

It is difficult to know whether other councils would need to replicate the work, or whether the findings could eventually be generalised. Initial findings suggest that schools may need to be more active in promoting a positive image for themselves amongst the local community. However, the interview work was carried out with a small number of mothers and for any more generally applicable findings work with a much larger sample would have to be carried out.

Relevance to other councils

The work may be of particular relevance in areas where a significant transport footprint is caused by travel to school and where the council perceives there to be the potential for far higher choice of nearest schools. The findings, in terms of factors that affect school choice, may be generally relevant. Some of the factors that determine whether

or not a child is driven to school will of course vary depending on the nature of the local area and the location of schools.

Outputs	It is understood that a report has been produced on the interviews with mothers. However, details of its availability were not known at the time of writing.
Contact	Adam Bows Principal Transport Planner (Strategy) Dorset County Council a.bows@dorsetcc.gov.uk 01305 228 228

Implications for a council framework for climate change

Behaviour change initiatives are likely to form a core part of work on climate change. However, the need for local understanding of the reasons behind behaviours is highlighted by this project. Investigating these reasons at the local level will be very resource intensive and therefore there may be a case for more regional or national level work in this area, so that local work can be focused where the local situation is perceived to vary significantly from national or regional norms.



B. Bristol City Council

This section contains summaries of the 9 projects led by Bristol City Council. Each of the summaries can be accessed directly using the links in the list below:

[Carbon costing toolkit](#)

[Community Energy Support Programme](#)

[Community pathways to action on climate change](#)

[Critical local council leadership skills for LCF delivery](#)

[Developing a standard methodology for an area based energy, climate and peak oil resilience strategy and plan](#)

[Progressing area based solar schemes](#)

[Smart City Bristol](#)

[Sustainable building standards evidence](#)

[Undertaking a carbon footprint of Bristol City Council's procurement including outsourced services](#)

Carbon costing toolkit

Learning Themes	Enhancing reputation, mainstreaming climate change
Project Summary	This toolkit has been used to assess CO ² savings and financial costs (or revenues) of actions within the Bristol City Council Local Carbon Framework and provides a development and monitoring tool for future actions for use by councils.
Learning outcomes	A council will need a proportion of directly quantifiable carbon reduction actions in order for the tool to be successful in enabling them to identify the most cost effective actions.
Applicability	It is relevant to all councils. Councils would need a certain amount of in-house capability and knowledge in order to make use of it.
Replicable?	✓✓✓

Summary of key learning for other councils

- For the tool to work well, a council will need to have some directly quantifiable targets (such as insulating a certain number of homes) as well as harder to quantify actions (such as working with community groups);
- As with any tool, councils will only obtain good outputs if the data used is robust;
- Effective cross-departmental communication and training is needed, to ensure there is understanding of how to use the tool and also that collection of the necessary data is undertaken.

What was this project trying to achieve?

The aim of this project was to assess the carbon savings and financial costs (or revenues) of the actions within the Bristol LCF plan, to provide a methodology for assessing the cost effectiveness of future actions.

What was the approach?

The project involved:

- Research and the collection of national data and other resources to assist in producing assessment methodologies;
- Assessing the costs or savings of 40 actions within the Bristol LCF plan; and
- Developing methodologies for predicting costs and savings and putting these into an LCF carbon costing toolkit.

The key elements of the toolkit are:

- Categorisation by sector e.g. business, transport, residential;
- Categorisation by approach e.g. implementing, enabling, influencing, monitoring;

- Categorisation by action type e.g. direct or indirect, policy, planning, partnership working, funding schemes;
- Quantification – of financial costs/revenues and carbon savings, with proxy data employed where direct data sources are unavailable;
- Provision of outputs and scenarios using graphs, charts and marginal abatement cost curves; and
- A user guide with step-by-step instructions, FAQs and a section on further information and support.

What has been achieved?

The project has resulted in the production of a toolkit that can be used by other councils to assess and compare the cost effectiveness of their carbon reduction actions. It has:

- Enabled the identification of the most cost effective carbon reduction actions;
- Focused the attention of key directorates within the council and strengthened the case for carbon accounting;
- Helped to persuade councillors of the benefits of carbon reduction activities.

Challenges

Quantification of actions. The council's LCF framework contains numerous actions, ranging from the insulation of 3,000 homes to working with community groups. Many of the actions (such as the latter) are not very specific or quantifiable; it was a challenge to determine which actions had quantifiable carbon savings.

The council's approach was to go through the list and quantify what they could, making sensible assumptions, and deem the rest to be unquantifiable. Some action is the foundation that is necessary for further action and cannot itself be quantified, but is nevertheless essential.

Other councils will have a very different list; the tool had to be flexible enough to accommodate different councils, with use of sensible proxies.

Getting buy-in from other directorates. Effective cross-departmental communication and training is needed to ensure buy-in and implementation of the necessary systems of data collection.

Key lessons for other councils

Quantifiable actions

For the toolkit to enable councils to assess the cost effectiveness of their planned actions, their local carbon reduction plans will need to include a significant proportion of directly quantifiable actions since it is these that allow the calculation of a cost and carbon saving trajectory to ascertain whether targets will be met. Enabling, influencing and monitoring actions are essential to support an effective framework, but it is often hard

to ascribe carbon savings to these activities. Creating a balance of approaches is therefore essential.

Data collection

It is vital to build in data provision, collection and/or processing requirements into the development of all new quantifiable actions.

Cross departmental communication and training

To ensure that there is council-wide buy-in to the toolkit, thus allowing effective planning of carbon saving actions, it is vital to engage with other departments, communicating the purpose of the toolkits and the benefits of its use. A cross-departmental training programme should also be instigated, to ensure other departments are collecting and providing the necessary data to enable its ongoing use.

Replicating the work

This toolkit can be used by other councils to assess the cost effectiveness of their carbon reduction actions to enable them to focus their actions on the most cost effective options. The tool is in user-friendly excel format and has been designed with the necessary flexibility to accommodate a range of projects.

Relevance to other councils

The toolkit is relevant to all councils that have, or plan to develop, carbon reduction strategies or action plans.

Outputs	The toolkit and all Bristol City Council’s LCF outputs will be hosted on a LCF page on the council’s website (not operational at the time of writing), accessible via: http://www.bristol.gov.uk/page/council-action-climate-change
Contact	Margot McGinty Bristol City Council C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\margot.mcgintry@bristol.gov.uk 0117 922 4477

Implications for a council framework for climate change

A methodology for evaluating the value for money of any carbon intervention is essential for any council.



Community Energy Support Programme

Learning Themes	Winning hearts and minds, sustainable energy generation
Project Summary	This project aims to help community sustainable energy projects in Bristol increase their outputs and impact on the energy and carbon footprint of the city.
Learning outcomes	There is substantial potential for councils to support their communities. Loan finance provided by the council could provide the 'missing ingredient' that enables proposals to come to fruition.
Applicability	All councils
Replicable?	✓✓✓

Summary of key learning for other councils

There is substantial potential for councils to support their communities. Loan finance provided by the council could provide the 'missing ingredient' that enables projects to come to fruition⁷.

What was this project trying to achieve?

This project aims to support the development of a strong and vibrant community energy sector in the city that is contributing to the council's LCF. In particular, the project aims to offer direct support to schemes by offering loans (subject to first establishing the need for such a service).

What was the approach?

Review

The first stage of the project involved reviewing the role and potential of community energy projects within Bristol as well as the need for loan funding to provide direct support to such projects.

Direct support

Having identified that loan funding could provide useful support to community energy projects, the next stage involved designing and establishing this loan fund.

The 'Bristol Community Energy Catalyst Fund' is intended to provide access to finance to help local enterprises and projects 'break through' key business development hurdles. It is particularly targeted at initiatives which have a strong community base and a committed group of people involved who have already undertaken some initial business and/or project planning and demonstrated their own commitment to its

⁷ At the time of writing, Bristol's loan fund had only just become operational, so the council felt it was too early to comment on any further lessons that may arise from this project.

development. The fund is intended to help facilitate the transition from a well thought-through 'good idea' into a successful working enterprise.

The fund's focus will predominantly be on costs for professional expertise. For example:

- Legal documentation for a co-op share issue or roof-leasing arrangement (for solar PV) or to purchase documentation developed by other groups;
- Market research on the public appetite for investment;
- Technical analysis of project viability; and
- Detailed financial modelling (e.g. VAT, tax and leasing rules etc).

The fund is intended to provide the 'missing ingredient' that enables particular proposals to come to fruition. In addition to being locally based, projects should:

- Be scalable / replicable (i.e. demonstrate a principle or model that could be used by other projects, or generate products or resources that can be shared);
- Contribute to carbon reduction and increased community engagement;
- Demonstrate their community approach and community benefits;
- Be at the point where there is a need for funding; and
- Have the capacity to repay the investment if the project succeeds as an enterprise.

What has been achieved?

Engagement. Many people have engaged with the programme and there has been a great deal of enthusiasm. Events to promote the scheme have been extremely well attended with more than 100 people at some events (Bristol has a great history of action in this area).

Increased action. The loan fund had only just become operational at the time of writing, but it will almost certainly lead to increased action in this area. Two of the first projects funded were:

- The Bristol Energy Co-operative, which plans to start a local 'power station' on the rooftops of Bristol. They intend to use the Catalyst Fund investment to underpin the legal and business planning needed to set up a community-owned social enterprise and identify community buildings across the city for solar panel installations; and
- The Saxon Road Green Space Group, which are looking at different options for energy efficiency and renewable energy in St Werburghs. They are using the catalyst funding to produce detailed feasibility plans looking at different options open to them.

Carbon reduction. Though the project has not resulted in any carbon savings as yet, once the supported-schemes are underway, there should be substantial savings (e.g. from mid 2012).

Challenges

At the time of writing, the project had not yet encountered any challenges; the council commented that it was being delivered by the Centre for Sustainable Energy "who are very capable".

Key lessons for other councils

There is substantial potential for councils to support their communities. Loan finance provided by the council could provide the 'missing ingredient' that enables those proposals to come to fruition.

Replicating the work

This could be replicated by councils who have identified funds to support this area of work and a local network of community groups that are active or interested in this area.

Relevance to other councils

Relevant to all councils.

Outputs	The project report and all Bristol City Council's LCF outputs will be hosted on an LCF page on the council's website (not operational at the time of writing), accessible via: http://www.bristol.gov.uk/page/council-action-climate-change
Contact	Graham Starmer Bristol City Council graham.starmer@bristol.gov.uk 0117 922 4917

Implications for a council framework for climate change

Offering loan finance to community groups is unlikely to form part of a council's 'core' activity on climate change, but would be a useful action for progressive councils that have a good relationship with the voluntary sector as well as some funding to set up a loan scheme. The success of this particular loan fund will not become clear for another 12 months or so.

Community pathways to action on climate change

Learning Themes	Winning hearts and minds, mainstreaming climate change
Project Summary	The project will generate a web resource that will provide users with guidance and resources related to the role communities can play in moving society to a low carbon future, and to the role of councils and other stakeholders in helping to create the conditions for this community role to flourish.
Learning outcomes	Councils can provide a key role in supporting communities to take action on climate change, without necessarily having to provide any direct funding.
Applicability	All councils
Replicable?	✓✓✓

Summary of key learning for other councils

- The link between community action and climate change needs to be made at a senior, not operational, level;
- Councils have a key facilitating/supporting role in terms of encouraging community action on climate change;
- Partnership is one of the fundamental requirements for community action and councils have a huge power to help convene these; and
- Community action should be linked up with planning policy, sustainability policies and economic development.

What was this project trying to achieve?

This project aimed to achieve an improved collective understanding of how community action can deliver a range of climate change outcomes, and of the enhanced impact to councils of working with communities, helping to underpin the development of strong and resilient communities and increasing the breadth and scale of community action on climate change.

At the moment, community action on climate change is relatively isolated, and several barriers to action exist. The successful projects tend to involve those where the implementers are very motivated – it needs to be easier and more straightforward, and that was the purpose of this project.

What was the approach?

The project involved:

- Carrying out a survey of existing relevant community projects;

- Producing summary tables linking climate change outcomes with community approaches and methods and their related success factors;
- Producing detailed guidance and reference resource with access to information about specific projects;
- Producing an accessible and updateable database (available via a website) of existing community and climate change projects; and
- Developing a policy briefing outlining the implications of the pathways project for action by key stakeholders.

What has been achieved?

At the time of writing, the project was still underway. It is hoped that it will help to mainstream climate change activity by making it easier and more straightforward to take action on climate change. It also contributes to the city's culture of encouraging investment in this issue.

This project links to the council's LCF project on solar mapping (progressing area based solar schemes). Information from this project will be useful in breaking through barriers with specific groups identified in the solar mapping project. It will help to incorporate a community strand in the city's energy infrastructure.

The project will also have useful lessons for Green Deal, with a policy briefing planned on the issue.

Challenges

The council is aiming to look at practical (not just academic) approaches for community involvement. Addressing the wide range of needs in the community has been challenging.

Key lessons for other councils

Senior commitment

The link between community action and climate change needs to be made at a senior, not operational, level. There needs to be the political drive to prioritise both climate change and community action.

Facilitative role

Councils can have a key role to play in supporting/engaging community action; Bristol have been very supportive in this area in the past. Councils do not necessarily need to provide funding directly, but they can help to lever in funding as well as ensuring they have policies in place that take into account the potential role of community action.

Partnership development

Partnership is one of the fundamental requirements for community action and councils have the power to help convene these.

Joined-up approach

Community action should be linked up with relevant policies across the council, such as planning policy, sustainability and economic development.

Replicating the work

The project will provide useful guidance tools that can be used by other councils and intermediaries to facilitate community action on climate change.

Relevance to other councils

The web resources will be relevant to all councils.

Outputs	A web based resource will be available, where users can receive the most appropriate guidance/resources relevant to their needs. It will include 45 community approaches to carbon reduction and links to other information. This, and all Bristol City Council’s LCF outputs will be hosted on an LCF page on the council’s website (not operational at the time of writing), accessible via: http://www.bristol.gov.uk/page/council-action-climate-change
Contact	Steve Marriott Bristol City Council steve.marriott@bristol.gov.uk 0117 922 4462

Implications for a council framework for climate change

At the time of writing, the website had not been developed, but it should prove to be an excellent source of information and guidance for councils and community groups looking to take action at a community level on climate change.



Critical local authority leadership skills for LCF delivery

Learning Themes	Enhancing reputation, mainstreaming climate change
Project Summary	This project has analysed the low carbon training needs of a typical metropolitan council and will develop and make publicly available a set of training materials.
Learning outcomes	Within every council there will be key officers making the carbon decisions. This project will produce guidance on identifying these officers as well as some tried and tested training materials to improving competence in carbon management.
Applicability	Whilst the toolkit has been developed by a metropolitan council, there are some parts of the toolkit that will be relevant to any council.
Replicable?	✓✓✓

Summary of key learning for other councils

The project was only just starting when this document was written, so there were limited lessons available to share. Initial findings were as follows:

- It is important to offer flexible training sessions, e.g. lunchtime seminars, online training and/or individual coaching, so that it is accessible to as many officers as possible;
- Ideally, ongoing support would be available for all departments, but that is very resource intensive. Planners in particular would benefit from ongoing support.

What was this project trying to achieve?

The aim is for key officers within the council to be able to demonstrate carbon leadership skills, ensure their programmes are resilient to climate change and peak oil, and to apply their knowledge in the application of policies when reviewing planning applications etc.

What was the approach?

The project involved:

- Analysing where in an organisation carbon decisions are made;
- Assessing the training needs of the officers that are making carbon decisions;
- Developing training materials as appropriate;
- Testing these materials.

The project will result in the production of guidance for undertaking a training needs assessment for the major carbon footprint areas of council activity and making the tested training materials and accreditation process publicly available.

The project also included, as a secondary objective, evaluating the South West Planners’ Toolkit (which was developed under a separate project) and looking at how to ensure the toolkit is kept up to date and made available for wider use. Training for planning officers in how to use this toolkit was also part of this project.

What has been achieved?

At the time of writing, training materials were still being developed and were due to be tested in autumn 2011. It is hoped that the training programme will ultimately lead to increased action on climate change.

Challenges

Getting officers together. The main challenge has been trying to get the identified officers within the organisation together for training sessions. Key staff with responsibility for carbon decisions had been identified. They were willing to attend the training sessions, but were very busy. The plan was to offer a one day session, plus follow up, for technical officers, and a two hour session for more senior directors (who have a key role to send the right message out to their team).

With hindsight, it would have been better to offer a range of more flexible sessions, such as lunchtime seminars, coaching and online training. The latter would also help them to quantify how many people are using the training.

Ongoing support for planners and other officers. In planning, national policy is continually evolving. Furthermore, the planning department within the council (particularly development control) has a high level of staff turnover and therefore regular training sessions and ongoing support would be beneficial.

There is also demand from colleagues in other departments for ongoing support on carbon management, but that is very resource intensive to provide.

Key lessons for other councils

When engaging staff in a training programme, it is best to offer a range of flexible sessions to allow as many as possible to engage with this.

Replicating the work

The intention is to produce training materials that any council can use.

Relevance to other councils

There will be some parts of the toolkit that are relevant to any council. It should be obvious which sections are relevant to different councils, though one challenge is that the same function can have different names at different councils.

Outputs	The toolkit and all Bristol City Council’s LCF reports/outputs will be hosted on an LCF page on the council’s website (not operational at the time of writing), accessible via:
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	http://www.bristol.gov.uk/page/council-action-climate-change
Contact	Steve Marriott Bristol City Council steve.marriott@bristol.gov.uk 0117 922 4462

Implications for a council framework for climate change

Using these materials to provide training to key officers should form part of any council's activity on climate change. For those starting out, it would be useful to introduce at the very beginning of the process, to ensure there is understanding and buy-in from key officers and directors across the council. For councils that are already taking action, some kind of regular training should form part of the carbon reduction programme, to ensure that new staff are brought up to speed and that existing staff are kept up-to-date with policy and best practice developments. Materials need to be kept relevant and up-to-date.

Developing a standard methodology for an area based energy, climate and peak oil resilience strategy and plan

Learning Themes	Sustainable energy generation
Project Summary	The study aimed to identify energy efficiency and renewable energy resource potential in Avonmouth, a major employment site with substantial land allocations left for development.
Learning outcomes	The detailed methodology will provide useful learning for other councils
Applicability	It will be relevant to other councils with area-based regeneration schemes or developments.
Replicable?	✓✓✓

Summary of key learning for other councils

At the time of undertaking the research the project had not yet been completed. However, it is understood that the detailed methodology used will provide useful learning for other councils.

What was this project trying to achieve?

This study aimed to inform energy efficiency and renewable energy resource potential of an area-based development area scheme to enable better decisions to be made on the policy framework shaping the area and about how the scheme could contribute to the council's climate change strategy. It focused on Avonmouth, a major employment site for Bristol with substantial land allocations left for development.

What has been achieved?

At the time of undertaking the research, work on this project had not yet commenced and the contractor had just started work to develop a methodology.

Challenges

The key challenge facing this study was that it was dependent on other studies over which the project team had no control. These comprised:

- An economic study about the possibility of developing a TIF⁸ (whereby you can front load business rates to develop essential infrastructure such as flood defences, highways and energy) for Avonmouth. The project team did not know what would be included in the report, and it subsequently transpired that the focus was very much on economic delivery, with no substantial suggestions regarding energy.

⁸ Tax Increment Financing (TIF) will enable councils to borrow against future additional uplift within their business rates base, with the finance used to fund key infrastructure and other capital projects.

- A heat mains study, which was significantly delayed (due to delays in getting the money together for the study). At the time of writing, the study had just commenced.

Initially, the council was waiting for these reports to be delivered before they got started on this project, but after various delays, they decided to go ahead with developing a methodology for this project. At the time of writing, the contractor (CSE) had just started drafting a methodology. The council was also considering shifting the focus of the study from Avonmouth to an area of the city, and was planning to gain approval for this from DECC.

Key lessons for other councils

Replicating the work

Once finalised, the methodology should be useful to other councils that are developing plans for area-based developments or regeneration.

Relevance to other councils

Useful to any council with area-based development or regeneration schemes.

Outputs	A report on the project and all Bristol City Council's LCF reports/outputs will be hosted on an LCF page on the council's website (not yet operational), accessible via: http://www.bristol.gov.uk/page/council-action-climate-change
Contact	Steve Marriott Bristol City Council C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\steve.marriott@bristol.gov.uk 0117 922 4462

Implications for a council framework for climate change

It is difficult to comment on as the project was at a very early stage when the research was undertaken. In theory, this should provide a useful resource that can be used by any council with an area-based development or regeneration programme to identify opportunities for minimising carbon through energy efficiency and renewable energy.

Progressing area based solar schemes

Learning Themes	Sustainable energy generation
Project Summary	The project reviewed the methods available for calculating the potential solar resource. It then produced guidance for schools and community groups on options for accessing free solar PVs and on how to encourage the uptake of PVs and more energy efficient behaviour in schools.
Learning outcomes	The project provides an analysis of rooftop solar mapping techniques comparing the mapped resource with previous solar resource estimates based on the UK standard methodology. The project has resulted in a guidance document for schools and communities on 'free PV'/rent-a-roof schemes and another guidance document on engaging schools in energy behaviour and PV uptake.
Applicability	This is most relevant to councils with a large urban area and therefore the potential for significant amounts of solar energy generation on rooftops. The guidance for schools and community groups is relevant nationally.
Replicable?	✓✓✓

Summary of key learning for other councils

- Understanding of the various solar mapping techniques that are available and how these relate to real-world installations and DECC's 'rule of thumb';
- Greater understanding of 'free PV'/ rent-a-roof schemes;
- Greater understanding of how to engage schools in energy behaviour and uptake of PVs.

What was this project trying to achieve?

This project looked at how solar technologies can be fully exploited in urban councils. The outputs will be a tool allowing councils to assess the solar potential of their communities plus guidance for councils, schools and community groups on the procurement of solar systems.

What was the approach?

The project has involved:

- An analysis of the various methodologies allowing estimates of the solar potential of an area;

- A survey of Bristol identifying the numbers of roofs and total area of solar potential. At the time of writing, the mapping had been carried out and the council was in the process of validating the data with five local Microgeneration Certification Scheme (MCS) installers prior to putting the data online. All MCS installers with email addresses on the MCS database were contacted prior to this process;
- In addition to the data validation, the citywide survey will be compared to the DECC rule of thumb to understand its accuracy (for Bristol);
- The production of a report covering the above points, summarising the findings and learning experiences, written for councils and other organisations wishing to understand the options for undertaking a rooftop solar resource assessment covering a large study area;
- The production of guidance for schools and other interested organisations on engaging schools in energy and carbon reduction;
- The production of guidance for schools and community groups to enable the selection of suitable solar offers where the Local Education Authority is unable to support the initial upfront capital costs of a solar array.

What has been achieved?

The project had already resulted in increased interest in solar energy from installers and developers, as well as from within the council. Following the study, the map data will be made available interactively online, allowing residents and building occupiers to view the data and thus helping engagement and understanding.

Initial findings suggest that the DECC standard methodology for assessing rooftop solar resource in an area results in a large underestimate, but further analysis is required to understand the extent of the underestimate.

Challenges

Engagement. It is important to engage people correctly to get both local residents and installers involved. Installers are keen to be involved, and checking the mapped outputs with real data is key. However, most installers are currently very busy and therefore not all installers were able to be involved at this stage. Communication with those installers who could be involved took a considerable amount of time.

Data collection. The mapping relies on using new, raw data. This was delivered a month late due to weather conditions, which had knock-on effects on the project timeframe.

Costs. It has been a challenge to keep the costs down. To help with this, a lot of work has been done in-house, with hard negotiations conducted with contractors to get the mapping for the lowest possible cost.

Key lessons for other councils

- One key role for all councils is to persuade organisations and residents of the benefits of installing renewable energy;

- The DECC standard methodology may underestimate the potential rooftop resource within a given area;
- There is a range of methods available to understand solar resource and the choice of method will often come down to finance and data availability;
- It is worth councils starting engagement early with installers, developers, schools and community groups, as well as internally;
- A project such as this can build on existing data and knowledge. For example, it can build on existing renewable energy evidence bases to quantify the potential for solar energy to a greater level of accuracy. This can provide the necessary evidence to encourage organisations to consider investing in this technology.

Replicating the work

This kind of activity can be replicated by other councils, though the mapping does require some funding.

Relevance to other councils

This project is most relevant to urban councils with large numbers of rooftops, though some of the lessons from the mapping exercise will be of relevance to all councils (e.g. methods of assessing resource). Also, schools and community organisations in any council can make use of the guidance documents that have been produced for these audiences.

Outputs	The guidance documents and all Bristol City Council's LCF reports/outputs will be hosted on an LCF page on the council's website (not yet operational), accessible via: http://www.bristol.gov.uk/page/council-action-climate-change
Contact	Kieran Highman Bristol City Council C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\kieran.highman@bristol.gov.uk 0117 922 4159

Implications for a council framework for climate change

A mapping exercise such as this one would be a particularly useful exercise for urban councils that are already quite active in this area and are looking to understand and exploit their renewable resources more fully.

Smart City Bristol

Learning Themes	Enhancing reputation, mainstreaming climate change
Project Summary	This project looked at how the 'Smart City' concept (utilising ICT and digital infrastructure to bring about carbon reductions) can assist Bristol City Council meet its carbon reduction targets.
Learning outcomes	The project shows that the 'Smart City' approach offers a substantial opportunity to embed carbon reduction activity in a council's economic development and digital work.
Applicability	This project is applicable to forward-looking cities, with some lessons for all councils. There would need to be some partnerships in place before anything could be done.
Replicable?	✓✓✓

Summary of key learning for other councils

The 'Smart City' approach (utilising ICT and digital infrastructure to bring about carbon reductions) offers a substantial opportunity to embed carbon reduction activity in a council's economic development and digital work.

It also provides a medium for engaging with different types of organisations from those normally associated with sustainability work.

What was this project trying to achieve?

This project aimed to investigate how the 'Smart City' concept can assist Bristol City Council meet its carbon reduction targets and to identify practical actions can be put in place in the next five years.

What was the approach?

The project involved desk research and an independent analysis of how Smart City technologies can contribute to Bristol City Council's carbon reduction objectives. It then produced recommendations that will contribute to emissions reduction (as well as providing city-wide economic benefits) for the following sectors:

- Smart energy (e.g. smart metering);
- Smart transport (e.g. opening up real-time city transport data); and
- Smart data (e.g. open data portal).

A benchmarking exercise was also carried out to compare Bristol with other world cities.

The council convened a round-table discussion with 80 stakeholders from the city – representatives from digital, economic and environmental sectors. There was significant interest in the project and the council is now reviewing all the recommendations and discussing with stakeholders what the next steps should be.

What has been achieved?

Evidence base. The 'Smart City' report has provided an excellent, impartial evidence base and has identified the opportunities for taking action. The council is working with stakeholders to take forward the actions.

Mainstreaming. The project has also been successful in embedding carbon reduction activity in the council's economic development and digital work and in engaging with different types of organisations from those normally associated with sustainability work.

Challenges

Quantifying carbon savings. There were challenges around quantifying the potential carbon savings from Smart Technology initiatives; other projects do not always publish this data. Also, this is a new area so there is in general a lack of data, making it necessary to 'dig deep' to find out what works.

Funding. The council faces a challenge in finding the necessary funding to take forward actions arising from this project. The council is currently looking at national and European funding sources (including FP7) and has already had success in securing some funding. It is also developing a 'Smart Grid' bid to Ofgem's Low Carbon Network Fund. However, not all actions require funding; some just require a change to current practices to make them more efficient.

Partnership. This is an interdisciplinary topic, so there are many partners required. The technology is available, so the challenge is engaging the decision makers and also consumers.

Joined up thinking. Many people in different disciplines are thinking about the issues from different perspectives. The key task is to get people to communicate and explore potential opportunities together.

Key lessons for other councils

The 'Smart City' approach offers a substantial opportunity to embed carbon reduction activity in councils' economic development and digital work.

It also provides a medium for engaging with different types of organisations from those normally associated with sustainability work.

Replicating the work

Other councils could follow a similar approach, though there would need to be some partnerships in place before anything could be done.

Relevance to other councils

There are some lessons for all councils in this work.

Outputs	<p>Smart City Bristol Final Report (with audio track) available on: http://www.slideshare.net/Bristolcc/bristol-smart-city-report-7579696</p> <p>Smart City Bristol Benchmark report available on: http://www.slideshare.net/Bristolcc/smart-city-benchmark</p>
Contact	<p>Lorraine Hudson Bristol City Council C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\lorraine.hudson@bristol.gov.uk 0117 9224470</p>

Implications for a council framework for climate change

This is an important activity for the future for more forward-looking councils.

Sustainable building standards evidence

Learning Themes	Enhancing reputation, mainstreaming climate change
Project Summary	The project produced a low carbon evidence base for planning policies and information on the impacts of costs of sustainable building nationally.
Learning outcomes	Councils developing their own evidence base will find it useful to refer to the information in this report on the costs of sustainable building.
Applicability	All councils, particularly those developing an evidence base.
Replicable?	✓✓✓

Summary of key learning for other councils

- There is no substitute for councils' conducting their own research. Funding to pay consultants is limited, but quite a lot can be done in-house through a desk top study;
- It is difficult in the current changing policy landscape to know what level of sustainability targets for new buildings. Bristol City Council has found that negotiating BREEAM⁹/Code for Sustainable Homes levels ¹⁰(CSH) with stakeholders is a valuable exercise;
- In terms of developing a partnership with developers, once a few organisations are switched on to this agenda it can really help to create a positive dialogue.

What was this project trying to achieve?

The aim of this project was to produce an evidence base for planning policies in Bristol City Council and for other councils in the west of England.

What was the approach?

It involved a detailed analysis of the impact of sustainable building requirements on costs and viability of development, in particular housing, taking into account recent national developments (such as Feed-In Tariffs and the Renewable Heat Incentive) and specific local circumstances.

The plan was to use Bristol's Central Area Action Plan to provide a test bed for the evidence, with specific targets on BREEAM/CSH. Various options were included in the consultation draft:

⁹ BRE Environmental Assessment Method (BREEAM) is an environmental impact rating for non-domestic buildings, established by the Building Research Establishment (BRE).

¹⁰ The Code for Sustainable Homes is an environmental impact rating system for housing setting standards for energy efficiency and sustainability. Changes in Building Regulations are linked to the energy efficiency levels of the Code. It specifies levels from 1-6, with level 6 being the most rigorous.

- The first specified a requirement for new developments to be Code level 5/BREEAM very good, rising to level 6/outstanding from 2013;
- The second included an interim target of Code Level 4/very good from 2011-12;
- The third option is for site-specific targets (this is outside the scope of the original project and still requires more work).

What has been achieved?

Low carbon policy. The project has helped to maintain the council's strong policy framework for low carbon development. It has also provided a better understanding of how carbon reduction through setting sustainable building standards can be achieved, as well as greater clarity on costs and potential market advantages.

Stakeholder dialogue. The project has resulted in better dialogue between the council and stakeholders in the industry. The council now has a better understanding of the challenges the industry faces.

Mainstreaming. The project has helped to mainstream climate change activity within the planning department. The housing and regeneration teams still have to be persuaded that the proposed corporate standards are sensible, but this project means that there is strong evidence to back up the proposals. The council is also confident, from their consultation exercise, that developers are prepared to build to these standards, so they are not in danger of having potential development sites being left empty.

Challenges

The key challenges have been:

- Getting hold of data on costs. Only a limited number of properties have been built to Code level 5 or 6 and these are often quite specialist or have had additional funding;
- It was found that the industry itself was not able to provide information on the costs of building to high levels of the Code;
- Much of the available data was out of date. For example, the government produced a report on the cost of building to different levels of the Code, but this was published just before Feed-In Tariffs (FITs) were introduced, so the costs were immediately out of date;
- The definition of 'zero carbon' was changed halfway through this project with the result that Code 6 will no longer be specified through Building Regulations. This means that the data relating to Code 6 will only be of use if a council chooses to set its own local requirement that new developments are built to this standard.

Key lessons for other councils

There is no substitute for councils carrying out their own research. It can be difficult to find resources to employ consultants, but quite a lot can be done in-house as a desk top study.

The council reported that it is challenging in the current changing policy landscape to know what to recommend. Bristol City Council has found that it is possible to negotiate BREEAM/Code levels that are acceptable to stakeholders. In terms of developing a partnership with developers, once there are one or two that are switched on to this agenda it can really help to create a positive dialogue.

Ideally, the cost data should be analysed and published centrally. There is currently a substantial amount of duplication of effort between different councils.

Replicating the work

Councils can use the cost data from this report to inform the development or updating of their own low carbon evidence base.

Relevance to other councils

This report has been written for Bristol City Council, but there are aspects that are nationally relevant and can therefore be used by any council (though the data is likely to go out of date very quickly).

Outputs	PDF report available. This, and all Bristol City Council’s LCF reports/outputs will be hosted on an LCF page on the council’s website (not operational at the time of writing), accessible via: http://www.bristol.gov.uk/page/council-action-climate-change
Contact	Celia Beeson, Bristol City Council C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\celia.beeson@bristol.gov.uk 0117 922 4485

Implications for a council framework for climate change

Planning powers are an essential part of the ‘toolkit’ that councils have to address climate change locally. With the proposed changes to the planning system, good robust local evidence will be essential to enable the council to continue acting on this issue. As such, evidence that can be linked to planning policies, again as a key statutory function for planning councils, will be essential for strategic action on climate change.



Undertaking a carbon footprint of Bristol City Council's procurement including outsourced services

Learning Themes	Mainstreaming climate change
Project Summary	A methodology and guidance for calculating the carbon footprint of council procurement.
Learning outcomes	Certain areas of procurement have high levels of carbon emissions associated with them. This tool enables councils to identify these areas and provides guidance about taking action for reducing carbon emissions from them.
Applicability	All councils
Replicable?	✓✓✓

Summary of key learning for other councils

Whilst direct emissions are within a council's control, and should therefore be the first priority for carbon reduction, the second priority should be emissions associated with procurement, including outsourced services.

Although emissions from outsourced services are physically made by others, they are directly associated with the delivery of the council's functions. Emissions from other procurement, whilst not the sole responsibility of a council, are within a council's influence and this tool provides councils with the means of identifying emissions hotspots within the supply chain, allowing councils to prioritise the suppliers with which to engage on carbon reduction.

For a council to be able to make use of this tool, they will need to:

- Be clear what they want to use it for - do they want to try to cover everything, or just specific areas;
- Ensure that the council's spend is clearly and consistently classified.

What was this project trying to achieve?

The aim of this project was to develop a cost effective methodology to calculate the carbon footprint of Bristol City Council's procurement, including outsourced services. The footprint information should identify where to focus effort within the supply chain to reduce carbon.

What was the approach?

Carbon footprint methodology. The first step was to develop a methodology to calculate the carbon footprint of local council procurement. The carbon footprint has been calculated from a consumption perspective. This means it includes the emissions made by the production of all the products and services consumed or commissioned by the council.

Every organisation has a complex web of suppliers and clients, each of which contribute their own footprint to the total. In this work, in order to assess the total footprint, an extended input-output approach was adopted, using official data from ONS National Accounts and Environmental Accounts. (Full details on the methodology are provided in Appendix 4 of the toolkit.)

Having developed this methodology, the next step involved defining the council's procurement carbon footprint.

Supplier engagement. The methodology was used to identify hotspots of carbon emissions in the council's supply chain and to identify suppliers to engage with on carbon management. Sector average benchmark sheets were used for the council's most important centrally managed categories, to identify focussed questions to ask suppliers. These questions were used to compare the carbon performance of suppliers in a consistent manner.

For example, the most important emissions sources for construction contractors are onsite emissions, their subcontractors' onsite emissions and their concrete consumption. By asking contractors how they manage these specific issues, they are more likely to get useful information for comparison than making a general request for a carbon footprint.

What has been achieved?

Identification of areas with highest levels of carbon emissions. The project has generated clear and comprehensive results, allowing the council to now plan a way forward for reducing carbon emissions from its procurement. The project was aiming to identify areas with high levels of carbon emission and has identified the top areas as follows:

- Construction;
- Sewage and refuse disposal;
- Social work activities;
- Banking & financing;
- Health care;
- Other land transport;
- Other service activities; and
- Agricultural products and services.

The next step will be to put together a plan to tackle these sectors, including a quantification of the carbon savings that might be achieved.

Mainstreaming. The project has helped to mainstream climate change by identifying these key areas to focus on, and has helped to persuade councillors that this is an area the council should be focusing on.

Challenges

Spend classification

The main challenge was around the council's spend classification. As part of the carbon footprinting exercise, carbon needed to be calculated against spend, but some of the council's spend had not been clearly classified. This has now been resolved, and information on this is included in the guidance.

Obtaining data from suppliers

The techniques used to assess procurement emissions in this tool (input-output analysis) are suitable for identifying hotspots among groups of suppliers based on the commodities they produce. Results generated by this method are not suitable for tracking performance in specific supply chains or processes, because they are based on national average data.

Therefore, these results should be seen as pointers, and further process-based data should be sought to understand specific opportunities for product substitution or efficiency gains. This could include obtaining data from suppliers relating to the carbon footprints of the commodities they produce, though most suppliers do not currently have the capability for this kind of reporting.

Key lessons for other councils

It is important that councils know what they want to use this tool for, for example, whether they want to cover everything, or just specific areas. The data needs to be in a form that can be used, with a consistent system for classifying spend.

For Bristol City Council, the key recommendations were to:

- Develop a carbon reduction strategy for procurement, focusing on the identified priority areas; and
- Engage with key suppliers on the subject of carbon management, with a view to reducing the carbon intensity of the commodities they supply to the council.

Replicating the work

Any council can make use of this toolkit. Councils would need to be clear on the scope of the toolkit's use and also would need to have clear spend classification in order to replicate this project.

Relevance to other councils

The toolkit is relevant to all councils.

Outputs	Carbon Footprint of Procurement report and guidance (two documents), will be available on an LCF page on the council's website (not operational at the time of writing), accessible via: http://www.bristol.gov.uk/page/council-action-climate-change
Contact	Christine Storry Bristol City Council christine.storry@bristol.gov.uk 0117 922 4336

Implications for a council framework for climate change

Once councils have developed a plan for tackling their direct carbon emissions, looking to reduce carbon emissions from procurement should be their next step. This toolkit provides councils with the means of identifying priority areas of their supply chain to focus on.

C. Leeds City Region

This section contains summaries of the 4 projects delivered by the Leeds City Region Partnership, which covers 11 councils. Each of the summaries can be accessed using the links in the list below:

[Commercial property retrofit fund](#)

[Domestic Energy and Efficiency Programme \(DEEP\)](#)

[Local renewable energy investment strategy and prospectuses](#)

[Low carbon economic analysis](#)

Commercial property retrofit fund

Learning Themes	Other (commercial property retrofit)
Project Summary	This was a small piece of desk research into the requirements of a revolving loan fund to enable investment in low carbon energy efficiency products and techniques in the commercial office rental sector.
Learning outcomes	The research showed that councils that wish to encourage investment in low carbon energy efficiency products and techniques in the commercial office rental sector need to address a range of barriers. The most significant of these is the lack of a clear evidence base of the costs and benefits of energy conservation measures.
Applicability	Councils in dense urban areas
Replicable?	✓✓

Summary of key learning for other councils

The study has also shown that the public sector could do a lot more in signposting information and engagement with the private sector and that tackling this issue may be as important as securing funding for work.

What was this project trying to achieve?

The main objectives of the research were to determine what is currently happening in Leeds City Region (LCR), whether there is an appetite for more investment in low carbon products and techniques and if so how can that be supported by the public sector and others.

What was the approach?

There were four stages to the research. As a first step a desktop review of best practice in commercial property retrofit was undertaken. This was followed by an analysis of the size of the commercial property market in LCR. Taking these together an extensive engagement with the commercial property sector and other stakeholders was undertaken, followed by research into potential funding sources and models for commercial retrofit. The research was drawn together in a final report.

What has been achieved?

This project has been completed and an evaluation of the project has been published and placed on the Leeds city region and Communities of Practice websites. The report was also launched at the Leeds property forum and has been well received.

The project can be judged a success. The evaluation has shown that retrofits are taking place in the Leeds City Region (LCR) with these mainly being driven by the demand for

high quality office space or corporate sustainability directives. It also shows that LCR has an important role to play in directing and facilitating retrofit in properties where there is not currently a demand for retrofit and that there is some appetite for a revolving fund. The report set out recommendations as to how LCR could best concentrate efforts in order to stimulate the market for commercial sector retrofit, and this work is now being taken forward.

Key lessons for other councils

The report identified a number of challenges that need to be addressed in order to encourage investment in low carbon energy efficiency products and techniques in the commercial office rental sector.

One barrier to action identified has been that there is perceived to be a lack of clear, evidence based information available on the costs and benefits of energy conservation measures and LCR could play a central role in plugging this gap.

The most surprising conclusion is that lack of information emerged as a bigger barrier than funding in terms of getting work underway and it is clear that more consideration needs to be given to softer capacity building and support skills.

A specific recommendation that the report came up with was that significantly better energy efficiency data related to floor space is needed.

Replicating the work

The project has a degree of replicability for any local council or city-region wishing to engage with the commercial sector on retrofit. The outcomes should be useful to others as, while the focus was on LCR, many recommendations will be applicable elsewhere.

Relevance to other councils

In general the actions that are proposed, such as large scale CHP, are only possible in dense urban areas and so in a rural area with little commercial stock then might be less applicable.

Outputs	The report 'Supporting Carbon Reduction in Commercial Properties' is available on: http://www.leedscityregion.gov.uk/uploadedFiles/Research_and_Publications/MAA/Leeds%20Report%20for%20External%20Use.pdf
Contact	Melanie Taylor Project Manager Leeds City Region Melanie.Taylor@leeds.gov.uk 0113 3950382

Implications for a council framework for climate change

Although not likely to be a high priority in a council framework, this may warrant inclusion by councils in metropolitan areas.



Domestic Energy Efficiency Programme (DEEP)

Learning Themes	Housing retrofit / Green Deal
Project Summary	The programme has undertaken whole house surveys and measured the choices customers make when informed of carbon saving opportunities and costs.
Learning outcomes	When completed the project will provide useful information on the whole house approach which can be drawn on by other councils.
Applicability	All councils though smaller councils would benefit from a joint working approach
Replicable?	✓✓✓

Summary of key learning for other councils

The project is not yet completed, but initial learning points are:

- It is important to make sure that there is effective delivery of carbon saving measures after the survey;
- A partnership approach is likely to be important to the delivery of Green Deal;
- It is useful to work with multiple private sector partners; and
- Energy Performance Certificate (EPC) data is limited in its usefulness for the whole house approach.

What was this project trying to achieve?

The prime objectives of DEEP were to:

- Reduce domestic carbon emissions in the Leeds City Region (LCR) by 35% by 2020;
- Provide householders in the Leeds City Region with quality energy surveys;
- Deliver low carbon energy saving measures;
- Create quality jobs in the local low carbon economy; and
- Reduce the market costs of low carbon technologies for householders.

What was the approach?

The DEEP Local Carbon Framework programme has been testing the DEEP principles through a 'live pilot study' to measure the additional carbon saving benefits of a whole house / whole community approach. The programme undertook whole house surveys. It measured the choices customers make when informed of carbon saving opportunities and costs. The aim was to determine the value of being more transparent about 'discount' (subsidy, CERT) and FITs.

This work as has been undertaken in two areas of Leeds City Region– York and Calderdale.

What has been achieved?

When the research was undertaken, the project had not been fully completed. The work in York had been finished but Calderdale was ongoing – both have looked at the home condition survey and the benefits of the EPC and undertaken a desk-top analysis of measures.

The project has proved very successful in providing the learning needed to roll out whole house and community wide action on carbon across the LCR.

An important element of the project has been getting all 11 council leaders in the region to sign up to a joint approach to carbon savings. This has proved vital in maintaining this work. Council leaders and Chief Executives are committed and appreciate the strong messages from York and Calderdale – for example on 23rd June the leaders agreed a joint approach for the LCR and this is the first time that all councils have formally agreed cross boundary work on carbon.

The project has allowed LCR to explore Green Deal delivery across 11 councils, to learn lessons on how to most effectively and efficiently deliver such work. During the pilot they were also able to look at funding options for Green Deal. Being a LCF pilot enabled the Leeds City Region to participate in DECC’s Green Deal panel which further enhanced the status of domestic carbon savings for local politicians.

Challenges

Data issues. The main data issues have been in testing the EPC data which has shown there are gaps in dealing with carbon and also that the EPC doesn’t fit with the whole house approach.

In particular, EPC doesn’t gather the information that the market would value in order to develop wider measures e.g. on renewables. It is missing an opportunity to help the industry save money and also to inform consumers that there are opportunities for them to take other measures.

Key lessons for other councils

When completed, the project will provide useful information on the whole house approach which can be drawn on by other councils.

Ensuring effective delivery of carbon saving measures post survey.

The work in Calderdale identified the importance of getting information to the customer – not just data but link to benefits and delivery programmes. People’s expectations rose when doing the survey and the DEEP work has shown that it is vital to then offer those surveyed a suite of energy measures. Unless the survey can be linked to direct benefits e.g. insulation it can have an opposite effect. The pilot has been useful in highlighting the benefits of an integrated approach.

Benefits of joint working

DEEP has been a unique partnership where small rural councils are getting associated benefits from partnering with large urban councils. Under Green Deal some of the small councils such as Harrogate could not develop an effective approach on their own and so this demonstrates the importance of approaching these issues at the correct strategic level.

Work with multiple private sector partners

The pilot has shown that this is important to ensure competition and an ongoing quality approach.

Limitations of survey models

As noted above, the pilot has highlighted the limitations of current surveying models using EPC. This also provides lessons for DCLG and DECC on revision of EPC to make it more beneficial in saving carbon.

Replicating the work

The whole house and community wide approach to domestic energy action has been shown to be more effective and efficient in both financial and carbon terms. This research will be useful to others considering such action.

Relevance to other councils

This approach is relevant to all councils though smaller councils would benefit from a joint working approach.

Outputs	The project report will be made available on the Leeds City Region website: www.leedscityregion.gov.uk
Contact	Colin Blackburn Leeds City Region colin.blackburn@leeds.gov.uk 0113 3952261

Implications for a council framework for climate change

When completed, the project will provide useful information for councils undertaking a whole house approach through the Green Deal.

Local renewable energy study and investment catalogue

Learning Themes	Sustainable energy generation
Project Summary	The project plan was to conduct low carbon energy infrastructure studies for two of the most significant development opportunities within Leeds City Region and produce 'investment catalogues' for market testing
Learning outcomes	It is too early to draw out final learning points, but the problems encountered may provide useful learning for other councils following a similar route.
Applicability	High density urban areas
Replicable?	✓

Summary of key learning for other councils

It is too early to draw out final learning points, but the problems encountered may provide useful learning for other councils following a similar route. In the areas where the studies were undertaken, there were concerns about some community resistance to renewable development and also some sensitivities with landowners that have had to be managed.

What was this project trying to achieve?

The project plan was to conduct low carbon energy infrastructure studies for two of the most significant development opportunities within Leeds City Region (LCR). The work built on a regional study which provided an evidence base for councils and sub-regions on the potential for renewable energy and heat generation.

What was the approach?

The project had two stages:

- The first stage was to conduct research looking at technical renewable energy potential of two growth sites;
- The second stage is to trial the idea of investment catalogues that could be used for private sector stakeholders. These catalogues will be used to facilitate community engagement at the local level, as well as promote discussion with major energy generators at the strategic scale.

What has been achieved?

At the time of undertaking the research, the project has not been completed; the first phase had been finished but the second phase of stakeholder and market testing had not.

The phase 1 report had been published. There were concerns about the impact the sensitivities with landowners would have on the ability to publish a final report.

Despite the challenges, at a strategic level the project has helped to bring about an agreement that action to promote greater development of renewables is needed and can enjoy both community and landowner support.

The outputs have been useful and realistic and met with approval from local councils. These used a heat-mapping tool developed by Yorkshire Forward and now owned by CO2sense, a subsidiary of Yorkshire Forward.

Challenges

Engaging landowners. One main challenge has been that it has proved difficult to engage landowners – it is not clear why this has proved such a barrier but it may be due to the general relationship between councils and private developers. It may be necessary to anonymise the information due to concerns that developers have about commercial confidentiality.

Need for additional technical reports. Whilst the technical report is clear as to which technologies would be feasible on these two sites it is now clear that significant spending on further technical reports will be required to complete the process. The concern is that there are no resources to fund the additional reports, either in the public or private sector.

Concerns about community resistance. The Aire Valley site in Leeds is vacant and so there are a very few concerns about community resistance. There have been some sensitivities with the site landowners in York, largely due to the fact that the site is in a very early stage of the planning process.

Key lessons for other councils

The project is not yet complete but early lessons are that impact is maximised by:

- Effective engagement with landowners;
- Full scoping of resource requirements;
- Drawing on private sector support where possible;
- Ensuring clarity of messages when engaging with communities – their buy-in is important.

Replicating the work

Technical feasibility studies such as those undertaken here should be replicable elsewhere, though others should be aware of the challenges this project has faced. As the work is not yet complete there may be further learning on replicability in the future.

Relevance to other councils

Urban areas as the technologies considered need high densities.

Outputs	The project report will be available on the Leeds City Region website: www.leedscityregion.gov.uk
Contact	Melanie Taylor Project Manager Leeds City Region Melanie.Taylor@leeds.gov.uk 0113 3950382

Implications for a council framework for climate change

How to promote large scale renewables is a crucial issue for many councils, and likely to be an important feature of a climate change framework. Taking a strategic approach to such issues also useful in informing a council framework.

Low carbon economic analysis

Learning Themes	Enhancing reputation, mainstreaming climate change
Project Summary	The research has produced a 'mini-Stern' type report for the Leeds City Region. The purpose of this it to provide a robust evidence base to inform decision making. A similar study has been undertaken in Manchester as part of the LCF pilot.
Learning outcomes	The study identifies the core requirements for undertaking such an analysis.
Applicability	Theoretically relevant to all councils, but may be too onerous for small councils to undertake on their own
Replicable?	✓✓

Summary of key learning for other councils

The project confirms the core requirements of such an analysis that can then be used throughout the UK. However it also encountered a number of methodological issues that will need to be considered by other councils wishing to follow this approach.

What was this project trying to achieve?

The principal objective was to provide a robust evidence base that will enable the city region to make informed decisions as to where it should be concentrating its efforts in cutting emissions. This was based on a 'mini-Stern' type report for the Leeds City Region – i.e. taking the approach to the economics of climate change applied at UK level by Lord Stern.¹¹ In addition to being a useful source of information on the costs and benefits of climate change, the study is intended to act as a lobbying document for catalysing action among key players in the Leeds City Region (LCR).

It was also intended to set the context for the other LCR projects that have been developed as part of the Local Carbon Framework pilot.

What was the approach?

Using research undertaken with the Yorkshire Cities network as a base, the project is intended to develop a broader picture capturing:

- 'Business as usual' modelling of carbon reductions across the LCR up to 2020;
- The broader economic cost of not moving to a low carbon economy – e.g. CRC and other regulatory costs, rising energy prices etc.;
- Broad identification of technically feasible opportunities for carbon reductions at city region and local scale, and carbon reduction modelling projections;
- Pathways and economic costs for moving to a low carbon transition.

¹¹ http://www.hm-treasury.gov.uk/sternreview_index.htm

The report builds on existing research identifying the size of the green jobs sector across Leeds City Region.

What has been achieved?

At the time of undertaking the research, the project was still ongoing.

Despite taking longer than expected, the project can be judged a success due to the high level data showing the scale of possible savings. Initial headline figures showed that action on carbon could result in £1bn in energy savings alone, only counting those measures with a short payback time.

In addition, new partnerships are already forming on the back of this work. It has proved a great catalyst for lobbying both within LCR and with the private sector and others. One key success has been that since the project started the new Local Enterprise Partnership (LEP) board has agreed *low carbon growth* as its objective. This study contributed to the LEP's support for this.

Challenges

Methodology. Issues with the methodology have significantly slowed the project.

The study has been based on the Climate Change Committee's MACC (Marginal Abatement Cost Curve) methodology, where possible replacing national data with locally relevant data. The research is being undertaken by the Centre for Low Carbon Futures and it has proved a complex process requiring a very long list of datasets.

Once the national model was analysed by the Centre for Low Carbon Futures it became clear that there were certain problems that had not been anticipated. These issues have been identified by others including the Committee on Climate Change (CCC) and DECC who are undertaking a 'health check' on the MACC data set.

Problems encountered include that some of the national models, for example on transport, are related in MACC to actions that can only be taken by national government e.g. on vehicle efficiency, whereas for a local study need to identify actions (such as on behaviour change) that could be taken by the LCR or local councils. The best data sets have proved to be those relating to domestic housing and this has helped progress in this area.

Key lessons for other councils

It is still too early to say what the final lessons of the project are. One issue is that it is unclear how much of the audience is interested in a detailed evidence base and how much action may happen for other reasons. Another, as noted above, is that there is a need for further consideration of how national and local datasets can best be reconciled in order to support effective local studies.

Replicating the work

The extent of replicability will become clear when the project is completed. Outside of the Manchester mini-Stern, this is the first time such a study has been undertaken at a regional level. It should serve as a guide to others. However, the project has also shown significant challenges and issues that will have to be addressed.

Relevance to other councils

Very relevant and could be taken on at any level down to a small local council area and below. However such a study may prove to be too onerous for a small area in terms of the technical support and analysis required and the resource implications in terms of staff time.

Outputs	The outputs will be an interim and final report. These will be made available on the Leeds City Region website: www.leedscityregion.gov.uk
Contact	Melanie Taylor Project Manager Leeds City Region Melanie.Taylor@leeds.gov.uk 0113 3950382

Implications for a council framework for climate change

Along with Manchester mini-stern (September 2008), the study has pioneered the development of a regional "mini Stern" report. In doing so it has usefully identified a range of methodological issues, including data issues that central Government should consider. It is not yet clear how useful this approach will be for other councils. However, it potentially provides the backbone of a evidence-based approach to addressing climate change.

D. London Borough of Haringey

This section contains summaries of the 5 projects led by the London Borough of Haringey, working with neighbouring North London Boroughs. Each of the summaries can be accessed using the links in the list below:

[Domestic and commercial retrofit project](#)

[Energy Masterplanning Methodology and Decentralised Energy Pre-feasibility Assessment Tool](#)

[Inter-borough Solar Renewable Energy Opportunity Analysis, Framework Contract and Buying Group/s](#)

[Light Electricity Supply Licence – Template Supplier Services Contract for Decentralised Energy Schemes and Market testing](#)

[Study to Identify the Opportunity for Green Enterprise Growth in the Upper Lea Valley and Recommendations on Local Action to Support Growth](#)

Domestic and commercial retrofit project

Themes	Housing retrofit / Green Deal, mainstreaming climate change
Project Summary	Six councils in the North London sub-region commissioned work to understand the technical potential and the investment opportunity for an area-based housing retrofit programme to help achieve carbon reduction targets set within the sub-region.
Learning outcomes	The project highlights an approach other councils and sub-regions can use to map the technical potential for retrofitting housing in an area, and also maps out a number of models that councils could adopt to deliver area-based retrofit programmes under the Green Deal.
Applicability	All councils with housing responsibilities. County councils could play a coordinating role in a sub-regional partnership.
Replicable?	✓✓✓

Summary of key learning for other councils

- Undertaking a housing stock analysis and opportunity mapping exercise can enable councils to consider their role in the Green Deal in systematic way.
- Such analysis can help councils understand the potential CO₂ emissions reductions from housing retrofit in their area, raise awareness of this potential and help to mainstream housing retrofit work across other parts of a council.
- The project found that a partnership approach to housing retrofit will be important for making a council-led Green Deal delivery model viable, but that scale (+£100m) will be more important than geographical proximity when collaborating with other councils.

What was this project trying to achieve?

A consortium of six London Boroughs¹² came together to develop a cross-borough housing retrofit project. The project has involved developing an understanding of the technical potential and the investment opportunity for an area-based housing retrofit programme to help achieve carbon reduction targets set within the sub-region.

What was the approach?

Stage 1. Housing stock analysis and opportunity mapping

The Boroughs commissioned Camco¹³ to develop an understanding of a detailed housing stock analysis and opportunity mapping for retrofit, comprehensive individual

¹² A consortium of six London Boroughs: Camden, Hackney, Haringey, Islington, Newham and Waltham Forest.

¹³ Camco is a low carbon energy and sustainable development consultancy www.camcoglobal.com.

housing stock databases for each borough, and housing retrofit technical specifications for 10-20 dwellings (carried out by Camco).

The approach was first to analyse the CO₂ reduction potential at dwelling level for the most common housing types in the sub-region, focusing on energy efficiency measures and heating system upgrades that are likely to be eligible under the Green Deal.

For each housing type, the study analysed two distinct retrofit packages: an optimised package, whereby all measures pay for themselves over 25 years; and an advanced package, whereby measures are added to the optimised package that are less cost effective but do reduce CO₂ emissions.

The study then determined priority areas for intervention, taking into account the coverage of priority dwellings in the area, socio-demographic profile and the degree to which energy efficiency measures have already been installed.

Finally the study also set out four different types of delivery models that councils could use to deliver retrofit measures under the Green Deal, and put forward an action plan that the boroughs could use to prime the market and maintain future options for delivery as the market evolves.

Officers from each of the boroughs are also being trained so they know how to use the databases produced by the study and how to update them in the future.

Stage 2. Development of business plan and procurement strategy for retrofitting homes in the north London sub-region

The second stage of the project was ongoing at time of this research. The boroughs are now going through a process to decide which delivery route they go down, informed by the findings set out during stage 1.

This may involve non-geographical delivery partnerships with councils from outside of the north London region. One of the key findings from the work so far was that scale, rather than geography, is more important for the viability of a delivery partnership. So discussions are taking place with the Greater London Authority (GLA) to consider pan-London options for council involvement in the Green Deal.

What has been achieved?

A greater understanding of the housing stock. From the boroughs' view, the housing stock analysis has provided them with a robust and systematic basis for understanding the housing stock in the sub-region and the potential for delivering CO₂ reductions through housing retrofit measures. The boroughs are using this as the basis for considering and developing business plans for Green Deal involvement.

An understanding of housing sector contribution to meeting borough-wide emissions targets. The London Borough of Haringey has signed up to an ambition of achieving 40% CO₂ reductions by 2020. They are currently developing an action plan for meeting this target, and this project has enabled them to detail the contribution that CO₂ reductions from the housing sector can make towards the 40% target, and the actions required to make this happen.

Demonstrating leadership and raising awareness. Those interviewed felt project has increased the prominence and awareness of the Green Deal across the six boroughs. The project has also raised awareness, and galvanised action, across London:

"We presented the findings to the Environment Directors Forum in London, which really helped raise their awareness of the Green Deal as it was something which really wasn't on their radar until then. It's now having an impact beyond the six boroughs involved, with the GLA taking a coordinating role"

Mainstreaming housing retrofit. The project has helped to mainstream the housing retrofit agenda, making links with other council priorities:

"This project has made the links between fuel poverty, carbon reduction and developing a strong evidence base. It has helped to make the 40% target tangible to lots of people, such as procurement officers, the North London Strategic Alliance and the transport department. It also gives others ownership of the climate change agenda, making it real for officers in other parts of the council, who now see the benefits"

Wider benefits. The project has also highlighted the wider social, economic and environmental benefits, such as tackling fuel poverty, promoting local jobs and skills, and demonstrating community leadership. The stage one report, for example, estimates that around 600 FTE jobs could be retained or created, rising to around 1050 jobs for a more optimistic scenario.

Challenges

Partnership working. Working in partnership was anticipated to be a key challenge for the project. In practice, however, working with a number of boroughs was actually relatively straightforward. The key was finding a joint purpose and providing flexibility in terms of outcomes:

"It was quite easy to come up with a joint purpose for the project: analysis of housing stock in the boroughs is a fairly uncontentious activity. The key was leaving it sufficiently broad regarding future options for boroughs so they weren't committed to any particular option, plus building in a process for consultation on the way forward"

Data. The major challenge for the project was collecting housing stock data. The boroughs found that there is no unified approach to collecting housing stock data, so the quality of data received was in different formats. Sometimes it was coded, and difficult to get it into a state to make if useful.

Accessing data was particularly difficult and getting hold of private sector stock data was real challenge. For example, using Home Energy Efficiency Database (HEED) data at an address level was also not possible because of data protection requirements, although a compromise was reached allowing the use of census-level information.

Social housing providers, on the other hand, were generally very cooperative in terms of sharing housing data. However, this meant that some of the data collected is

heaving biased towards social housing, which may have skewed the results and the apparent potential for retrofit measures under the Green Deal.

Key lessons for other councils

Scale is more important than geography

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 more important in terms of putting together a viable model:

"We now realise that it may not need to be done with neighbouring boroughs. Some may want to take a leading role, some more of a backseat. But we could combine with other London boroughs: the key is the scale of investment opportunity rather than geographical proximity.

We think probably 2-3 boroughs is the minimum needed to make it work and/or taking it above a £100m threshold. And there is a balance to be had between having sufficient scale and not having too many organisations involved, especially if you want to encourage and incorporate local providers. If it becomes too big you might only have the choice of dealing with the 'big 6' energy companies"

Haringey also noted, however, that some European funding streams require geographically bordering councils.

Replicating the work

Haringey Council's view is that this project is very replicable.

Cost could be barrier, and Haringey advised that councils could take alternative routes to funding such work. For example, another London council is thinking of commissioning the stock database only (i.e. stage 1 only). Costs could also be reduced if commissioned across a sub-region, as with North London. Developing the stock database cost roughly £30k in this project. Split between six boroughs it provides good economies of scale.

The work on understanding how a council can engage with the Green Deal - the model a council decides to take (i.e. stage 2) - is to some degree already being done. This project and other related ones (e.g. in Birmingham and Newcastle) are already doing this thinking. So other councils could seek to map out and decide on their delivery options in-house, learning from existing projects.

Haringey Council also felt it is important to have someone within the relevant council(s) with a good knowledge of domestic retrofit.

Relevance to other councils

The project officers believe that this type of project is relevant to any council with a housing remit, whether urban or rural - *"the idea could be applied anywhere, it's just the outcomes that will be different"*. In two-tier areas, the county council could take on a coordinating role.

Outputs	<p>North London Sub-Regional Housing Stock Analysis and Business Plan, available from www.haringey4020.org.uk</p> <p>The London Borough of Haringey can also share the following with interested councils:</p> <ul style="list-style-type: none"> • The process by which they collated the housing stock data; • The structure of the database, as an example to follow; • Other information, as requested. <p>Contact Jessica Sherlock (details below), for more information.</p>
Contact	<p>Jessica Sherlock Haringey Council Jessica.sherlock@haringey.gov.uk 020 8489 3525</p>

Implications for a council framework for climate change

All councils will have some understanding of the energy efficiency of the housing stock in their borough (e.g. through their HECA responsibilities), but not necessarily the detailed understanding that this project has provided. Councils need to first consider what their potential role is, regarding housing retrofit, and what they want to achieve.

At a basic level, it's important to have an understanding of the area's housing stock, to make it possible to work closely with suppliers and others in industry to support take-up of measures for householders

This project is about doing this in a more robust, less ad-hoc way. In the future, a more uniform approach to collecting housing data from all councils would be an advantage, to enable all councils to work with Green Deal providers in a consistent and informed way.

Energy Masterplanning Toolkit: Energy Masterplanning Methodology and Decentralised Energy Pre-feasibility Assessment Tool

Themes	Sustainable energy generation
Project Summary	The project aimed to develop a guidance document and tool to enable councils to develop an energy master plan for their area in order to assess the contribution that district heating schemes could make to achieving area wide carbon reduction targets, and to develop a process for ensuring a coordinated approach to securing opportunities.
Learning outcomes	The toolkit is a useful resource for any council interested in investigating heat generation potential in its area.
Applicability	The toolkit can be used by all councils, at any scale, particularly relevant to urban areas.
Replicable?	✓✓✓

Summary of key learning for other councils

- The energy masterplanning toolkit has the potential to be a useful toolkit for any council interested in scoping potential heat generation opportunities in its area and a process for building capacity within their organisation;
- Decentralised energy can make a significant contribution to meeting climate change targets in urban areas in particular, and the toolkit is designed to be an important step for councils wishing to realise the potential for decentralised energy in its area;
- Securing high-level buy-in, through building a robust business case, is important for being able to progress this agenda within councils.

What was this project trying to achieve?

The project set out to develop a tool to enable councils to develop an energy master plan for their area and therefore assess the contribution that district heating schemes could make to achieving area wide carbon reduction targets.

What was the approach?

As with other Haringey LCF projects, the project has had a sub-regional focus, involving the Boroughs of Waltham Forest, Islington, Camden and Haringey itself, with support from the London Development Agency (LDA) and the Greater London Authority (GLA).

The approach was two-fold:

1. Develop a text-based Energy Masterplanning Guidance document and an excel-based Decentralised Energy Prefeasibility Assessment Tool by March 2011. Together these would represent a toolkit to allow officers to produce

energy master plans and perform high-level assessments of potential decentralised energy network opportunities.

2. Use of the guidance and tool by Haringey Council and other councils to produce an energy master plan, quantifying the potential contribution decentralised energy can make to the Borough's carbon aspirations, by September 2011.

What has been achieved?

At the time of the research interview in July 2011, the first part of the project – development of the guidance and tool – had been completed. The second stage was underway. It was too early to assess what the buy-in and ownership of the project would be, how widely it would be used, and what the eventual impact would be. The project was already achieving significant levels of interest however.

Meeting borough-wide carbon emissions targets. Whilst it is too early to measure the impact of the project, it has the potential to put Haringey on the path to meeting its ambitious CO₂ emissions reduction target (40% by 2020). The Borough carried out modelling work in 2008 to assess how it might meet its targets, which found that half the target would need to be met through district heating. This project is therefore an important step to developing the district heating capacity the Borough will require.

Accelerating action by developing the evidence base. By developing the Boroughs' knowledge and understanding of the opportunities for decentralised energy projects, the project has provided the basis for accelerating action on carbon reduction in the sub-region. The project officer predicted that developing the evidence base was likely to clarify the actions required to develop decentralised energy, making it easier to take the agenda forward, and demonstrating to key officers what they needed to do to make it happen.

Challenges

Usability. One of the key challenges was developing the guidance in a way that made it usable for planning and energy officers, whilst ensuring it was also technically accurate and robust. By involving these officers in the development process, the project officer believed that this balance had been struck. The test would be how successfully the guidance could be used to develop the area's first master plan.

Key lessons for other councils

For other councils also considering developing their own energy master plan, this project has developed a useful toolkit: energy masterplanning guidance and an energy prefeasibility assessment tool.

In terms of taking this kind of work forward, the project officer felt a key factor was to ensure that the agenda was well-supported by key decision-makers within the council. Bringing them on board involves developing a well-reasoned business case to convince them of the importance that decentralised energy can play. In Haringey's case, previous modelling work had highlighted that decentralised energy would be critical to meeting its climate change targets, which provided a key driver for this work.

The pre-feasibility tool has highlighted that reform of electricity market regime may be required to facilitate large scale take up of decentralised energy schemes (see the Light Supply Licence project).

Replicating the work

The intention is that the toolkit can be used by any council. According to the project officer, the toolkit will be particularly useful for urban councils, where the potential for decentralised energy networks is generally higher and the business case is already there.

In terms of officer skills, experience of energy and engineering in general is important, but the project officer stressed that the idea of the guidance is that anybody should be able to use it. Councils should develop a heat map as a first step to developing a master plan. Again, the guidance demonstrates how to do this.

Relevance to other councils

This toolkit can be used by all councils, at any scale, although it is particularly relevant to urban areas. Can be applied at any scale.

Outputs	<p>The following will be available to other councils:</p> <ul style="list-style-type: none"> • Guidance for decentralised energy schemes • Decentralised Energy Pre-feasibility Assessment Tool <p>Go to www.haringey4020.org.uk for more about the project, or contact Jessica Sherlock (details below)</p>
Contact	<p>Jessica Sherlock Haringey Council Jessica.sherlock@haringey.gov.uk 020 8489 3525</p>

Implications for a council framework for climate change

The energy masterplanning guidance should provide a useful starting point for any council considering the potential for heat generation in its area. The guidance highlights how to undertake the first step on this journey, a heat map, and the steps required after this to develop an energy master plan. It is more relevant to councils with large urban concentrations, but all councils should at least consider carrying out basic heat mapping work.



Inter-borough Solar Renewable Energy Opportunity Analysis, Framework Contract and Buying Group(s)

Themes	Carbon saving, sustainable energy generation
Project Summary	The project aimed to develop inter-borough delivery partnerships for solar PV and solar thermal technology on non-domestic and domestic buildings including social housing stock.
Learning outcomes	The project has examined the benefits and difficulties of a strategic approach to solar PV and solar thermal.
Applicability	All councils
Replicable?	✓✓✓

Summary of key learning for other councils

- Investment in solar renewable technologies can achieve significant benefits for councils including income generation, carbon reductions and fuel bill savings¹⁴;
- The potential benefits of partnership working on such project far outweigh the potential costs and challenges they may entail;
- Political buy-in is important for securing investment in such projects. Building a robust business case is important in this regard.

What was this project trying to achieve?

The project aims to develop inter-borough delivery partnerships for solar PV and solar thermal technology on non-domestic and domestic buildings including social housing stock.

What was the approach?

The planned approach involved:

- Opportunity mapping to understand the potential for roof-mounted solar PV and solar thermal technologies in the North London area;
- Market testing, building on the opportunity mapping results to the financial return for key sites, as well as finance and delivery options analysis;
- The establishment of a framework contract; and
- The establishment of buying groups.

¹⁴ Note that the research for this project was undertaken prior to DECC's Phase 1 FITs review. At the time of writing, the review was due to be published for consultation in Autumn 2011 and was expected to result in a reduction in FITs rates, thereby reducing potential income opportunities from FITs.

Camco were commissioned to undertake the opportunity mapping and market testing elements of the work, together with an evaluation of these processes to highlight key learning points for the sector.

The project was led by Haringey Council, working with other councils in the North London sub-region: Islington, Camden, Hackney, Waltham Forest, Barnet and Enfield. It included Local Strategic Partnerships in each area, as well as climate change partnerships.

What has been achieved?

Understanding the sub-regions' potential solar renewable technology installation. The opportunity mapping for solar PV and solar thermal had been completed for all 6 boroughs by summer 2011. The work had demonstrated the potential for installing solar technology across the area, identified key potential sites and highlighted the potential economies of scale that could be achieved.

Understanding how to realise this potential. The market testing work had enabled each of the boroughs to understand different finance and delivery options for installing solar technologies. Importantly for the boroughs, the analysis highlighted that the formation of buying group was not a realistic option for them if they wanted to take advantage of current FITs rates. In Haringey's case, the borough decided the most viable option, given the limited timescales, was to procure solar PV through an existing procurement framework – using Birmingham City Council's Framework as the contracting model – and use a Request of Quotation process for contracting roof rental solutions for social housing.

If successful, the procurement of solar technologies will lead to three significant benefits:

- **Income generation.** Taking advantage of opportunities offered by the domestic and commercial building stock, the borough's stand to generate significant income. In Haringey, an initial loan of £8,658,000, secured through prudential borrowing, will be used to procure solar technologies on all viable council properties, including schools. This will generate a predicted income of up to £162,000 a year, together with cost avoidance of around £155,000 in energy costs. In addition, the use of the rent-a-roof model for social housing would not require any capital expenditure and would result in potential income of up to £91,000 a year and avoidance of £115,000 in energy costs for residents.
- **Carbon reductions.** The project has highlighted the potential for tangible carbon reductions, as well as the possibility that generated income could be used to achieve further savings through investment in energy efficiency improvements. Haringey Council predicts that if the entire programme is completed to the current proposals (which take into account changes in the Council's asset portfolio since the study was concluded), a total of 1527 CO₂teq would be saved per year, from a total generating capacity of 5011 kWp.

- **Energy saving costs:** As highlighted above, Haringey stands to achieve significant energy bill reductions, on its own buildings and for social housing residents, through the introduction of solar renewable technologies.

Challenges

Partnership working. The key challenge for the project was coordinating a six-borough group. This did lead to some minor problems. There was a delay in the production of the Camco-led analysis, for example, due to difficulties in receiving information from all partners.

Overall, however, the councils believed that the benefits of the project would far outweigh the work involved to coordinating the partnership. These are highlighted above.

Furthermore, the project has led to closer partnership working. The project officer reported that boroughs were sharing more information with each other as a result of the new links they had forged, and were now more aware of future opportunities to collaborate. One example of a spin-off is that Haringey and Enfield Councils had begun collaborating on Display Energy Certificates.

Key lessons for other councils

Key lessons for other councils from this project:

- Investment in solar renewable technologies can achieve significant benefits for councils including income generation, carbon reductions and fuel bill savings. Future changes to FITs rates may affect potential returns from such projects however;
- Partnership working can slow projects down, but the potential benefits far outweigh the costs;
- Political buy-in is important for securing investment in such projects. Building a robust business case is important in this regard.

Replicating the work

Haringey Council believes that this project is very replicable. It notes that the Government review of FITs may affect potential returns on investment if rates are lowered as predicted. Councils should also monitor the returns available from the Renewable Heat Incentive (RHI).

In this project, the boroughs commissioned an external consultancy to carry out the opportunity mapping and market testing. Haringey Council believes that this might be achievable in-house, but this would be dependent on having the right skills and expertise, such as financial appraisal skills and a sound knowledge of renewable technologies.

Relevance to other councils

Solar renewable investment projects are relevant to all councils.

Outputs	The project resulted in three Camco-produced reports: Solar Renewable Potential in North London - Work Stream 1:
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	<p>Opportunity Mapping</p> <p>Solar Renewable Potential in North London - Work Stream 2: Market testing – analysis of finance and delivery options</p> <p>Solar Renewable Potential in North London - work stream 3: Evaluation</p> <p>All are available from the Haringey 40:20 website.</p>
Contact	<p>Ben Brown Sustainable Business Manager Haringey Council Benjamin.brown@haringey.gov.uk 0208 489 2132</p>

Implications for a council framework for climate change

Opportunity mapping for small-scale renewables is an activity that all councils should consider. The project has highlighted significant income generation opportunities for councils investing in renewable technologies. This income could be used to invest in energy efficiency improvements, thereby increasing the carbon reduction potential of such projects.

Light Electricity Supply Licence – Template Supplier Services Contract for Decentralised Energy Schemes and Market testing

Themes	Sustainable energy generation
Project Summary	The aim of this project has been to develop a template contract for a Light Electricity Supply Licence for use by councils or ESCOs, and to carry out market testing to refine the terms of the contract.
Learning outcomes	If successful, the development of a template contract for a Light Supply Licence will substantially increase the financial viability of decentralised energy schemes across the UK by allowing councils and other providers to sell electricity at retail rates.
Applicability	All councils considering developing decentralised energy projects
Replicable?	✓✓✓ ¹⁵

Summary of key learning for other councils

- The development of a template contract for a Light Supply Licence will remove a significant barrier to developing decentralised energy schemes across the UK, allowing councils and other providers to sell electricity at retail rates;
- This project was still underway as this evaluation was taking place. The full learning will be shared with councils once the process is complete.

What was this project trying to achieve?

Haringey Council had identified through carbon reduction scenario modelling that district heating schemes using Combined Heat and Power (CHP) were likely to be the single most significant measure for reaching its long term carbon reduction targets.

Two feasibility studies for district heating networks in the borough had shown that if electricity from CHP could be sold at a retail price this would generate a return on investment sufficient to close the current funding gap and could also attract private investment. This is a common scenario for many decentralised energy schemes. However, the costs, risks and complexities of selling electricity from decentralised energy schemes at retail rates have proven a serious barrier to development.

Acquiring a 'Light Supply Licence' would allow a decentralised energy operator to sell electricity at retail rates to consumers without the costs, risks and complexities of joining electricity market codes

The aim of this project has therefore been to develop a template contract for a Light Electricity Supply Licence for use by councils or ESCOs, and to carry out market testing

¹⁵ This is not a project that councils should need or wish to replicate themselves. However, the template contract for a Light Electricity Supply Licence will be able to be used by all councils and ESCOs once it is finalised and tested. In this sense, the project will produce a highly replicable output.

to refine the terms of the contract. If successful, the template contract could be used by any potential decentralised energy provider, thereby removing a significant barrier to the development of decentralised energy schemes in the UK.

What was the approach?

The project has been carried out in two phases.

The first phase involved the development of a Draft Supplier Services Agreement contract for a light electricity licence. Expert consultants were employed to undertake this work.

The second phase involves market testing of this template contract, carried out through a procurement process. The latter phase was still ongoing when the research for this evaluation took place. An evaluation report with policy recommendations will also be produced when the project has been completed.

The project has been led by Haringey Council, working with other North London boroughs and with the close involvement of the London Development Agency and, latterly, the Greater London Authority.

DECC is also engaged, not just on the electricity side but also in terms of heat policies (because of the impact this project could have on the viability of CHP schemes) and have joined the advisory group¹⁶.

What has been achieved?

Development of a draft contract template. The project has successfully developed a draft contract template. This is “clear, relevant and enforceable” according to one of the officers involved. The key test of the contract will be how it stands up to market testing as Haringey Council go through the procurement process.

Increasing the viability of decentralised energy scheme. As highlighted earlier, once the contract template has been tested and the process shown to work, it will be available to use by other decentralised energy providers. It will also have potential to kick-start a new wave of decentralised energy schemes by substantially improving their financial viability.

Challenges

Complicated and technical subject. A challenge for the project was the complex and technical nature of the subject matter. The working group therefore employed consultants and advisors with expertise in electricity markets and the various legal

¹⁶ The project is recognised in DECC’s White Paper, *Planning for our electric future: a White Paper for secure, affordable and low carbon electricity*: “for some small distributed generation there may be opportunities to supply directly to consumers, but they may be deterred by the costs and complexity of acting as an energy supplier. Ofgem published its final proposals for a ‘Licence Lite’ regime in February 2009. This will allow small electricity generators to become licensed suppliers under a regime which is proportionate to their size and impact, while protecting consumers’ rights to switch energy supplier. The Government is closely monitoring progress made by the industry in using these proposals to gain better access to the market.”

issues involved, and who could do the work within a modest budget. This was critical to the project’s success and making the technical and legal subject matter understandable to the boroughs involved.

Maintaining partnership interest. As a result of the very technical nature of the subject, maintaining the interest of the six boroughs involved and getting their buy-in, could have been a challenge. In the end, however, they were actively interested. Key drivers for them included:

- It would help improve the economics of decentralised energy projects in their areas;
- This in turn could also lead to carbon reduction, fuel poverty and income generation benefits;
- It’s an opportunity to be part of a pioneering project with national interest; and
- The third parties involved (e.g. officials from the LDA, the consultants etc) have been very enthusiastic and this has been infectious.

Key lessons for other councils

As discussed, this project has the potential to remove a significant barrier to decentralised energy schemes in the UK. The full lessons for other councils, however, won’t be available until the draft template contract for a Light Supply Licence has been tested.

At the time of the evaluation research, the intention was that one or more of the boroughs involved would make an application for a licence and, as part of that, send out an invitation to tender (ITT) for energy suppliers to respond to. Once the tenders had been received, the working group would then have ‘complete experience’ of the process. The results and lessons from the process would then be shared by DECC and the LG Group. However, it is possible that the initial ITT might highlight further barriers which need to be dealt with.

Relevance to other councils

The contract template will be applicable to any council or DE operator that wants to generate and supply electricity, or any company that they wish to employ for the same purpose e.g. ESCos.

Outputs	<p>The following will be available for councils:</p> <ul style="list-style-type: none"> • Draft Supplier Services Agreement • Issues requiring further consideration - discussion paper <p>Contact Jessica Sherlock or Robert Tudway for more details (contact details below).</p>
Contact	<p>Jessica Sherlock Haringey Council Jessica.sherlock@haringey.gov.uk 020 8489 3525</p>



Robert Tudway GLA – City Hall robert.tudway@london.gov.uk 020 7983 4810

Implications for a council framework for climate change

The contract template, and the associated learning on how to use it, will provide a key tool for any council wanting to develop decentralised energy in their area.

Study to Identify the Opportunity for Green Enterprise Growth in the Upper Lea Valley and Recommendations on Local Action to Support Growth

Themes	Mainstreaming climate change, Enhancing reputation
Project Summary	A sub-regional study aimed to develop an evidence base for the potential green growth in the Lea Valley for the Local Enterprise Partnership and make recommendations on the approach to promoting growth in the area.
Learning outcomes	This type of project can help a council or group of councils understand the potential for green growth in their area, identify key areas for intervention, and raise the profile of the agenda amongst decision-makers and business.
Applicability	Relevant to all councils with green growth potential.
Replicable?	✓✓✓

Summary of key learning for other councils

- This type of project can help a council or group of councils understand the potential for green growth in their area, understand what interventions to make to realise this and bring this potential to the attention of key decision-makers and the business community;
- Gaining the buy-in of key decision-makers at the outset of such a project is important, particularly in a sub-regional setting where the priorities of Members might be different. In this regard, setting up a Members committee to oversee the work is one way to help ensure Member engagement throughout the process;
- Build a solid communication plan into the project to gain wider buy-in across the area, alert stakeholders and businesses to potential green growth opportunities and highlight practical steps that can be taken to move the agenda forward.

What was this project trying to achieve?

The project’s objectives were to:

- Develop an evidence base for the potential green growth in the Lea Valley for the Local Enterprise Partnership; and
- Make recommendations on the approach to promoting growth in the area.

What was the approach?

This was a sub-regional project driven by the North London Strategic Alliance (NLSA) – the Local Enterprise Partnership in the area - focused in particular on the London Boroughs of Haringey, Waltham Forest and Enfield. The London Development Agency (LDA) has also been an important partner.



It has involved:

- A mapping of potential low carbon sectors across the Lea Valley;
- An analysis of tools for the low carbon enterprise sector;
- A methodology for green enterprise analysis than can be used by other local council areas developing climate change action plans; and
- Gathering data on local green enterprise to support increasing membership of Haringey 40:20.

The aim was to culminate with a launch event of the study to the NLSA and other stakeholders and industries, together with a brochure and prospectus geared towards influencing growth of the low carbon enterprise sector. This phase of the project had not happened at the time of the research.

What has been achieved?

The lead officer for the project reports that the project has been a 90% success so far in meeting the first objective of developing the evidence base for green growth in the area. Progress towards meeting the second objective to promote green growth in the area was also well underway at the time of the research. Two key outcomes to date were:

Building an evidence base for green growth potential. The project has provided the Boroughs involved with an evidence base for understanding the potential for green growth in the area. The Boroughs and the NLSA are now much better equipped to make informed decisions about how to best promote green growth. The study has provided the Boroughs with key areas for intervention. The London Borough of Enfield, for example, was looking at the potential for sustainable food sector growth in the Borough through the development of market gardens. In this respect, the study has provided a strategic direction for the green growth agenda:

"The project is giving everyone confidence, and confirming that this isn't just rhetoric or wishful thinking. The jobs agenda is a big focus for the council. The project helps to give direction and strategy to the green jobs agenda"

Raising awareness of green growth potential. The lead officer for the project was confident that the scale of the project, together with the job potential (the study found there are already 15,000 jobs in the sector) would get people's attention, including that of key decision-makers. The project also hopes to change the general perception of the public by highlighting the job opportunities. A good example is energy-from-waste. Local waste treatment facilities are generally unpopular with the public, but the study shows that energy-from-waste facilities can create real economic opportunities, potentially providing 1700-2000 local jobs. The study also shines a light on existing innovation on green growth in the area. The study has therefore provided the foundations for raising awareness, from which the NLSA and others can raise the profile of green growth potential.

Identifying the councils' brand. The project has helped the Boroughs to local their low carbon 'brand'. In other words, it has enabled them to understand what role local

enterprise can play in the wider low carbon economy and to identify what parts of industry can and should be greened.

Challenges

Gaining partner buy-in. The main challenge has been gaining buy-in from key people and partners to focus on and be a part of the project. Decarbonisation doesn't have the same priority across the three Boroughs involved and so getting leadership buy-in in all three has not been straightforward. To address this challenge, the project officers were working to raise the study's profile and were in process of creating a sub-committee of the sub-regional Members group to ensure that Members are involved and engaged.

There were also difficulties ensuring the engagement of the LDA with the project as it was being wound down at the time of delivery. As the project moves on, the need to ensure the work successfully migrates from the LDA to the Greater London Assembly (GLA) will also be a challenge.

Key lessons for other councils

For councils considering undertaking similar work, the project officer highlights three key lessons:

Gain political buy-in up-front. The success of a project like this rests of much on political buy-in as it does on the quality of the evidence base it provides. Gaining buy-in from key Members and other decision-makers at an early stage is therefore important. This is particularly the case in sub-regional settings where the priorities of the councils involved may be different. Setting up a Members committee to oversee the work is one way to help ensure Member engagement throughout the process.

Be realistic. The project officer advised that is important to be realistic about the level of detail that a study can go into and what can be achieved within the budget and resource constraints of the project. Being overly ambitious can falsely raise partner expectations.

Develop a communications plan. Communicating the findings from such work is important for gaining wider buy-in across the area, alerting stakeholders and businesses to potential green growth opportunities and highlighting practical steps that can be taken to move the agenda forward. Building in a solid communications plan is therefore an important part of the project.

Replicating the work

Within the council or councils involved, networking and relationship-building skills are important in order to gain buy-in from key decision-makers and to make across different departments, for example between economic development, planning and transport.

For the study itself, the NLSA employed consultants to carry out the work, partly due to time issues, and cost around £15k. The project officer believes, however that many councils would have the skills and expertise to carry the work in-house. A good degree of officer time is also necessary to manage the process and keep stakeholders and decision-makers informed and involved.

Another success factor for this project was the importance of getting local businesses together regularly to find out their issues and needs. This has enabled officers to build a constructive dialogue about business reality rather just theory.

Relevance to other councils

The project officer believes this work is highly replicable to any area with green growth activity or potential. The outcomes and focus will depend on the project’s location. A coastal or rural area is likely to have very different enterprise potential to a densely populated area for instance. However, the principles remain broadly the same.

Outputs	Outputs from the project will be available from www.haringey4020.org.uk .
Contact	John McGill Director, North London Strategic Partnership John.mcgill@haringey.gov.uk 020 8489 5282

Implications for a council framework for climate change

All councils should look at their local economy and determine whether it has the potential to deliver on the low carbon economy agenda. Not every area can play a central part of the low carbon economy, but this type of approach can help councils to map what activity already exists and what the potential opportunities are.



E. Manchester City Region

This section contains summaries of the 5 projects across Greater Manchester, the area of the new Greater Manchester Combined Authority. Each of the summaries can be accessed using the links in the list below:

[Greater Manchester Carbon Metrics Framework](#)

[Greater Manchester Housing Retrofit Programme](#)

[Greater Manchester Energy Plan: an Energy Action and Investment Framework](#)

[Low Carbon Investment Appraisal](#)

Greater Manchester Carbon Metrics Framework

Themes	Mainstreaming climate change
Project Summary	This project aimed to develop the basis for a consistent and comprehensive approach to carbon metrics (collecting and managing data on carbon emissions) across Greater Manchester.
Learning outcomes	This project shows how to consolidate carbon production data from different sources and produce an integrated framework. It is relevant to supporting cross-local council data sharing and target setting, and producing area-based carbon production data. The project also demonstrates the use of carbon footprinting to create a cross-council tool for stakeholder engagement.
Applicability	The need to standardise data collection, baselines and reporting and consolidating data sets is relevant to all councils, particularly where several councils are working together. The learning about collecting and reporting on carbon production and consumption data (carbon footprinting) is valuable for all councils.
Replicable?	✓✓✓

Summary of key learning for other councils

- The process of consolidating existing carbon production data sets both at local council and area scales, and the problems encountered, should provide useful learning for other councils. This is especially relevant to councils wishing to share and streamline baseline and target-setting approaches;
- The use of air quality emissions data sets is likely to have relevance across other councils (Although the ENIGMA air quality data set was established from Greater Manchester using the Department for Environment, Food and Rural Affairs (Defra) funding in 2005);
- Using the travel to work area was an appropriate scale for addressing sustainability issues as so many elements of carbon consumption were able to be covered. In this respect this approach is most relevant where councils are working together;
- The use of consumption footprinting data (i.e. carbon emissions for goods and services consumed in the area) rather than production data (emissions for goods and services produced) has been key in engaging stakeholders.

What was this project trying to achieve?

This project aimed to develop the basis for a consistent and comprehensive approach to carbon metrics across Greater Manchester (GM), in support of the Greater Manchester Climate Change Strategy.

The key objectives for the project were:

- To synthesise existing carbon metrics data collected across to give an attributable direct emissions total, and establish an appropriate baseline across GM and estimated projections for emissions through to 2050;
- To develop a framework for future collection and reporting which will enable monitoring of progress towards carbon emissions reductions goals in the forthcoming Greater Manchester Council Climate Strategy;
- To broaden understanding by decision makers across GM on the carbon emissions over which they have control and influence, and provide tools which facilitate leadership on emissions reduction by the public and private sector, community groups, and individuals across GM;
- To provide an integrated common approach to begin to establish carbon accounting and reporting in order to underpin and inform the planning and development of projects, investment programmes and portfolios and their implementation by both the public and private sector; and
- To enable deeper understanding of the true impacts and economies of carbon generation by broadening the perspective on carbon metrics to include embedded emissions (i.e. emissions resulting from production of goods and services), thereby future-proofing and deepening the approach to carbon emissions reduction by different actors across GM.

What was the approach?

The project focussed on two linked elements, described below.

Developing a combined data set and framework for future data collection

This had three parts:

- Lot 1a – combining and converging the data sets for the council estate across all 10 Greater Manchester councils;
- Lot 1b – Creating an inventory by district for carbon production; and
- Lot 1c – Creating scenario and projections using this inventory.

Carbon footprinting

The element involved developing an area based approach to carbon footprint across Greater Manchester (through a Total Carbon Footprint (TCF) approach), using carbon consumption data. This was used to engage with a range of sectors, partners and stakeholders.

The context for the work was the development of, firstly the Manchester Climate Change Strategy in 2009 and then the initial work around the Greater Manchester Climate Change Strategy. It had become clear that it was difficult to measure performance against targets using the top down, nationally produced data set. Once the GM strategy was conceived, there was a need for much greater consistency and standardisation across GM. There was a feeling of urgency due to the strategy development and also because of the loss of the national indicators for climate change.

What has been achieved?

At the time of undertaking the research the project had not yet been completed, but was judged to have been a success.

This is a core piece of work within the GM Climate Change Strategy. In the short term it should help the new combined authority to choose where it places its carbon reduction targets, negotiating between the targets set by the different 10 councils, national targets etc, and using the inventory to identify what is possible in terms of carbon reduction.

The metrics work had been initiated through the Association of Greater Manchester (AGMA) environment commission and Chief Officers Group and had involved stakeholder engagement with councils, the voluntary sector, businesses, academics and politicians. Specific elements are discussed below.

Lot 1a Carbon production inventory for all councils in the GM area

This was a major task in the GM Climate Change Strategy. All councils in the GM region had signed up to NI 185.¹⁷ However all were collecting different data and reporting it in different ways, and using different baseline and reporting years. The tool may need a little more work and the pilot councils are hoping that CLASP (the local council and public sector sustainability support service for the NW of England) will help to run support processes to engage and support all local councils to use it.

Lot 1b Carbon production inventory across the GM area

The carbon production inventory work had been very difficult, technical and involved. It had involved a hugely complex analysis of available data, and potential proxies (alternative indicators) and had sought to develop a responsive bottom-up data set.

It had come to a conclusion that much of the data can be gained through an existing data set – ENIGMA – which is an emissions inventory for GM which was funded by Defra for the purposes of collecting air quality information. It had been managed by air quality, environmental health and transport officers across Greater Manchester. A baseline year of 2005/6 had been collected and then in some areas data collection had continued but in other areas it had not. However, at least a baseline and a model for data collection existed. This was interesting because the link between air quality emissions data and climate change emissions data had not been properly recognised. This is now changing as the GM Combined Authority is taking a lead role in both air quality and in climate change.

In addition to ENIGMA, some additional data (e.g. on motorways) would need to be collected, some data split up (e.g. domestic and industrial electricity) and some would still need to be separated out from national figures. However the discovery of the ENIGMA data set means that the inventory could be built much more quickly.

Total Carbon Footprinting (consumption perspective)

¹⁷ That is they had committed to setting targets against (now defunct) national indicator 185, measuring CO² reduction from local authority operations

By contrast the TCF has been a more engaging process which was proving a useful tool to engage with partners and stakeholders. The tool had been developed from an end user perspective. This was particularly interesting because GM councils own the airport, and because of strong procurement policies much consumption involves local companies.

Challenges

Standardisation of data. There was a clear frustration that DECC are not providing more guidance about data collection by councils nationally. The project officers felt that a lack of consistency and standardisation would hamper the ability to measure the UK's progress against national targets.

There were significant technical data challenges especially to establish an area (cross council)-based carbon production data-set. The use of the ENIGMA air quality data set has helped to create this data set although there are still issues with completeness (there are gaps in data collection) and baselines.

Key lessons for other councils

Scale

One of the significant learning points about the metrics work, as for the other projects in GM, is that the Greater Manchester area covers an 80% travel to work area which means that a large amount of people's lives are able to be included both in the metrics work and in the other projects. The scale works well from a sustainability point of view.

Data library development

During the development of the inventory the team and consultants mapped the range of data sources available for the different emissions, developing a 'data library'. This included data which measured emissions, but also some proxy measurements. The team chose measured ('primary') data sources and tried to avoid modelled or transformed datasets, although there were much less primary data sources available. The practicality of obtaining ongoing measurement was also a key consideration. As a result the carbon metrics model the team has arrived at is necessarily a compromise of different data sets in order to get coverage across the range of emissions.

Use of air quality emissions data

The possibility of using of air quality emissions data for climate change purposes is likely to be relevant to other councils. Although ENIGMA is a GM specific data set developed using Defra funding in 2005, there may have been other similar data sets developed with DEFRA funding at that time.

Carbon footprinting approach

The project found that the use of consumption data was a helpful approach for stakeholder engagement.

Replicating the work

The approach is likely to be relevant to many councils. Specifically the use of air quality emissions data sets may be relevant to other councils. Although ENIGMA is a data set

developed for GM using Defra funding in 2005, there may have been other similar data sets developed with DEFRA funding at that time.

Relevance to other councils

The issue of data standardisation is relevant to all councils. More directly the project has particular relevance where several councils are working together.

Outputs	A combined data set and framework has been produced and is being used by the 10 local 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 other councils on their experience.
Contact	Bryan Cosgrove Manchester City Council - Green City Research Officer b.cosgrove@manchester.gov.uk 0161 234 3218

Implications for a council framework for climate change

Creating an evidence base is important for all council frameworks. The specific issues encountered here are particularly relevant where cross-council data is used.



Greater Manchester Housing Retrofit Programme

Themes	Housing retrofit / Green Deal, enhancing reputation, carbon saving
Project Summary	The project provides strategic support to the Greater Manchester Retrofit Programme and delivers retrofit standards research.
Learning outcomes	The programme has been exploring models for the Green Deal. It has also undertaken research on behaviour change and retrofit standards.
Applicability	This has relevance across the board but particularly in areas with high levels of social housing. The learning on behaviour change has wide relevance for social and private housing.
Replicable?	✓✓✓

Summary of key learning for other councils

- The programme has been exploring models for the Green Deal, which will be relevant to all councils (see learning theme);
- The programme has researched and reported on behaviour change lessons (see outputs);
- The work on retrofit standards is also highly relevant;
- The approach to partnership working also provides useful lessons;
- Useful financing models have been developed.

What was this project trying to achieve?

Overall objectives of the project were to:

- Understand and scope Greater Manchester (GM)'s housing stock and assess the technical constraints, challenges and opportunities to delivering planned interventions;
- Deliver basic (loft and cavity wall insulation) energy efficiency measures to 75% of all remaining homes (approx 400,000 measures) with under-insulated lofts or un-insulated cavities by 2013;
- Offer eco-upgrades (solid wall insulation and microgeneration measures) to 27% of homes using 'GM eco-upgrade' standard by 2015;
- Deliver energy aware households efficiently managing home energy use;
- Ensure all GM homes are fitted with Smart Meters and have access to in-depth behavioural change energy advice by 2015.

What was the approach?

The project provided strategic support to the Greater Manchester Retrofit Programme and delivered retrofit standards research. The Retrofit Programme operates across Greater Manchester focusing on the 260,000 homes managed by the 10 AGMA local councils and RSLs. The project aimed to support the understanding of the GM housing stock and undertake assessment of the technical constraints, challenges and opportunities for delivering planned interventions.

The retrofit project itself is a massive programme and the LCF funding has contributed to its strategic development so it is difficult to separate out the LCF element of the work.

What has been achieved?

The project has progressed as planned and has achieved significant traction and momentum in GM, developing a co-ordinated programme and local delivery infrastructure to drive housing retrofit activities in GM.

When the research was undertaken the position was:

- **Strategy** - GM Domestic Retrofit Strategy planned to be launched;
- **Standards** - establishment of GM retrofitting standard;
- **Stock intelligence** - blueprint exercise had been completed to assess the nature of existing housing stock;
- **Toasty** - British Gas had been selected as the preferred delivery partner for the 'Toasty' campaign to deliver 400,000 loft and cavity wall measures across GM with support from all 10 councils;
- **ERDF retrofit programme** – early activity had been undertaken to retrofit 3000 social housing properties across 5 providers worth £10m;
- **Behaviour change** – extensive piece of work had been undertaken to review and understand how behaviour change initiatives would integrate into programmes;
- **PV solar social housing programme** – solar PV panels were planned to be installed on 20,000 roofs across 2 phases involving 10+ housing providers. A solar PV model had been developed by Deloitte. The GM brand had attracted high level interest from the financial sector;
- **GM social housing green deal trailblazer** - the programme was planned to trial Pay As You Save (PAYS) and behaviour change models in the social housing sector. Current focus is on maximising the Community Energy Support Programme (CESP) funding to reach an acceptable PAYS model for tenants;
- **Engagement and partnership development** was in process.

The LCF funding had been used strategically and primarily to consolidate work, to generate intelligence and to generate the strategic infrastructure for such a large programme.

The programme works across the 10 GM councils and Registered Social Landlords (RSLs). The focus had been on social housing in the first instance because there was existing appetite from housing providers for a coordinated approach. This had helped them to explore shared procurement and supply chains and opportunities in terms of FITs.

One of the key elements of the programme was the work that had been done to ensure that there was strategic lead from all organisations. Early work was done to bring together Chief Executives of the housing providers, the National Housing Federation lead, Association of Greater Manchester Authorities (AGMA) leads from housing and planning and from environment. This engagement had continued through the Chief Officers Group (COG). This gave the programme legitimacy.

Challenges

Timescales – maximising FITs whilst demonstrating best value, and also maximising the learning and supply chain before Autumn 2012.

Capacity – harnessing expertise and resource to support Green Deal development in the public, private and social and voluntary sectors. Coordinating training providers and contractors to ensure correct match of skills and competencies was also a challenge

Finance - maximising CESP funding into the Trailblazer. Also persuading social housing tenants to embrace the PAYS system was an issue.

Making the case for the GM Green Deal delivery partnership – the challenge was to provide access to low cost finance, create a trusted brand and set a benchmark for cost and quality. This would provide early momentum to the green deal market.

Key lessons for other councils

- The programme has been exploring models for the Green Deal, which will be relevant to all councils (see below);
- Vital importance of strategic leads from key politicians and of Chief Officers from all partners. The Chief Officers group (engaging 10 councils and RSLs) has given the programme legitimacy and a strategic steer;
- This strategic focus and the scale of working across 10 councils has led to valuable large strategic partnerships with suppliers such as British Gas;
- High level strategic engagement with financial sector has led to the development of interesting low carbon investment packages, which has influenced the way the finance models for the retrofit programme were being developed;
- Behaviour change lessons (discussed below and drawn out in a report not released at the time of undertaking the research);
- The work on retrofit standards has developed a higher specification standard, alongside new financial models and delivery vehicles for more advanced 'eco-upgrades'; and
- The value of developing skills; the team has a secondee from Groundwork working with the colleges and RSLs to develop the skills.

Green Deal

The programme has been exploring the models for working on the Green Deal and was liaising closely with other Green Deal pilot areas such as Birmingham. It was running a social housing Green Deal Trailblazer working with energy companies to test the principle of Pay as You Save (PAYS) model alongside the social housing retrofit.

The programme was also working with DECC's local council advisory panel for Green Deal and identifying investment and funding opportunities to accelerate the market.

Behaviour change

The programme focused heavily on stimulating behavioural change by householders. The behaviour change task and finish group have undertaken research and activities range from in-the-home bespoke advice to city-region wide campaigns. An example of the later is the Toasty Manchester campaign offering free surveys and free or discounted home insulation (run with the 10 councils, the Energy Savings Trust and British Gas).

Replicating the work

There is significant replicability for other councils. Key elements are:

- The overall strategy;
- Approach to and learning about partnership working;
- Development of retrofit standards;
- Behaviour change research and activities;
- Communications and awareness raising work; and
- Financing models.

Relevance to other councils

This has relevance across the board but particularly in areas with high levels of social housing. There is also particular relevance to areas where several local councils and RSLs are collaborating on retrofit work and with private sector partners too. The learning on behaviour change has wide relevance for social and private housing.

Outputs	<p>The following outputs are available:</p> <p>Greater Manchester – The Missing Quarter – Integrating Behaviour Change into Housing Retrofit www.svha.co.uk/downloads/svha_downloads/behaviour%20change%20report.pdf</p> <p>Greater Manchester Domestic Retrofit Programme: From Red Brick to Green Brick</p>
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	http://www.claspinfo.org/sites/default/files/retrofit_spreads.pdf
Contact	Tim Barwood Programme Manager Manchester City Council t.barwood@manchester.gov.uk 0161 245 7415

Implications for a council framework for climate change

Greater Manchester's approach is very ambitious, with an aspiration to become world leading in domestic retrofit through delivering volume interventions encompassing hard to reach properties, microgeneration technologies and innovative and effective financing products. This recognises the fact that domestic emissions account for approximately 34% of overall emissions in the City Region. Dealing with domestic emission will need to be a core element of all council climate change frameworks, and the approach taken by Greater Manchester is highly relevant.

Greater Manchester Energy Plan: Energy Action and Investment Framework

Themes	Sustainable energy generation
Project Summary	The project involved the development of the Greater Manchester Energy Plan, and a template and guidance on producing such plans.
Learning outcomes	The stakeholder engagement and partnership approach provides useful learning. An online consultation platform which has been developed for the project is available for free use. When completed, the energy plan will also provide useful lessons and a structure that other councils can use, especially where councils are working together to create a cross-council plan.
Applicability	The project is relevant to all councils, but particularly relevant to city regions.
Replicable?	✓✓✓

Summary of key learning for other councils

The key lessons were:

- The value of intensive proactive partnership work with the private sector, including commercial operators;
- The benefit of web-based and transparent engagement with stakeholders in the development of a plan (using a consultation platform);
- The energy research capability was much greater than originally thought, drawing on the key universities in Manchester.

What was this project trying to achieve?

The project objectives were:

1. To identify, analyse and produce a definitive and agreed interpretation of the current position in Greater Manchester (GM) with regard to energy needs and requirements;
2. To identify and map future energy needs with a clear exposition of known challenges, potential scenarios and major risks that need to be mitigated (and show how this could be done);
3. To identify the spatial opportunities and planning implications of the actions proposed, which will include investment opportunities where decentralised energy is most likely to be supported, profitable and deliverable. Key elements of this were a supportive planning framework to encourage investment and priority sites for directing any future planning tariffs;
4. To outline and cost a series of strategic interventions needed to meet future challenges and targets;

5. To define the contribution that will need to be made to meeting GM's energy aspirations from actions outside of the remit and/or control of the GM Energy Group – both national/international and community level.

What was the approach?

The project involved:

- Producing a definitive and agreed interpretation of the current position in Greater Manchester with regards to energy needs and identifying future mapping needs; and
- Defining spatial opportunities and planning implications of proposed actions and strategic interventions to reduce business, commercial and domestic energy needs.

The project builds on the Greater Manchester Mini Stern Economic Review, the Greater Manchester Decentralised Energy Plan and the Greater Manchester Energy Action Plan. It is a strategic priority for Greater Manchester.

The plan has the potential to put in place a model that is scaleable and replicable, and could readily be adopted by Local Enterprise Partnerships (LEPs) as a mechanism for delivering the energy systems that will be needed to put in place a low carbon economy.

What has been achieved?

At the time of undertaking the research, the energy plan had not yet been completed.

However significant partnership development work was underway. Stakeholder engagement had been undertaken, and the background evidence base had been compiled.

The pilot identified a range of benefits arising from the support the LCF funding gave to partnership working on low carbon across Greater Manchester:

- The act of 10 local councils coming together around the potential for LCF funding was hugely beneficial. It gave a focus for exploring shared priorities, sharing resources, and collaboration and joint working;
- The LCF funding opportunity was very fortuitous in its timing because at the time it was the only funding available and so it generated significant stakeholder and strategic engagement and interest;
- The LCF funding has provided the space, small amount of resources, and legitimacy to engage with key partners and stakeholders and to undertake the strategic underpinning of much of GM's low carbon work;
- The new Transition Team for the environment commission moving to the GM Combined Authority now has significant amount of partner and private sector involvement – there are secondees from key private sector partners. The team also has a strong economic development and investment capability;
- The inclusion of 80% of Manchester's travel to work area within the Greater Manchester Authority is seen as a key strength as most of people's lives (work, play, home) are encompassed within the area;

- The relationship building with partners is seen as crucial to the current and future success of the low carbon work in GM, especially the engagement with the private sector;
- The 10 councils were already very engaged on low carbon actions (working together on the strategy, there was buy in and willingness) but they lacked the capability. The LCF funding has provided the space for this thinking and research, and shared development. This has allowed for detailed planning on strategies, tactics etc.

Challenges

Partnership working with the private sector. The pilot has taken an opportunistic approach and engaged commercial interests within a wider understanding of democratic responsibility. This has led to much discussion and learning about commercial interests and engagement. However, as discussed below, it has led to significant benefits.

Key lessons for other councils

Engagement with the private sector

The Energy Group which was North West focused and was considered a talk shop for officers is now a strategic GM-focused group. For example, it has engaged the CEOs of energy companies and the EU reporter on energy.

It was found that as long as due diligence is carried out for all procurement processes, the engagement of commercial operators in strategic discussions, where those operators are key local actors, has been tremendously positive.

Web based engagement

Through the project the pilot has developed a web based consultation platform with Creative Concern which can be used by other councils.

Energy research capability

It was found that the Greater Manchester region had much greater capacity than originally thought, drawing on the key universities in Manchester.

Replicating the work

The consultation platform has directly usable (with little need for additional work) by other councils as it is open source.

The energy plan will have useful lessons and structure for other councils.

Relevance to other councils

The project is relevant to all councils, but particularly relevant to city regions.

Outputs	<p>The consultation platform, which includes an open source document amendment facility and discussion forum platform. When finalised it will be available to other councils.</p> <p>Greater Manchester Energy Plan will be available online from early</p>
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	November 2011: www.agma.gov.uk/environmentcommission
Contact	Sarah Davies Head of Strategy and Programmes Greater Manchester Environment Commission Strategy Team Sarah.Davies@oldham.gov.uk 0161 770 3362

Implications for a council framework for climate change

An energy plan is likely to be a core element of all frameworks, so the template and guidance are likely to be particularly useful.

Low Carbon Investment Appraisal and development of transferable innovative financial models

Themes	Improving reputation, mainstreaming climate change
Project Summary	The project is developing an appropriate and transferable investment framework capable of being shared with other regions with similar characteristics.
Learning outcomes	The project’s approach was to develop an appropriate and transferable investment framework capable of being shared with other regions with similar characteristics.
Applicability	To all councils but particularly city regions.
Replicable?	✓✓✓ ¹⁸

Summary of key learning for other councils

The key learning is the investment framework itself.

An important point is that engagement in the process by the pilot officers and members has promoted increased understanding and leadership on carbon issues.

What was this project trying to achieve?

The project aims to determine a mechanism for delivering and measuring financial returns, outputs and outcomes, including carbon savings and energy efficiency from low carbon investment.

What was the approach?

The project’s approach was to develop an appropriate and transferable investment framework capable of being shared with other regions with similar characteristics.

Opportunities were grouped into:

- Housing retrofit;
- Heat networks;
- De-centralised energy projects;
- Public sector estate retrofit; and
- Private sector estate retrofit.

The approach was to develop a limited number of projects from the portfolio over a concentrated timescale to identify and overcome barriers to securing private sector investment.

¹⁸ However, each council would need to go through the skill-development process and develop their own alliances with the financial sector so there is no real output which will help them replicate this approach.



What has been achieved?

The pilot has engaged with Ernst and Young to **develop internal literacy** on low carbon investment models. This has led to significant **high level engagement with financial institutions** such as with the head of Lloyds TSB which met with the Chief Executive and the Cooperative Bank.

As a consequence of being involved in these high level meetings, Chief Officers, politicians from across the 10 councils and from the combined authority have had to make a step change in their understanding of and engagement with low carbon issues.

The **investment appraisal model** has been developed.

In summary, the project has:

- Created the space and time to develop a much more robust investment appraisal approach;
- Developed a much stronger understanding about how to construct low carbon investment portfolios.
- Developed much greater economic development and financial investment literacy within the environment team (and the emerging team for the Greater Manchester Combined Authority). The team has secondees from finance and economics development sectors.
- Created much greater low carbon literacy amongst chief officers and politicians who have been involved in discussions with financial institutions.

Challenges

Green Book rules (Treasury rules on how projects should be costed, appraised and evaluated) prohibit effective development of financial portfolios for low carbon schemes. The pilot is working with the Treasury on this but feel there needs to be a much wider acknowledgement of the issue and evolution of Green Book rules.

Understanding low carbon investment was a challenge for the officers involved. The process involved them developing a basic understanding of financial models and new concepts such as Pay as You Save. They had to move from 'grant' thinking to 'investment' thinking.

This is discussed further below under lessons.

Key lessons for other councils

Engagement with private sector investors

The key has been the strategic partnership development with financial institutions, the invitation from the pilot to host meetings with these institutions and then the strategic briefing of Chief Officers to engage in these meetings. 'The experts have been kept out of the room – this is strategic involvement which has been the key'. It has also provided a catalyst for informing and increasing the low carbon competency of chief officers and politicians.

Understanding low carbon investment

The pilot officers had a number of useful reflections on developing a low carbon investment strategy:

- It was important to understand that they were involved in a relatively new discipline. They had to accept that it was alright 'not to know much about this' at the start within their respective professions;
- Involvement of Ernst and Young via their Energy and Environmental Infrastructure Advisory Team was crucial;
- Communication and partnership working were essential. Developing trust facilitated the sharing of information;
- The development of carbon literacy among officers and politicians has promoted increased understand and leadership on the issue.

Replicating the work

The project is in part about the skill development within Greater Manchester Combined Authority itself, and amongst partners. It is about developing competencies within that team. However the learning from the project and the investment appraisal itself are replicable. The pilot has produced a learning report/case study which would be really useful to share more widely.

Relevance to other councils

This project has relevance across the board, but particularly in city regions. It is also relevant within areas where there is a significant focus on the low carbon economy, where there is a developing literacy in low carbon investment and a focus on partnership working.

Outputs	<p>The Decarbonising the City range of case studies: Low Carbon Investment Opportunity, District Heat Networks, GM Domestic Retrofit Programme, and electric revolutions. Available on www.claspinfo.org.</p> <p>Details of the availability of the investment appraisal model were not known at the time of writing.</p>
Contact	<p>Lisa Hoyland Greater Manchester Environment Commission c/o Oldham Council Lisa.Hoyland@oldham.gov.uk 0161 770 1416</p>

Implications for a council framework for climate change

The pilot councils see the investment approach as vital to their future success in delivering on the low carbon agenda, and in supporting the development of a low carbon economy across the city region. It will be equally important for other city regions.



F. Northumberland County Council

The original Northumberland County Council LCF plan outlined two separate though closely linked projects:

- Delivering community leadership on climate change and
- Implementing carbon reduction within protected historic and natural environments.

In reality the two strands have almost become one, with a number of discrete small workstreams sitting beneath these broad headings. The summary below therefore deals with both projects.

Delivering community leadership on climate change and implementing carbon reduction within protected historic and natural environments

Learning Themes	Winning hearts and minds
Project Summary	The project consisted of a number of workstreams which aimed to explore how to facilitate community leadership on climate change, and the council's role in this. One of the workstreams explored the specific challenges associated with embedding low carbon technologies in a highly protected historic built environment (Hexham Abbey).
Learning outcomes	It is too early to draw out final lessons, as the project was not yet complete at the time of undertaking the research. However, it highlights the benefits of community engagement but also the challenges of such an approach. The Hexham Abbey project is likely to provide useful learning on carbon reduction measures in historic buildings.
Applicability	Particularly rural county councils
Replicable?	✓✓

Summary of key learning for other councils

At the stage of undertaking the research, the project had not yet been completed. However, it highlights the benefits of community engagement but also the challenges of such an approach:

- Proper community engagement is central to action on climate change, but can take a long time to develop;

- There can be a disconnection between what a local council views as the priorities for an area and what the community itself feels – and indeed between national policy agenda and local issues. Councils have to allocate decent resources to enable different perspectives to be explored and to help improve the chances of a consensus over action;
- Organisations such as community development trusts can be helpful allies in local climate change action, as can other partners such as universities;
- While quantification of carbon saved is important, getting in community buy-in and support for the principles of action is also vital. Overly focussing on 'bean counting' may not help this process.

In relation to historic buildings the project should provide a common agreement between agencies as to what carbon reduction measures are appropriate for historic buildings.

What was this project trying to achieve?

Overall, it is hoped that the projects will help to mainstream action on climate change in the council and across the region through community engagement.

The objectives of the project were:

- To explore how to realise community leadership – it was hoped in particular that the Holy Island and community exchange projects would provide useful information on this element;
- To explore what role the council should play in this mix of activity – what councils can offer and where it is useful for the council to be involved;
- To understand better the role of community intermediaries and community structures and to assess whether councils are engaging with the right ones;
- To improve the way council support processes are designed, by making them more open and sensible.

The main objective for the Hexham Abbey project was to open up a dialogue as to what can be done with listed and protected buildings in terms of the carbon agenda.

What was the approach?

This project was taken forward through a number of smaller workstreams, described below:

Services to Communities – looking at how restructuring of services to rural communities could incorporate actions that help carbon reduction.

Carbon Reduction Pilot Programme – working with CoRE (Community Renewable Energy), the intention of this workstream is to explore financial instruments that could help to establish a development loan fund for community renewables.

Zero Carbon Lindisfarne (Holy Island) initiative – working with the Parish Council, Newcastle University and the Holy Island Partnership, this workstream has looked at

how to engage the community on energy saving and low energy use ideas. The project will feed into a wider Landscape Partnership project.

Facilitating Community Leadership and Exchange – in order to facilitate community leadership on carbon reduction, communities need access to equipment to monitor energy use locally and target areas for improvement. This workstream aimed to purchase equipment and provide training for communities to monitor energy use.

Insulating Hard to Treat Properties – there are significant numbers of hard to treat homes in the areas including many which are off the gas network. Developed with Scottish and Southern, Warm Zones and the Northumberland National Park, this work has the aim of trialling more innovative technical products to improve energy efficiency in such dwellings.

Land Management for Carbon – the project build on the Land Carbon Management Plan (LCMP) for Wallington that was produced by Hertfordshire University. This workstream aims to reward farms in the Wallington estate for measures that will improve land based carbon (soil and biomass).

Renewable Energy Opportunities in Upper Coquetdale – Upper Coquetdale is one of the remotest parts of England and largely off mains gas and electricity. This project aimed to encourage renewable energy in the area in a way which was compatible with the National Park.

Hexham Abbey Renewable Energy and Low Carbon Technology Project which is working with Hexham Abbey to explore the specific challenges associated with embedding low carbon technologies in a highly protected historic built environment in order to identify best practice advice. For this project the council was partnered by Newcastle University and Hexham Abbey PCC.

What has been achieved?

At the time of undertaking the research the project had not yet been finished. However, the view of Northumberland County Council was that some elements of the work to date were very encouraging.

Delivering LSP priorities. It has enabled the council to speed up action on priorities that were already identified – essentially a subset of activities from *Heat is On*, the LSP (Local Strategic Partnership) action plan. The LCF work has demonstrated the value of having a needs-driven plan of action even if resources aren't always in place. This has meant the council can respond to opportunities and helps make the case for action internally.

Particularly positive was the engagement with **Warmzones**, which had explored new ideas and measures and helped evolve the business model for such work.

The project with **CoRE (Community Renewable Energy)** started as planned but has since changed course as, assisted by the LCF work, the project has secured £12million for investment. Discussions are underway as to whether the council still has a role to play.

The Holy Island project has proved very successful. It proved challenging to get the project underway, however the council is now encouraged by how it has gone forward with enthusiastic support from the local development trust and the community.

The land carbon trial was well underway and helping to develop a toolkit to make it easy for farmers and landowners to cut carbon. The carbon benefits of this will be assessed as part of the university study.

The Hexham Abbey project had led to better joining up between agencies. It had also heightened awareness among planning and conservation teams in councils.

Challenges

Timescales Challenges. The main challenge to the council on this project was the tight timescale allocated to complete the local carbon framework pilot. This has limited the potential for the council to look at more innovative measures

Assessing carbon impacts. Assessing the impact on carbon for this portfolio of projects was challenging and the council is not sure they have the right monitoring in place – the university research will not provide the detail of data required. Carbon reduction was not the direct aim of this project as the workstreams are focused on principles rather than 'bean counting'.

However Northumberland County Council is using the eco-region toolkit. This is first UK pilot of the toolkit, being developed with the university. Of particular interest is that this is the first time the toolkit has been used in a large rural area. This will help carbon assessment in rural areas in future but this study is not timed to help with assessment of this project.

Community responses. Regarding the Holy Island project, some local people have expressed a view that the council has 'gone with an agenda of carbon reduction when the community is more interested in fuel cost'. One person in particular feels that the project is driven by a Government agenda rather than local need. Until more work is done it is hard to know if this person is isolated in this view and whether engagement can overcome it. Further workshops were planned and it was hoped the overall picture would become clearer then.

It was also planned to hold some 'community exchange' sessions where a community interested in starting work in this area could visit one which is already working on carbon. It will be interesting to see if this builds knowledge in the new community.

Key lessons for other councils

Community leadership

What has been both positive and surprising is that, although community leadership takes a long time to develop, the community appears willing to take on more radical actions and issues that might have been thought. For example there has been backing for local building regulations to be set above national minimum.

This has been raised in the council and while there has been some opposition to such suggestions the head of service seems amenable. The project officer suggests that 'it shows that sometimes one needs to ask the bold questions of council colleagues to

move things on and that it is important to not be silenced by a perceived conservative culture’.

Measuring carbon emissions for different land management practices

This project has the advantage of access to the National Trust (NT) carbon tool blueprint which looks at carbon under different land management practices. Through the strands of the project the council has been able to explore whether this blueprint is suitable for various land use types. The Council will be able to share the NT toolkit if found to be successful.

Historic buildings

Northumberland is a large rural council with lots of traditional dwellings. In the past there has been a mismatch between policy and planning aims and it is hoped that this project might link the two and lend coherence to policy.

In addition, when the project is complete, it should provide a common agreement between agencies as to what is appropriate for historic buildings.

Replicating the work

The themes of this project are clearly applicable elsewhere. Arrangements for disseminating this work are still under discussion between the Council and university.

Relevance to other councils

The project is relevant to all councils but particularly to county councils in rural areas. The work has shown the potential benefits to local councils of working with local development trusts, communities and universities. The Hexham Abbey project is relevant to any area with a significant proportion of historic and traditional buildings.

Outputs	<ul style="list-style-type: none"> • Guidance and toolkit for land carbon tool • Evaluation of the projects by Newcastle University <p>Details of the availability of these outputs were not known at the time of writing.</p>
Contact	<p>Hugh Clear-Hill Sustainability Programme Manager Northumberland County Council hugh.clear-hill@northumberland.gov.uk 01670 534067</p>

Relevance to a council framework on climate change

All councils need to engage the community in delivery their framework, so the issues identified here are relevant.



G. Nottingham City Council

This section contains a summary of the project run by Nottingham City Council as part of the LCF pilot programme.

Developing low carbon generation capacity and awareness through energy mapping

Themes	Mainstreaming climate change, sustainable energy generation
Project Summary	The project sought to develop of a city-wide energy map to support council decision-making and to the enable the public to identify appropriate measures for their own property.
Learning outcomes	Area-wide energy mapping can enable more informed council decision-making (e.g. for planners) and raise awareness of the low carbon generation potential
Applicability	All councils, subject to access to appropriate skills
Replicable?	✓✓✓

Summary of key learning for other councils

- Area-wide energy mapping can enable more informed council decision-making (e.g. for planners) and raise awareness of the low carbon generation potential;
- Engagement with a range of stakeholders is important;
- It is important to define the purpose and scope of the tool at the beginning;
- The tool development process can be expensive, though there may be commercial opportunities for recouping some of the costs.

What was this project trying to achieve?

The project sought to deliver a city-wide energy map. The map would be GIS based and provide 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. The map would identify fuel sources, existing capacity, sites for energy efficiency interventions, help improve supply resilience, and identify potential for renewables and low carbon technologies.

What was the approach?

The project was split in to two distinct parts.

1. Define and evaluate all potential low carbon and renewable generation technologies for the city in relation to where they will best meet existing and potential energy supply and demand.

In this phase, Nottingham City Council sought to create a non-public tool providing analytical capabilities in terms of site suitability and modelling. In essence it would be a decision support system for managers, planners and policy makers. The objective was to enable the council to accurately plan to meet the city-wide energy and carbon targets set in its Sustainable Community Strategy and energy strategy and provide a robust evidence base on which to base Local Development Framework policies.

Nottingham City Council anticipated this decision support tool would:

- Provide the model by through which targets can be met in the most cost effective and beneficial way to the council;
- Provide an interactive spatial planning tool aimed at drawing together all information relevant to developing renewable and low carbon generation capacity in the city;
- Be used by planning officers to assess the most appropriate type of generating capacity when assessing a new development and how each new piece of equipment affects the generation mix;
- Help cost the development opportunities of low carbon and renewable generation capacity;
- Be flexible enough to accommodate other data layers that can link the development opportunities to factors such as roads, health, flood risk etc; and
- Help to visually describe the developments needed to meet carbon reduction, low carbon and renewable generation targets.

2. Deliver a user-friendly interface to enable the public to identify appropriate energy measures for their own property

In this phase, the council aims to deliver a user-friendly interface to access the information that is collected so that it is available and valuable to the public. As an example, they expect the public to be able to access the information at a property level through the internet and find out which micro renewable technologies are most appropriate for their property and situation. Nottingham City Council envisaged the public interface would generate the following benefits:

- Provides a user-friendly interface for the public to engage with and identify PV opportunities for their property.
- Deliver substantial benefits from lower carbon emissions, reduce fuel poverty by implementing projects in households, lower the resilience on the existing grid supplies
- Help encourage and facilitate positive environmental behavioural change amongst residents, and act as a catalyst for the uptake of energy saving opportunities

What has been achieved?

At the time of writing, Nottingham City Council had completed the first part of the project, the development of the decision-making support system. Early testing by officers had indicated that the system would work well and be a valuable tool for informing planning decisions. It had generated a great deal of interest in the area and

was already creating more intelligence internally about how to identify savings and opportunities.

The second part of the project, the user-friendly interface, was still under development. The full impact and value of the system would not be known until a longer period of use had taken place.

Challenges

Availability of some of the data - e.g. some Display Energy Certificate (DEC) information - was an issue. Nottingham City Council said that the scope of the mapping work was restricted by what questions the available data allowed them to ask. They were forced to select lots of static data because live data wasn't available, for instance. Some data – specifically some EPC data and distribution network data - wasn't available at all. However, getting live data into the tool is the long-term aspiration of the project.

Key lessons for other councils

Engagement

Engagement with different sectors is important. For the internal decision-making support system, engagement with various internal departments - particularly planning, housing, regeneration – has been critical and key officers were involved from the outset. For the second part of the project engagement with the commercial and domestic sectors has been important.

Local knowledge is important. The council has worked closely with the Nottingham Energy Partnership, which has been a great source of expertise and knowledge. In hindsight they would also have engaged the local universities from the beginning too; one of the universities had been working on something similar, but the council didn't discover this until later.

Developing the tool

The pilot found that the hardest task is defining what the output looks like – i.e. what questions should the tool ask and how should it answer them.

Any council wishing to replicate the work should think carefully about what elements the tool will focus on. It can be a costly project to develop, so a clear focus is important. A council might consider focusing on just one aspect e.g. community engagement.

Funding

This type of project is likely to be difficult without some form of grant funding. However, Nottingham City Council is now thinking about the commercial opportunities for this tool - e.g. business services – which may help to recoup the some of the costs, or at the very least fund the management and updating of the tool in the future.

Replicating the work



Nottingham reported that the tool is replicable at any size. A range of skills are needed: strong project management, financial modelling, understanding of energy technology, a good deal of local knowledge helps (e.g. Nottingham Energy Partnership), and the involvement of planning officers from the outset.

In terms of collecting the data required for such a tool, most councils could do this in-house. A mix of local and national data is required. Nottingham City Council would be happy to help other councils replicate the data collection work.

In terms of the GIS mapping element of the work, this was more complicated, so Nottingham City Council brought in a specialist partner. This was costly. Nottingham noted however that they paid a premium as they are the first council to carry out such a project. The costs may therefore be lower for any council wishing to replicate the work.

Relevance to other councils

The project is relevant to all councils, but the outputs will be very different depending on the council’s location. In a rural area, for instance, it might be more based on what a council does with its open spaces e.g. wind power. The pilot looked at the opportunities for them, which in an urban environment was about buildings.

Outputs	<p>Work was still in development at the time of writing. Case studies, project methodology and data lists will be made available to councils on request when ready.</p> <p>Nottingham City Council can also arrange visits to show what has been developed and discuss the council’s experience.</p>
Contact	<p>Alex Moczarski City Energy Manager Nottingham City Council alex.moczarski@nottinghamcity.gov.uk 0115 8765644</p>

Implications for a council framework for climate change

Mapping energy opportunities is an important task for any council. This type of project is perhaps something that more advanced councils should consider, however, as it goes well beyond most studies (e.g. PPS 1 studies), creating a ‘live’ and flexible data set that planners, members of the public and commercial organisations can interact with.



H. Oxford City Council

This section contains summaries of two interrelated projects run by Oxford City Council. They can be accessed using the links below:

[A partnership approach to carbon reduction across the city of Oxford \(OxCO₂\)](#)

[Enabling large-scale carbon reduction projects for Oxford: Producing a standardised outline business case for renewable energy deployment.](#)

A partnership approach to carbon reduction across the city of Oxford (OxCO₂)

Learning Themes	Winning hearts and minds.
Project Summary	This project developed a structured and sustainable approach to community action on climate change across the City of Oxford. The project funded the development of a city-wide social enterprise, a low carbon communities toolkit and three pilot communities.
Learning outcomes	The project demonstrates that local involvement can depend on finding the right driver for that community. The project's Low Carbon Hub (social enterprise) and its low carbon living website (which contains tools such as the Quicksilver carbon calculator and mentoring packages for running low carbon sessions and events) can be used by all councils.
Applicability	All councils
Replicable?	✓✓

Summary of key learning for other councils

The pilot identified the following steps to enable successful delivery partnerships with community groups:

- Signed agreements between community groups and the council/delivery organisation;
- Well planned and adequately resourced community activity in the community;
- Using the existing expertise and experience within community groups.

What was this project trying to achieve?

The project aims were:

- To enable communities and individuals in Oxford to make the transition to low carbon living;
- To energise communities in Oxford by building assets and income that will generate socio-economic benefit;
- To develop a strategic approach to achieving 40% cuts in carbon emissions across the City of Oxford by 2020 through:
 - Behaviour change,
 - Renewable energy, and
 - Energy efficiency.

What was the approach?

The project had four work streams:

WP1 Developing the partnership

Development of a new Oxfordshire-wide social enterprise - 'The Hub' - funded by subscriptions and private-sector investment. This included business and marketing plans, a web-based portal to host community share offers (in renewable energy projects) and provide procurement efficiencies for individual householders and a social franchising model offering communities a suite of possible 'start-up' packages and evaluation.

WP2 Developing the toolkit

Development of a Low Carbon Living website, with a 'toolkit' designed to support individuals to make real and sustained reductions in their household's greenhouse gas emissions. The website would contain measuring tools, mentoring packages, training packages, peer-to-peer support and expert advice, though not all aspects were complete at the time of undertaking the research.

WP3 Community Pilots

The toolkit approach had been applied to three communities, each with their own particular demographic:

- Low Carbon Oxford North;
- Barton; and
- Grandpont.

Training, mentoring and support was delivered to each community, plus 'Ideal Home' events, open days and a web based forum. As well as working with the three pilot communities, the approach will be broadened across Oxford to other geographic communities and other types of community (schools, businesses, churches).

WP4 Project management and evaluation

This work stream aimed to understand both best practice in local low carbon projects and the effectiveness of the pilot approaches in relation to carbon reduction and social benefit/equity issues, together with monitoring and evaluation of the project as whole.

What has been achieved?

The pilot regards the project as a success and reports that its aims and objectives have been met.

Progress on 'The Hub' had included: production of detailed Memorandums of Understanding (MoUs) for pathfinder communities; completion of an outline business model; an updating of the business plan; and production of an evaluation framework for the Low Carbon Hub 'offers'. The Community Action Groups Oxfordshire website states:

"The Hub will not aim to be comprehensive but will be a trusted and credible source of essential information, strategic advice and support, both on and off-line. The resources, training and services will be generated by Hub "experts" with first-

hand experience in their field to help communities cut through the information overload and build the confidence to act.

We hope communities across Oxfordshire will use the Hub to run community action groups and develop low carbon projects. We would like to promote your community group on the Low Carbon Hub website to demonstrate the level of action in the city and county and so that potential members of the Hub can contact you and get involved with your projects.”

There has been good progress on all three community pilots. For example:

- The North Oxford pilot has started ‘low carbon living cohorts’, working directly with households and exploring the possibility of community shareholding. A £140k PV system is planned on a community building;
- In Barton, OXCO₂ grant was made available for a PV roof on a building owned by community group, who will receive the income generated;
- In South Oxford, Corpus Christi land was gifted to the project, providing an incentive for community involvement (this is planned to be used for food production, including an orchard and bee keeping facilities).

The pilot also reports that the project has helped to mainstream climate change within the council: the more community activity and support there is on tackling climate change, the higher a priority it will become within the council. An example of this is that a council decision relating to the planning application for the PV building in Barton, which ordinarily would have been too difficult for officers to approve (e.g. because of risk, insurance, ownership etc), was approved because of Members’ backing.

Challenges

Delivery with community groups. Specific problems encountered were:

- The community pilot in Barton was the most difficult area to progress, as it had begun the project with less community infrastructure than the other communities. The PV roof would not have been delivered without the grant;
- A lack of community-level baseline energy data made it difficult to demonstrate what carbon reductions had been achieved by communities.

Community share approach. The Hub has moved away from a community share approach, as it was recognised that this was difficult for communities (especially in low income areas), though it is still being offered as an option.

Key lessons for other councils

Engaging local communities

The pilot suggests that it is important to find and use the right local driver to engage and work with local communities. They identify the following steps to enable successful delivery with community groups:

- Signed agreements between community groups and the council/delivery organisation;

- Well planned and adequately resourced community activity in the community; and
- Use of expertise and experience of existing groups, such as the successful Low Carbon West Oxford/West Oxford Community Renewable groups.

Ideally community energy projects need energy data at ward level at pre-intervention stage to assess carbon reductions.

Replicating the work

Tools and resources developed for this project (e.g. The Hub, Quicksilver carbon calculator and mentoring packs) can be used widely by others.

The Hub and the Low Carbon Living website, tools and resources are specifically designed to be useful across the UK.

Relevance to other councils

This type of project is relevant to all councils.

Outputs	The Low Carbon Living website is live. It contains the Quicksilver carbon calculator, energy measuring support, goal setting support and the Low Carbon Living Toolkit (mentoring and training packages): http://www.lowcarbonliving.org.uk/index.php
Contact	Paul Robinson Team Leader, Energy and Climate Change Oxford City Council probinson@oxford.gov.uk 01865 252541

Implications for a council framework for climate change

Working with local communities is an important aspect of a council framework for climate change. The OxCO₂ approach provides a structured model of how to engage with local communities.

Enabling large scale carbon reduction projects for Oxford: Producing a standardised outline business Case for renewable energy deployment

Learning Themes	Sustainable energy generation
Project Summary	The project sought to investigate the various options available from the market for deploying renewable energy on the council's estate. It also looked at the benefits presented by FITs.
Learning outcomes	The project demonstrates how councils can access low cost financing to develop renewable energy on their own estates. The project shows that benefits available through renewable energy deployment are numerous. As well as offsetting carbon from brown energy sources, a large renewables project can: stimulate the local economy; address fuel poverty; influence community change; generate jobs and produce a long term guaranteed revenue stream for the local council.
Applicability	All councils
Replicable?	✓✓

Summary of key learning for other councils

- Councils can access low cost finance to develop renewable energy generation on their own estates;
- Dedicated officer resourcing is required to investigate renewable energy opportunities and to take these forward. Oxford City Council initially set up their own budget of £25k for phase 1 of developing the business case;
- Councils need independent and good quality advice and analysis to develop a service level approach for renewable procurement;
- Member support is critical to drive this agenda forward;
- Sometimes having an external organisation/ expert to present the business to key decision-makers is helpful.

What was this project trying to achieve?

The project sought to investigate the various options available from the market for deploying renewable energy on the council's estate. This included a review of the benefits presented by FITs.

The council said that success for the project would be:

- A well developed business case for renewable energy generation on the estate, outlining incentives provided under FITs and the RHI. This would apply to Oxford City

Council (OCC) and EPCo (energy performance contracting), for operational buildings and housing stock;

- A decision by the council to investment in small-scale renewables, which would result in a reduction in carbon emissions and the generation of income for the council.

What was the approach?

The project built on a rigorous assessment of the opportunities available. It had the following aims and objectives:

- Developing a business case for renewable procurement including:
 - Strategic Case
 - Economic Case
 - Commercial Case
 - Financial Case
 - Management Case
 - Technical Surveys and Information, and
 - Financial Modelling;
- Sharing the findings of this work nationally through the production of a model business case.

What has been achieved?

The project had prioritised solar PV due to the timeframe and need to act quickly to get the best deal before the revision of the FITs rates¹⁹. The council decided to focus initially on their estate, i.e. their operational buildings (easiest to do first), but then progressed to their domestic stock (they have 7,900 social housing properties). They were also starting to move forward on RHI opportunities. A business case had been produced for domestic solar PV.

It was not felt necessary to produce a formal outline business case for PV for council operational buildings because the argument had already been 'carried' by a presentation to senior managers by Local Partnerships (a national support organisation for councils). The presentation addressed the potential of OCC's operational buildings to benefit from FITs with PV systems. The objective of the presentation was to give a good understanding of financial returns, financing models (reserves, borrowings, lease/purchase), risks, and procurement considerations.

Since then the LCF project had addressed more practical issues around appropriate PV and technical issues for different roof structures, the timing of the FITs review, system sizing for optimisation of return on investment, checking quotes and framework costs and technical details for procurement. The council had looked at other councils'

¹⁹ At the time of writing, DECC was due to consult on the FITs rates for solar PV in Autumn 2011. This was widely expected to result in a proposed reduction in tariffs, thereby reducing income generation opportunities. See www.decc.gov.uk for more details.

procurement frameworks (e.g. Birmingham, Oxfordshire County) for an approach that allowed them to procure through an existing framework whilst still meeting EU purchasing rules²⁰.

In terms of saving carbon emissions, Local Partnerships considered there was potential for more than 430Kw of PV, with an estimated total carbon savings of 144,790 kg/yr from five council sites. Nothing had yet been installed at the time of undertaking the research.

The fact that the council were taking a lead on this issue is thought to be important in terms of getting others in the area to act. The council were actively sharing the Low Carbon Oxford work with pathfinder groups, including community groups, as a strong declaration of intent.

The project raised the issue of whether income generation opportunities presented by FITs and RHI could be combined with the Green Deal to help incentivise householder and business take-up.

Challenges

Persuading senior management. The Local Partnerships presentation was successful in carrying the argument chiefly because it was an *independent* organisation saying that this was a real opportunity and saying 'rather than go with a roof let and get less FITs – do it yourself!'. The challenge was to overcome the mindsets of those senior managers who wouldn't naturally get involved.

It was interesting that whilst officers and Local Partnerships centred their arguments around financial savings, it was the senior managers who emphasised carbon savings; this could be an indication that the landscape has changed.

Procurement. The council was still working through challenge of procuring the renewables at the time of writing.

Key lessons for other councils

- Councils can access low cost finance to develop renewable energy generation on their own estates;
- Dedicated officer resourcing is required to investigate renewable energy opportunities and to take these forward. Oxford City Council initially set up their own budget of £25k for phase 1 of developing the business case;
- Councils need independent and good quality advice and analysis to develop a service level approach for renewable procurement;
- Member support is critical to drive this agenda forward;
- Sometimes having an external organisation/ expert to present the business to key decision-makers is helpful.

²⁰ The requirement to advertise contracts in the Official Journal of the European Union (OJEU).

Replicating the work

The approach is replicable by any council with a significant council estate, though they do need appropriate advice. It is worth noting, however, that the review of the FITs is likely to impact on the income generation opportunities.

Relevance to other councils

The council is sharing this Business Case project. The feedback from a recent presentation to local pathfinders gave the project 9.5 out of 10, demonstrating that the work meets the needs of councils, and provides good quality information.

Outputs	<ul style="list-style-type: none">• The business case <p>Details on the availability of these outputs were not known at the time of writing.</p>
Contact	Paul Robinson Team Leader, Energy and Climate Change Oxford City Council probinson@oxford.gov.uk 01865 252541

Implications for a council framework for climate change

This business case approach to renewables would be an important part of a council framework for climate change where there is a significant council estate. Achieving a financial return makes good business and environmental sense.

I. Plymouth City Council

This section contains a summary of the two projects managed by Plymouth City Council. Each can be accessed through the links below:

[Final steps towards a low carbon economy- carbon metrics, aspects of behaviour change and the provision of clear guidance on future delivery](#)

[Enabling low carbon development – establishing a Plymouth Energy Services Company.](#)

Final steps towards a low carbon economy- carbon metrics, aspects of behaviour change and the provision of clear guidance on future delivery

Themes	Mainstreaming climate change
Project Summary	The focus of the project was three pieces of research designed to establish a carbon baseline and identify future carbon reduction actions and targets across different sectors and in the low carbon economy. These will be drawn into a LCF Action Plan.
Learning outcomes	The pilot has produced some valuable baseline data and research which draws out lessons and actions relevant to other Councils.
Applicability	All councils
Replicable?	✓✓

Summary of key learning for other councils

The key lesson from this project is the value of collecting baseline information and undertaking scenario modelling to inform policy development. It demonstrates how the process provides vital evidence to support the predictions required.

What was this project trying to achieve?

The project’s main objective was to review local ‘carbon metrics’ (baseline data and future scenarios of carbon emissions for the city), to develop and monitor a carbon budget. The project covered some of the same ground as the Greater Manchester Carbon Metrics Framework, though it did not have to deal with the issue of collating data across local council areas.

The three pieces of research commissioned by the project provide the data to confirm the carbon reduction targets and potential budgets for the City and to inform the actions that could deliver the required emission reductions.

What was the approach?

As noted above, the main elements of the project were three key pieces of research, designed to support the development of an action plan. These were:

- **Analysis of Carbon Reduction Policies for Plymouth** carried out the Centre for Energy and the Environment at Exeter University. This research provides a baseline for carbon emissions, including data by sector. It then suggests actions that can be taken, and models carbon reduction impacts of these actions. From this, it proposes a set of carbon reduction targets or budgets for the City;
- **The Low Carbon and Environmental Economy in Plymouth** carried out by the Regional Economic Development Group at Plymouth Business School. This research examines the size and value of the low carbon economy in Plymouth, provides



forecasts of its future growth and an analysis of current and future skills needs. It also suggests actions for policy makers;

- **Attitudes to Low Carbon Reduction Issues**, carried out by the Marketing Works. It examines the attitudes of home owners, landlords and SMEs and recommends actions for promoting carbon reduction.

What has been achieved?

Producing an evidence base. The pilot has succeeded in producing an evidence base (through the three commissioned studies) which provides a carbon baseline, and identifies key issues and opportunities for action. This includes useful work on the low carbon economy, opportunities in different sectors and attitudes to behaviour change towards carbon reduction. The aim is to draw out the information into a Low Carbon Framework which will include a 5 year carbon budget.

Future carbon reductions through the carbon budget. The project was clear that it would not be actively seeking to reduce emissions during its progress. However, the project officer has confirmed that, *"as a partnership project, the outcomes will assist in reducing the city's carbon footprint by the targeted levels set out in the carbon budget. The evidence will underpin recommendations for citywide action to develop a low carbon economy and the skills required to reduce local emissions even further"*.

Challenges

Gaining support within the council at a time of strong financial pressure was identified as a key issue. The project officer stressed the need to gain council commitment and ensure strong local leadership if the partnership approach is to succeed.

Key lessons for other councils

Partnership working

The project was managed by the Plymouth Climate Change Commission, an expert advisory group on climate change and carbon management. Initiated by the Local Strategic Partnership's Wealthy Theme Group, the outcomes of the project will now be reported through the recently created citywide Growth Board to the Local Enterprise Partnership (LEP).

The Commission's involvement underpinned the principle of partnership that is central to this project and emphasised the importance of leadership and co-ordination (provided by the council) and stakeholder engagement (provided through the Chamber of Commerce, other business networks and local experts).

The project officer recommends *"partnership or LEP approaches to this issue as the council alone is only responsible for a certain percentage of change. Whilst it may take a little more time to build the trust and working relationships required for a successful partnership approach, the resulting benefits are clear."*

From experience, Plymouth's approach appears to question whether local authorities alone should be expected to take full responsibility for tackling climate change and the development of a low carbon economy, as it is now possible to evaluate exactly what

they can, and cannot, add to the process. The value of the carbon metrics tested in this element of the pilot project provides the evidence to suggest that the implications for Local Carbon Frameworks are broader than expected and that the delivery of local carbon budgets needs to address local circumstances. This is particularly important in the light of local authority budget cuts which are being replicated in the business sector as it is here that leading by example can become a key driver for positive action”.

The value of data

As already noted, the project is based on the importance of data to inform policy making. It also demonstrates the benefits gained from working with local academic institutions.

The research into the low carbon economy in Plymouth²¹ provided information on the size and value of the low carbon economy and analysis of skills needs. This could be a useful comparator for other councils. It also suggests actions for policy makers that may be transferable.

The research on attitudes to carbon reduction²² also provides useful data for Councils on the attitudes of homeowners, landlords and SMEs. It then recommends specific actions to target these three audiences which could be drawn on by other councils.

Replicating the work

The project officer suggests that “almost everything we have come up with so far could be used to guide other local authorities and partnerships and we have already started to do this”. Whilst not all the research needs to be replicated, the research outcomes should be disseminated.

Relevance to other councils

Relevant to all councils.

Outputs	<p>The outputs are the three pieces of research described above which are available on:</p> <p>http://www.plymouth.gov.uk/homepage/environmentandplanning/sustainableplymouth/susclimatechange/localcarbonframework.htm</p> <p>The council is also planning to make the learning available as formal training through the University of Plymouth.</p>
Contact	<p>Jackie Young Corporate Sustainability Manager Plymouth City Council Jacqueline.Young@plymouth.gov.uk 01752 304220</p>

²¹ *The Low Carbon and Environmental Economy in Plymouth*, by the Regional Economic Development Group at Plymouth Business School

²² *Attitudes to Low Carbon Reduction Issues*, by the Marketing Works



Implications for a council framework for climate change

The project has emphasised the value of an evidence-based approach to producing a council framework for climate change. It also demonstrates the benefits of a partnership approach in being able to draw on knowledge and resources wider than the council itself.

Enabling low carbon development – establishing a Plymouth Energy Services Company

Themes	Enhancing reputation, sustainable energy generation
Project Summary	The project is phase one of the development of an Energy Services Company (ESCo). The ESCo would invest in, deliver, manage and expand a District Energy network in Plymouth.
Learning outcomes	The project provides important learning to any council or partnership considering the development of an ESCo.
Applicability	Any urban council of reasonable size and density.
Replicable?	✓✓✓

Summary of key learning for other councils

- The involvement of a professional project manager has been an important success factor;
- It is important to spend time on developing and cultivating the project partnership;
- The project adopted an evidence-based approach, which was crucial in demonstrating the viability to partners and potential contractors.

What was this project trying to achieve?

To complete stage one of ESCo development, including feasibility studies and preparing for procurement.

What was the approach?

Feasibility study and energy study

The feasibility study has highlighted the commercial case for an ESCo to support significant new growth at a number of key locations in Plymouth, including Derriford, City Centre and Devonport. The ESCo would invest in, deliver, manage and expand a District Energy network in Plymouth, generating and distributing low carbon heat and electricity to key energy users in these locations.

Consortium development

A partnership approach has been taken. A consortium of key public sector partners has been established including the University of Plymouth and Plymouth Hospitals NHS Trust.

What has been achieved?

A detailed [Feasibility Study](#) and wider [energy study](#) have been completed

The partnership has been a central part of the work of setting up the ESCo and a key element of its success. In particular, the involvement of the NHS is crucial to the viability of the Derriford part of the project.

This project has already had an open day for potential bidders from the private sector and nine commercial bidders have expressed an interest in being involved in the formal OJEU²³ process. This has included the preferred developer for a new Energy from Waste facility proposed for North Yard in Devonport, which could also be integrated into a future network.

Challenges

Developing the partnership. Partnership working was crucial to the success of the project but also posed a number of problems. The project officer commented, *“Forming a partnership has been a challenge in its own right, as different organisations have different goals and objectives. It depends on the individuals and if their role is changed because of reorganisation, this slows down the process. Dealing with a hierarchical organisation like the NHS requires connections at different levels. There can be practical issues with arranging meetings, and when it comes to it you never knew who you were going to get in the room. This made consensus building difficult”.*

Key lessons for other councils

Professional project management

An important success factor has been the involvement a professional project manager. He has focussed on the project and has been persistent in setting up and dealing with the partnership members. He is also personally committed to the project. The project manager commented, *“I live here, and I work in the Council. I can see that it has cost-reduction benefits, and am committed to it personally, professionally and as a local resident”.*

Spending time on developing the partnership

It was important to spend a lot of time on developing the partnership. The success resulted from the ongoing personal contact of the project manager. It is also important to identify key individuals to work with and to understand how each partner organisation works, particularly in its decision making processes.

An evidence-based approach

The planning department has championed the ESCo. The planning approach of developing the evidence base first (energy study and feasibility study) has worked well, has helped give the partners confidence. It has been important to demonstrate that there is a commercial case. It was also useful to see other sites such as Southampton. This definitely helped sell it to the partners, with one of the partners become a strong advocate after a “light bulb moment” when he saw the potential of the scheme.

Replicability and relevance

This is relevant to and replicable by any urban council of reasonable size and density.

Outputs	Feasibility Study for an Energy Services Company in Plymouth: http://www.plymouth.gov.uk/homepage/environmentandplanning/planning
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²³ European Union requirement to procure through the Official Journal of the European Union (OJEU)



	/planningpolicy/ldf/ldfbackgroundreports/feasibilitystudyforesco.htm Plymouth City and Derriford Sustainable Energy Study: http://www.plymouth.gov.uk/homepage/environmentandplanning/planning/planningpolicy/ldf/ldfbackgroundreports/cityandderrifordsustainableenergystudy.htm
Contact	Jonathan Selman Urban Planning Co-ordinator Plymouth City Council jonathan.selman@plymouth.gov.uk 01752 307814

Implications for a council framework for climate change

District Heating Networks (DHNs) are an existing technology that in the right circumstances can provide a commercially viable local sustainable energy source. Their contribution is not only the provision of low or zero carbon energy sources, but as this project shows they can also result in the development of a partnership committed to carbon reduction and increased awareness of the issues. They are therefore important potential elements of climate change frameworks in large urban areas. However, the frameworks will need to recognise that DHNs require significant public sector support and partnership working.

4. In-depth learning theme findings

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 http://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 options²⁴.

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

²⁴ 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>

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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>
Contacts	<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>
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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 Towns²⁵ 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

²⁵ 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>
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Chapter 5. Discussion and recommendations

This chapter pulls together the overall learning from the evaluation, highlighting common challenges and lessons from across the Local Carbon Framework (LCF) pilot programme. It also makes recommendations to the Local Government Association (LGA), the Nottingham Declaration Board, the Department of Energy and Climate Change (DECC), the Department for Communities and Local Government (DCLG) and others on how to respond to these challenges and lessons. These recommendations are embedded in the main text, highlighted in italics and bold, and then summarised at the end of the chapter in table 2 for easy reference. The final chapter goes on to put forward proposals on developing a council framework on climate change.

Taking the learning forward

Learning: an evolving process

The full impact of the LCF pilot projects will not be known for some time. Many projects were still underway as the research for this took place. Furthermore, climate change is a long-term issue and so solutions and their impacts are as well. The learning from the programme will therefore not stop with the production of this report. It will continue to evolve, both from the projects themselves, but also as other councils apply and test the learning and tools from the programme.

(1) LGA, working with the Nottingham Declaration Board, should explore options to ensure that the evolving learning from the LCF pilots programme, and from wider council activity on climate change, is kept 'live', for example through web-based peer-review facilities or an online project wiki which could also be contributed to by other sectors.

Project outputs: testing and refining

The LCF pilots programme has produced a wide range of outputs that can be used by other councils. Some of these guidance documents and tools have been explicitly designed for other councils' use.

Others, however, were produced for the council or councils involved in the project. These are still useful to other councils, but would benefit from further development to make them more universally applicable. This would help to maximise the learning from the programme by making them more accessible and tailored for use for all councils.

(2) LGA and the Nottingham Declaration Board should seek to work with the LCF pilot councils to convert key outputs into universal tools and guidance documents where necessary.

In relation to this, the evaluation was not tasked with assessing the merits and effectiveness of the various tools and other outputs produced. In many cases, the councils involved are still 'road-testing' them. They would benefit in the future from some form of assessment of their efficacy to enable other councils to judge whether they would be useful for them to use themselves. This might be through an assessment by independent experts and / or through a peer review mechanism, allowing other councils to rate and provide feedback on their use.

(3) LGA and the Nottingham Declaration Board should consider ways in which to review the tools and other outputs from the LCF pilot programme to provide other councils with information about their efficacy and use, for example through a web-based peer review mechanism.

Quantifying impact

Quantifying the impact of projects and interventions has been difficult in at least two ways. Firstly, many projects are still under way and so the full impact of these won't be known for some time. Secondly, and more significantly, there has been no consistent standardised methodology for measuring impact and quantifying carbon emissions reduction²⁶.

This is partly because no standard method for baselining and quantifying carbon savings was established at the beginning of the LCF pilot programme²⁷. It is also, however, because the range of actions and interventions available to councils on carbon reduction are so broad and diverse that quantifying their impact is not always straightforward, particularly for 'softer' actions such as behavioural interventions or community capacity-building. Furthermore, where councils have attempted to measure the impact, they have not necessarily used similar or consistent data sets and methodologies, making it difficult to compare their relative impact.

Developing a more consistent, standardised method for quantifying impacts will be important as local government moves towards a sector-led approach to tackling climate change. It will provide councils with better information about the impacts of their own work, enable them to assess the impacts of 'like-for-like' projects run by different councils, and could make the impacts of their actions more understandable and more accountable to the wider public.

As highlighted in the 'mainstreaming carbon reduction' section in the previous chapter, a number of projects have sought to establish methods and tools for measuring carbon

²⁶ The EST 'Baseline Data and Methodology Review', published alongside this evaluation, was partly designed to explore these issues and provides a partial solution in terms of evaluating the various methodologies and data sources.

²⁷ DECC noted that the Government's original intention was to undertake a review for this purpose before the commencement of the pilots programme, but that this had not been possible due to changing political circumstances.

emissions savings. This provides a useful starting point for establishing a sector-wide approach to baselining and measuring carbon emissions, which should be built on in the future.

(4) LGA, DCLG, DECC and the Nottingham Declaration Board should seek to build on the learning from the LCF pilots programme to establish a sector-wide approach and framework for baselining and measuring carbon emissions, building on the EST work on baseline data and methodology. Advice from the Committee on Climate Change should be sought as part of this process.

An important pre-requisite for quantifying carbon emissions is having access to the requisite data. Data issues are discussed in more detail later in the chapter.

Scope

Whilst the LCF pilot programme encompassed a wide range of activities and interventions, it should be noted that there were limitations to its scope²⁸. The projects, for example, did not cover some key areas for council carbon saving, such as energy management on councils' own estate. They also tended to be focused on urban areas, although the lessons in many cases are universal. This issue of scope is important in relation to building on the LCF pilot programme to develop a council framework on climate change and is therefore discussed in more detail in the next chapter.

Common challenges and lessons

The previous chapter has already outlined some of key challenges and lessons from five learning themes: housing retrofit, sustainable energy generation, mainstreaming carbon reduction, enhancing reputation and winning hearts and minds. This section builds on this chapter by drawing together some of the key challenges and lessons from the programme as a whole.

Partnership working

Partnership working has been an integral part of many of the LCF pilot projects. Some of the pilots are centred on sub-regional partnerships between councils. Others have involved cross-sectoral collaboration. Many of the officers interviewed for this research considered working in partnership to be a challenge for councils, yet nonetheless they also felt that benefits of collaborating with others outweighed the difficulties that could arise.

The 'enhancing reputation' section in the previous chapter explores in detail the learning about partnership working, based on the experiences of five of the pilot projects. It is worth drawing out some of the wider learning on partnership working from the programme given its prevalence in so many of the projects.

²⁸ It should be noted that the projects were self-selected by the nine pilot areas and so reflect the areas where councils felt there was a need to explore, rather than being pre-determined by DECC.

It is clear from the experience of the pilots that working in partnership is important for any council working to reduce carbon emissions. Councils on their own only have direct control over a relatively small amount of their area's emissions. Working with others widens their sphere of influence in terms of carbon emissions and can create a pan-area response to developing a low carbon community, as many of the LCF projects demonstrate.

Partnerships don't just have to be geographic however. One of the findings from the Haringey retrofit project, for instance, was that partnership working would be important to achieve the scale necessary to develop an effective Green Deal offer, but that this could be done with non-neighbouring councils.

Making effective use of resources

Collaboration is particularly important given the economic challenges councils are currently facing. The pilots have shown that it enables councils and their partners to make more effective use of their resources through pooling of skills, knowledge, expertise and funding. To pick just two of many examples, strategic engagement with the private sector by the Greater Manchester pilot has enhanced the councils' capability to understand and attract private sector low carbon investment. In the Bournemouth, Poole and Dorset MAA pilot, the project on carbon accounting for household waste was enabled through each of the councils involved providing a small amount of funding to produce a tool for common use.

Increasing council buying power

Linked to this, many of LCF pilot projects demonstrate that councils can significantly increase their buying power through working together. Greater Manchester's approach to housing retrofit across ten councils led to valuable large strategic partnerships with suppliers such as British Gas, for example.

Further lessons about responding to economic challenges are discussed below.

The value of developing the evidence base

Many of the LCF pilot projects have enabled councils to develop the evidence base for addressing carbon emissions. In themselves, these studies will not result directly in carbon emissions reductions. Further steps will be required to move these studies from enhanced understanding to the implementation of carbon cutting activity.

Nevertheless, they have provided councils with a valuable foundation from which to base action and the evidence from the pilots suggests that they have enhanced councils' ability to deliver carbon savings in a number of ways:

- Improving decision-making. In many cases, the studies have enabled councils to quantify what the opportunities for carbon savings are, and therefore decide where they should concentrate their efforts to make the biggest difference. In other cases, such as Bournemouth, Dorset and Poole MAA's school journeys behavioural project, studies have provided councils with a more advanced understanding of local drivers for action;

- Increasing buy-in. Officers from the pilots reported that studies from their projects had enabled them to build a powerful business case for action within their council and beyond. This has enabled them to secure buy-in for carbon reduction activities from senior decision-makers and key partners. In Oxford, for example, the evidence-based approach had given key partners more confidence with one of the partners referring to a 'light bulb' moment when he realised the potential of the scheme in question;
- Accelerating action. Developing the evidence base enabled councils to identify concrete actions for carbon reduction. This has moved equipped councils to make the step from an ambition to cut carbon to having the practical tools and knowledge to make these cuts a reality. The lead of the Haringey pilot, for instance, had found that the projects had provided them with an action list for achieving the council's aim of reducing carbon emissions by 40% by 2020;
- Widening ownership. By highlighting what needs to be done, building the evidence base has also the widened ownership of the low carbon agenda. They have identified practical contributions that 'non-climate change' council departments and partnership organisations can make to the low carbon agenda. As one officer interviewed for the research commented, "it has moved the agenda from being something that the climate change team does to an issue that other departments now realise they can address, taking actions that also deliver on their own priorities".

Data

Building the evidence base has required councils to access or collect a wide range of data. This was not always been straightforward for the pilot projects however. A number of projects highlighted limitations or issues regarding data, as set out in table Annex A. These span a range of different areas, the most common concerning energy-related and housing-related data.

Not all pilot experiences of data were problematic. Some have highlighted innovative ways in which data can be used. Bournemouth, Dorset and Poole MAA's electric vehicle study, for instance, demonstrated how datasets such as Green ACORN and Google Earth can be combined to provide interesting assessments of the potential for some carbon emissions reduction measures. Some projects also highlighted the importance of collecting locally relevant data to making effective decisions, rather than relying on national datasets, which can be less informative about local needs.

(5) DECC, DCLG and LGA should facilitate interaction between that the councils concerned and the relevant decision makers and data set owners to highlight their experiences and discuss solutions to issues they have encountered.

Financial opportunities

Many of the pilot projects demonstrate tangible financial opportunities available to councils who prioritise a low carbon agenda, though more effective use of resources, securing external funding and generating income. This is particularly important given the UK Government is committed to reducing the UK's debt and reducing the annual deficit over the course of the next Parliament. This has led to significant spending

constraints for councils, who are re-thinking and re-prioritising the services they deliver. This has put pressure on resources previously earmarked for tackling climate change. The pilots demonstrate, however, that low carbon projects can be a way of securing economic development, creating new investment opportunities and achieving savings.

Achieving cost savings

The pilots demonstrate a number of ways in which councils can make direct cost savings. As highlighted earlier, partnership working can reduce project costs through pooling resources and increasing their buying power. As importantly, the projects themselves can lead to cost savings. Examples include invest-to-save projects such as Haringey's solar project, which the council predicts will achieve savings of £155,000 in reduced energy costs. Practical collaborations with other sectors can also relieve pressure on council resources; Bournemouth, Poole and Dorset MAA's community sustainable energy network project was designed with this aim in mind, whilst partnership with the private sector has led to valuable in-kind secondment arrangements in Greater Manchester.

Securing external funding

There remain significant opportunities for councils to secure external funding for low carbon projects. Whilst competition for external funding is likely to increase in the future, there is still likely to be significant amounts available. The Green Deal and the Energy Company Obligation (ECO)²⁹, for instance, will present opportunities for councils to secure millions of pounds to work on domestic retrofit in the future. Projects in Haringey, Leeds and Manchester are paving the way to enable the councils involved to take advantage of these opportunities, as highlighted in the previous chapter. As discussed in the following section, there are also significant opportunities for attracting private sector investment to support the local low carbon economy.

Generating income

The projects also highlight opportunities for councils to generate income. Bournemouth, Poole and Dorset MAA, for example, found that there are potentially significant economic benefits for the partners involved in decentralised energy schemes. Furthermore, Haringey's light supply licence project could make this schemes even more attractive by enabling councils and other providers to sell electricity at retail rather than wholesale rates. Haringey's solar PV project meanwhile is taking advantage of the FITs and will generate a predicted of over £250,000 a year³⁰.

Building on LCF pilot funding

According to the councils involved, the LCF pilot programme has enabled them to continue to make progress in reducing community-wide carbon emissions. This is because the process has raised the profile of the agenda within the council and

²⁹ At the time writing, DECC was due to publish its consultation on the Green Deal in Autumn 2011.

³⁰ Returns from FITs are likely to change following DECC's Phase 1 Review of FITs. See www.decc.gov.uk for more details.

incentivised councils to run the projects. Perhaps most significantly, the project funding from the LCF pilot programme was also critical to many of these projects.

The projects have provided direct benefits to the councils involved, but importantly these benefits also potentially extend to all councils. They have provided a suite of tools, guidance and experiences that will enable other councils to replicate their work at reduced, or even no, cost.

This suggests that a continued demonstration fund would be of significant value to realising the sector's potential contribution to meeting the UK Government's statutory climate change targets. The fund could be conditional on supporting projects that aimed to achieve value for money, only supporting projects that provided resources and experiences that allowed other councils to replicate the work to achieve carbon savings at no, or reduced, cost, or helped them to save money or generate income. Such a fund need not rely on government grant funding and a range of alternative funding options could be explored including opportunities for self-financing within the sector and other sources of grant funding.

(6) DECC, DCLG, LGA and the Nottingham Declaration Board should explore options to create a continued source of funding for council demonstration projects.

Corporate commitment

Strong, senior-level, corporate commitment was identified as a necessary success factor for many of the LCF pilot projects. Developing a sound business case, including demonstrating the financial or economic worth of the project to the council or the wider economy, was viewed as an important process in bringing senior decision-makers on board.

LCF pilot officers also emphasised how helpful the LCF pilot programme had been in securing the engagement and buy-in of Members and senior management on boards, particularly in light of the lack of national indicators driving this agenda. Similarly, Manchester said that their designation as a 'Low Carbon Economic Area' had been tremendously helpful in this regard; the designation didn't come with any funding, but it was nevertheless enough of a catalyst to allow for stretching targets to be agreed upon.

This suggests that such 'status-related' drivers can have an important effect in generating corporate 'excitement' and commitment in projects. In the absence of performance-related drivers, such as the national indicators, it will be important that the new Nottingham Declaration is designed in a way that galvanises and inspires senior decision-makers to set ambitious carbon targets.

(7) LGA and the Nottingham Declaration Board should ensure that the new Nottingham Declaration is designed in a way that generates corporate 'excitement' and commitment to the agenda and galvanises councils to set ambitious carbon targets.

Supporting the local economy

A number of the LCF projects demonstrate the potential for councils to support low carbon activity based on locally relevant economic issues. The food supply chain project in Bournemouth, Poole and Dorset, for instance, is aiming to reduce the carbon footprint of the food supply chain by supporting local produce. According to the Leeds City Region pilot, its low carbon economic analysis project has estimated that carbon saving action could result in £1bn in energy savings alone. The green enterprise growth project in the Haringey pilot, meanwhile, has been turning the heads of key decision-makers by demonstrating the job opportunities in the low carbon sector, highlighting that 15,000 jobs already existed in the sector and finding that energy-from-waste facilities can potential provide 1700-2000 local jobs.

Aligning low carbon activity with political priorities

Finally, this also demonstrates the value of linking low carbon action to other council priorities, be they economic or social. Many of the officers involved in the pilots stressed the importance of 'selling' low carbon projects using language tailored the political priorities of the council, such as fuel poverty, job creation, economic development or enabling the Big Society.

For many of the LCF practitioners the use of language could unite or even polarise. Often, the term 'climate change' was not effective in selling projects, whereas their experience had taught them terms such as 'low carbon', 'energy security' and 'fuel poverty' were more likely to engage decision-makers and other potential partners.

This is an important consideration for the LGA and the Nottingham Declaration Board given that the new declaration that will need to galvanise and inspire councils and their partners.

Summary of recommendations

The table summarises the recommendations embedded in the discussion sections above.

Table 2. LCF pilots evaluation recommendations

	Issue	Recommendation	Organisation(s)
1	Learning from LCF pilots will continue to evolve	Explore options to ensure that the evolving learning from the LCF pilots programme, and from wider council activity on climate change, is kept 'live', for example through web-based peer-review facilities or an online project wiki.	LGA and Nottingham Declaration Board
2	Not all LCF outputs	Work with the LCF pilot councils to	LGA and

	are designed for use by other councils	convert key outputs into universal tools and guidance documents where necessary.	Nottingham Declaration Board
3	LCF outputs would benefit from external testing and peer review	Consider ways in which to review the tools and other outputs from the LCF pilot programme to provide other councils with information about their efficacy and use, for example through a web-based peer review mechanism.	LGA and Nottingham Declaration Board
4	There is no sector-wide approach to baselining and measuring carbon emissions	Build on the learning from the LCF pilots programme by establishing a sector-wide approach and framework for baselining and measuring carbon emissions.	LGA, DECC, DCLG and Nottingham Declaration Board With advice from the Committee on Climate Change
5	The LCF pilots raised a number of data-related issues	Facilitate interaction between that the councils concerned and the relevant decision makers and data set owners to highlight their experiences and discuss solutions to issues they have encountered.	DECC, DCLG and LGA
6	LCF Pilot funding has provided value-for-money learning to help the sector meet national climate change sector targets	Explore options to create a continued source of funding for council demonstration projects, looking at both public and private sector investment opportunities.	DECC, DCLG, LGA and Nottingham Declaration Board
7	The need to secure corporate commitment and engagement in carbon reduction	Ensure that the new Nottingham Declaration is designed in a way that generates corporate 'excitement' and commitment to the agenda and galvanises councils to set ambitious carbon targets.	LGA and Nottingham Declaration Board

6. Towards a council framework on climate change

This chapter puts forward initial proposals for the development of a Council Framework on Climate Change. They are designed to provoke thought and discussion about what shape the framework might take and what further work will be required to develop it.

The chapter sets out the background to the idea of a council framework, puts forward initial proposals about how the framework might be structured and discusses the approach and next steps for developing the framework. It builds on a previous proposal developed by CAG Consultants in March 2011.

Background

The MoU between local and central government pledges to use the experience of the LCF pilots to “contribute to the design of a Council Framework on Climate Change that would act as a local plan on delivering carbon emissions, encapsulating the varying portfolios of carbon reduction measures relevant to individual or grouped councils”³¹.

The proposal to create a Council Framework on Climate Change stemmed from the pledge in the Local Government Offer on Climate Change to develop a “single journey for all councils in tackling climate change”³². This would enable councils to:

- Understand their local emissions;
- Identify local opportunities for improving energy efficiency, reducing emissions from transport, generating and supplying energy, tackling waste, and reducing fuel poverty;
- Understand the costs associated with these opportunities;
- Leverage funding for delivery;
- Produce a prospectus for private-sector, community and partnership delivery of opportunities;
- Produce a delivery plan that links into other partners and initiatives;
- Benchmark their success and progress against their peer councils;

³¹ Local Government Group and Department for Energy and Climate Change (2011), *Memorandum of Understanding between the LG Group and the Department of Energy and Climate Change*, 9 March 2011. Available from: www.decc.gov.uk

³² Local Government Group (2010), *Local Government's Offer on Climate Change*, September 2010. Available from: www.lga.gov.uk

- Share good practice, financial, legal and procurement agreements, technology, innovation, etc.
- Receive training for the skills development of council staff;
- Be accountable to their local people on their action on climate change; and
- Set out their contribution to reducing emissions locally and nationally.

Towards a council framework on climate change

Structure

The LCF pilot projects demonstrate the wide variety of action that can be taken by councils to achieve carbon emissions reductions. They also demonstrate the different scales appropriate to some actions and the suitability of various interventions to different council types, for example county, unitary or district councils, or urban and rural councils.

The Local Government Offer puts forward the idea of a single journey. For a number of reasons, it is unlikely that there is a single journey that all councils can take: different interventions will be more or less appropriate for different council types; council action needs to tie-in with other local priorities, such as job creation or tackling fuel poverty; and that innovation should be encouraged by providing councils the flexibility to forge their own path on their carbon journey.

Nevertheless, there are steps that all councils need to take, such as securing corporate commitment, setting baselines, saving own-estate energy and so on. And there are also key areas of intervention that apply to all councils. Therefore a universal framework for action is possible, and desirable, provided it is flexible enough to recognise differences between councils.

As a starting point for developing a framework for council action on climate change, figure 1 outlines a suggested structure through which to frame, collate and map the various interventions that councils can take. This is based around a tree analogy of roots (corporate commitment and skills), trunk (own estate and services) and branches (community-wide emissions, national initiatives). The idea builds on previous work to support councils, such as the Nottingham Declaration website and support tools; it is important that any Council Framework on Climate Change builds on such work.

Figure 1. A suggested structure for low carbon council activity

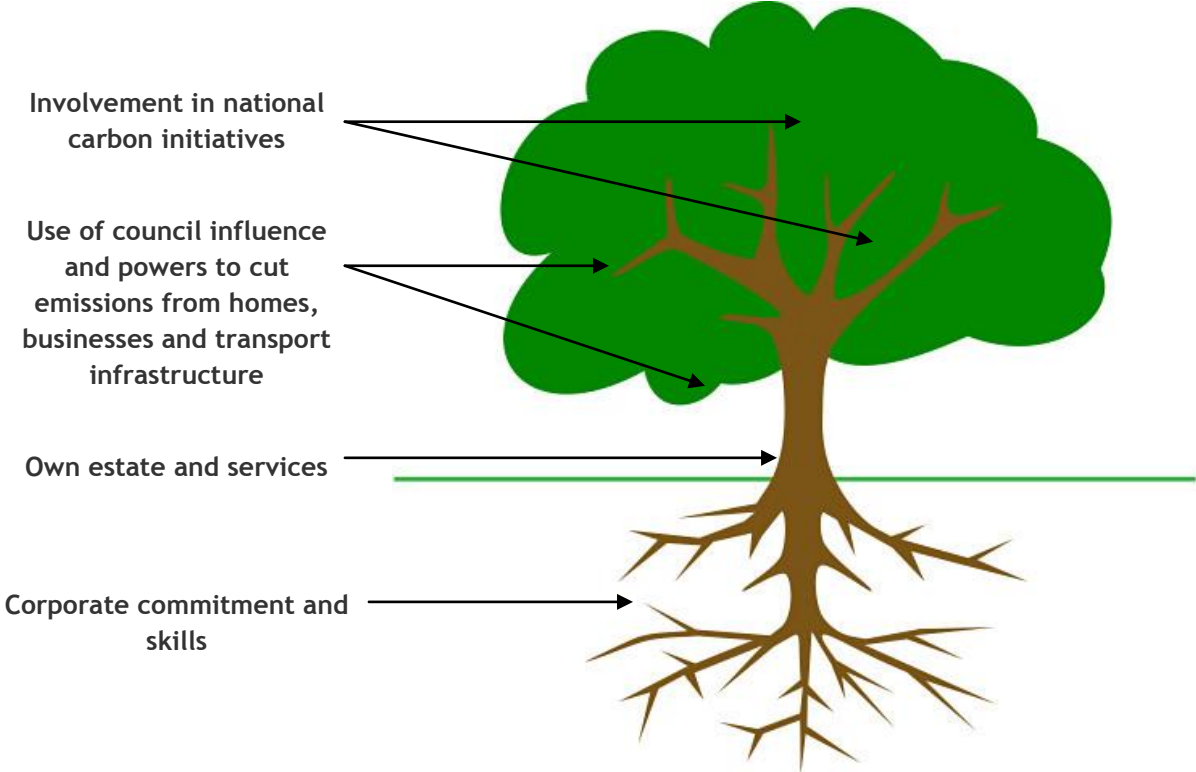


Table 3 below provides an indicative example of the types of activities that would be mapped against each of the four areas of intervention. Annex B develops this further by mapping the LCF projects and outputs against these four areas.

Table 3. Council Framework on Climate Change - example activities by intervention area

Element	Area of intervention	Example activities
Roots	1. Corporate commitment and skills	<ul style="list-style-type: none"> Engaging and enabling key decision-makers (Members, senior management, key departments and partners) Building capacity (skills development, training, tools) Establishing the evidence (setting baselines, developing strategy and setting targets) Securing funding and resources Reporting and monitoring
Trunk	2. Own estate and services	<ul style="list-style-type: none"> Saving energy on council estate Reducing emissions from transport (own fleet and services) Reducing procurement carbon footprint Workforce engagement
Branches	3. Addressing community-wide emissions	<ul style="list-style-type: none"> Reducing domestic emissions Tackling travel-related emissions Supporting public sector actions (schools, hospital, etc) Supporting a low carbon economy Supporting community action Low carbon energy generation
	4. Contributing to national carbon reduction initiatives	<ul style="list-style-type: none"> Supporting national initiatives at the local level e.g. Green Deal, smart meter roll out, renewable energy deployment

To allow for self-assessment or benchmarking, the framework could be developed to incorporate a 'stepped' approach to council progress on climate change, an indicative example of which is set out below in table 4. Importantly, this could also provide a means to develop a route map for councils with pointers about where to start and what interventions are most appropriate for them.

This stepped approach would highlight activities that all councils should be doing on each area of intervention (starting out), to actions that intermediate-level councils might be taking (getting there), to actions that the most advanced councils could take

(taking a lead). The examples given in the table are on corporate commitment, and are designed merely to provoke thought.

Table 4. Council Framework on Climate Change - example 'stepped' approach

Area of intervention	Activity	Progress			
		0. No action	1. Starting out	2. Getting there	3. Taking a lead
1. Corporate commitment and skills	Corporate commitment	Not started yet	Basic activities that all councils should be doing e.g. council has signed new Nottingham Declaration	Intermediate action, shows a good commitment and demonstrable progress e.g. council has developed a robust strategy backed up with senior-level commitment from council and key partners	Advanced or innovative action. Demonstrates leadership in this area e.g. council has demonstrated senior-level leadership, contributing to sector-wide learning and part of national debate
	Capacity-building				
	Evidence base				
	Funding and resources				
	Reporting and monitoring				
2. Own estate and services	-				
3. Addressing community-wide emissions	-				
4. Contributing to national carbon reduction initiatives	-				

A stepped approach would need to be flexible enough to recognise that some activities will more or less relevant to all councils, depending on their areas of responsibility and locally-specific factors like geographical location, urban density and so on. It should also recognise that not all councils will take sequential approach to taking action and that the steps outlined are there as a guide.

Some areas of intervention and activities will also be more difficult to grade than others, particularly areas that require 'softer' or harder-to-measure interventions such as behavioural change measures or community capacity-building.

Some actions would be cross-cutting, and others would be very specific to a particular council department or function.

Features

Within this broad structure, the framework could include some or all of the following features:

- A map, or portfolio, of activities for each area of intervention, highlighting which councils that are most appropriate for;
- Links to case studies, tools, guidance, training and other support related to these different activities;
- A facility to peer review the outputs linked above, to enable councils to make an informed decision about which is the most appropriate for them;
- A facility to self-assess or benchmark progress against councils. This could be designed in a way that allowed councils to compare themselves against all councils as well 'like-for-like' comparisons; and
- Potentially provide a platform for members of the public to also view and compare council progress.

This could also be linked to facility that provided a more quantitative understanding of council progress, with data being collected and reporting for example of community-wide emissions and other indicators of performance. This would be dependent on standardised data being available sector-wide. Again, this could be a facility for a council use only or a more publicly accessible one.

The result could be a whole library of information. The emphasis therefore would need to be creating something that makes it easy for interested individuals to access the information that is appropriate for them. A web-based facility would provide maximum flexibility and accessibility in this regard.

Building on the LCF pilots programme

The LGA and the Nottingham Declaration Board need to consider what features a Council Framework on Climate Change will require. The previous section provides some initial ideas as to what these might be. This will determine what further work is required in order to develop an effective framework.

It is also worth considering the extent to which the learning from the LCF pilots evaluation already provides the sector with the basis for developing a framework. As a foundation for further action:

- The pilot projects provide an excellent starting point for populating a portfolio of actions that councils can take against different areas of intervention;
- The evaluation has, broadly speaking, provided a good sense of the appropriate scale at which these activities should happen, and for which council types they are most suited to; and
- The projects have been producing a plethora of guidance, tools and other outputs useful to other councils and that could be incorporated into the framework.

To build on the work further, it should be noted that:

- The activities and actions taken by the pilot projects are not comprehensive. In terms of populating the proposed structure for the framework, further work would need to be done to source further examples, tools and outputs. There are plenty of resources already available for doing this. Table 5 highlights some of these;
- As discussed in the previous chapter, further work needs to be done to convert some of the outputs from the LCF pilots evaluation from internal-facing, council-specific outputs into more generic, universally applicable ones;
- As also discussed in the previous chapter, the outputs would benefit from peer review and/or or further testing; and
- Many of the projects are still underway, so a mechanism to capture evolving learning will be important.

Table 5. Potential resources for populating a council framework on climate change

Potential information sources
Nottingham Declaration website and action plan support
Practical help tools and resources on EST’s website
Carbon Trust tools and resources for councils
Existing climate change benchmarks (e.g. CAG developed benchmarks on climate change and sustainable energy)
Environment tools database
IDeA website
Beacon Councils examples

Sector-led development

Finally, development of the framework will also need to be based on the experience and feedback of councils themselves. This will help to ensure that is meaningful, practical and that it has a sense of ownership across the sector. Effective engagement and consultation with councils will therefore be vital.

The LCF pilot councils form the nucleus of a group that could be used as a sounding board, but engagement will need to extend to encompass a wide range of councils with different levels of existing progress, commitment, resources, priorities and responsibilities.

It would also be helpful to extend engagement beyond climate change and sustainability officers, incorporating feedback from Members, senior management, officers representing key departments such as planning and finance, and representatives from key delivery partners.

Annex A. Data issues

This table summarises key data encountered by the LCF pilots, discussed in section 5.2.

Table 6. Data issues encountered by LCF pilot projects

Project	Data issue
Bournemouth, Poole and Dorset Multi-Area Agreement (MAA) area-based approach domestic energy efficiency project	The results of modelling exercises such as Vantage point are not useful in the project area because the housing stock is non-standard. Therefore, a significant amount of local data is needed and has to be collated
Dorset Energy Group renewable energy strategy	Concerns about limitations of national data for some resources e.g. geographical scale used for wind resource estimation failing to exclude all area where physical constraints (e.g. roads or inland waterways) would prevent development; and the exclusion of non-food organic waste from Environment Agency data on biomass
Bournemouth, Poole and Dorset MAA electric vehicle charging demand study	The extent to which Green ACORN accurately represents the likely demand for EV charging. This uncertainty includes whether or not the profiles accurately match the households in the area, and also whether or not the council has chosen to focus on the right profile in determining demand for EV charging
Bristol area-based solar scheme	The mapping of community solar potential relied on collecting new raw data. This was delivered a month late due to weather conditions, which had knock-on effects in terms of the project timeframe
Bristol City Council procurement carbon footprinting project	The project found that further process-based data should be sought to understand specific opportunities for product substitution or efficiency gains. This could include obtaining data from suppliers relating to the carbon footprints of the commodities they produce, but most suppliers do not currently have the capability for this kind of reporting
Bristol Smart City	There were challenges around quantifying the potential carbon savings from smart technology initiatives; other projects do not always publish this data. Also, this is a new area so there is in general a lack of data, making it necessary to 'dig deep' to find out what works

<p>Bristol sustainable buildings standards evidence</p>	<p>Getting hold of data on costs was a challenge</p> <p>The industry itself was not able to provide information on the costs of building to high levels of the Code</p> <p>Much of the available data was out of date. For example, the government produced a report on the cost of building to different levels of the Code, but this was published just before Feed in Tariffs were introduced, so the costs were immediately out of date</p> <p>The definition of 'zero carbon' was changed halfway through this project with the result that Code 6 will no longer be specified through Building Regulations. This means that the data relating to Code 6 will only be of use if a council chooses to set its own local requirement that new developments are built to this standard</p>
<p>Greater Manchester carbon metrics framework</p>	<p>The project officers felt that a lack of national consistency and standardisation would hamper the ability to measure the UK's progress against national targets</p> <p>There were significant technical data challenges especially to establish an area (cross council)-based carbon production data-set. The use of the ENIGMA air quality data set has helped to create this data set although there are still issues with completeness (there are gaps in data collection) and baselines</p>
<p>Haringey Council domestic and commercial retrofit project</p>	<p>Haringey'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</p> <p>Accessing data was particularly difficult and getting hold of private sector stock data was real challenge. For example, using Home Energy Efficiency Database (HEED) data at an address level was also not possible because of data protection requirements, although a compromise was reached allowing the use of census-level information</p>
<p>Leeds City Region domestic energy and efficiency programme</p>	<p>Testing the EPC data has shown there are gaps. For example, EPCs don't pick up pre-1920 properties. They also don't gather the information that the market would value in order to develop wider measures e.g. on renewables</p>
<p>Leeds City Region low carbon economic analysis</p>	<p>The study has been based on the Climate Change Committee's MACC (Marginal Abatement Cost Curve) methodology, where possible replacing national data with locally relevant data. It has proved a complex process requiring a very long list of datasets. Issues raised by the analysis have been identified and the Committee on Climate Change (CCC) and DECC who are</p>

	<p>undertaking a 'health check' on the MACC data set</p> <p>Problems encountered include that some of the national models, for example on transport, are related in MACC to actions that can only be taken by national government - e.g. on vehicle efficiency - whereas a local study needs to identify actions that could be taken by the sub-region or individual councils</p>
Nottingham City Council energy mapping project	Availability of some of the data - e.g. some DEC information - was an issue. The pilot was forced to select lots of static data because live data wasn't available. Specifically, EPC data and distribution network data wasn't available
Oxford City Council OxCO ₂ project	Need for community level baseline energy data in order to show carbon reductions

Annex B. LCF pilot activity map

The table below maps out LCF pilot projects and outputs against the indicative council framework structure outlined in chapter 6. Some projects have been listed more than once where they fall into more than one category. The map is not definitive, but is intended instead to provide the basis for discussion and development of a structure for a council framework on climate change.

Key:

Bournemouth, Dorset and Poole Multi-Area Agreement (BDP)
Bristol City Council (Bri)
Leeds City Region (LCR)
London Borough of Haringey (Har)
Manchester City Region (MCR)
Northumberland County Council (Nor)
Nottingham City Council (Not)
Oxford City Council (Oxf)
Plymouth City Council (Ply)

(int) = primarily for internal use, specific to that pilot area, although may also have wider applicability and contain useful information for other councils.

(ext) = tool or output designed for use by all councils

Table 7. LCF activity against proposed sections within the Framework for Councils on Climate Change

Element	Area of intervention	Example activities	LCF pilot projects	Published or anticipated resources for other councils
Roots	1. Corporate commitment and skills	Engaging and enabling key decision-makers (Members, senior management, key departments and partners)	Critical local authority leadership skills for LCF delivery (Bri)	Low carbon training toolkit (ext)
			Carbon costing toolkit (Bri)	Carbon costing toolkit (ext)
		Establishing the evidence (setting baselines, developing strategy and setting targets)	Carbon metrics framework (MCR)	Data set and framework; total carbon footprint tool (int)
			Final steps towards a low carbon economy – carbon metrics, aspects of behaviour change and the provision of clear guidance on future delivery (Ply)	Three research reports (int)
		Building capacity (skills development, training, tools)	Critical local authority leadership skills for LCF delivery (Bri)	Low carbon training toolkit (ext)
		Securing funding and resources	-	-
		Reporting and monitoring	Carbon costing toolkit (Bri)	Carbon costing toolkit (ext)
Trunk	2. Own estate and services	Reducing emissions from council estate buildings	Inter-borough solar renewable energy opportunity analysis, framework contract and buying groups (Har)	Three project reports (int); possibly a tool (ext)
			Progressing area-based solar schemes (Bri)	Guidance documents (ext)
		Reducing emissions from transport (own fleet and services)	-	-
		Reducing procurement carbon footprint	Undertaking a carbon footprint of Bristol City Council's procurement including outsourced services (Bri)	Carbon footprint of procurement report and guidance (ext)
		Workforce engagement	-	-

	Reducing emissions through council services	Carbon accounting for household waste prevention activities (BDP)	Carbon accounting tool for waste reduction and waste management (ext)
		Enabling large-scale carbon reduction projects for Oxford (Oxf)	Business case (int/ext)
		Energy-from-Waste project (BDP)	Project reports (int)
		Northumberland services to rural communities project (Nor)	-
		Sustainable building standards evidence (Bri)	Project report, incl. costs of sustainable building nationally (int)
Branches	3. Addressing community-wide emissions	Area-based approach: maximising potential of appropriate energy efficient home improvement (BDP)	Summary report of housing stock analysis, incl. methodology used (int)
		Domestic and commercial retrofit project (Har)	Project report (int); process for collating housing stock data (ext); structure of analytical database (ext)
		Domestic energy efficiency programme (LCR)	Project report (int)
		Greater Manchester housing retrofit programme (MCR)	Report on integrating behaviour change into housing retrofit (int/ext); domestic retrofit report (int/ext)
		Northumberland insulating hard-to-treat properties (Nor)	-
		Sustainable building standards evidence (Bri)	Project report, incl. costs of sustainable building nationally (int)
	Tackling community-wide travel-related emissions	Electric vehicle charging demand study (BDP)	
		Identifying the market for behaviour change interventions to encourage a switch to low carbon travel (BDP)	A report on initial stages of the work (int)
		Reducing car use and carbon associated with the school journey (BDP)	A report on the findings of the interviews with mothers (int)

Supporting public sector actions (schools, hospital, etc)	Inter-borough solar renewable energy opportunity analysis, framework contract and buying groups (Har)	Three project reports (int); possibly a tool (ext)
	Progressing area-based solar schemes (Bri)	Guidance documents (ext)
Supporting a low carbon economy	Bristol Smart City (Bri)	Project report; Smart City Bristol Benchmark (int)
	Commercial property retrofit fund (LCR)	Project report (int)
	Developing a sustainable food supply chain (BDP)	A report on phase one of the project (int)
	Energy plan and energy action and investment framework (MCR)	Open source consultation platform (ext); energy plan (int); template and guidance (ext)
	Green enterprise growth study (Har)	Project report (int)
	Northumberland land management for carbon (Nor)	Guidance and toolkit for land carbon (ext)
	Local renewable energy investment strategy and prospectuses (LCR)	Project report (int)
	Low carbon economic analysis (LCR)	Project reports (int)
	Low carbon investment appraisal (MCR)	Investment appraisal model (ext)
	Community sustainable energy network (BDP)	-
Supporting community action	Community energy support programme (Bri)	Project report (int)
	Community pathways to action on climate change (Bri)	Website (ext)
	Northumberland: zero carbon Lindisfarne; facilitating community leadership and exchange; carbon reduction pilot programme (Nor)	-
	A partnership approach to carbon reduction across the city of	Quicksilver carbon calculator; energy measuring support; The Hub: Low Carbon

	Oxford (Oxf)	Living website (all ext)
	Progressing area-based solar schemes (Bri)	Guidance (ext)
	Community energy support programme (Bri)	Project report (int)
	Developing a standard methodology for an area based energy, climate and peak oil resilience strategy and plan (Bri)	Project report (int)
	Developing low carbon generation capacity and awareness through energy mapping (Not)	Case studies, project methodology and data lists (ext)
	Enabling large-scale carbon reduction projects for Oxford (Oxf)	Business case (int/ext)
	Enabling low carbon development: establishing a Plymouth EScO (Ply)	Feasibility study and energy study (int)
	Energy-from-Waste project (BDP)	Project reports (int)
Low carbon energy generation	Energy Masterplanning Toolkit (Har)	Energy masterplanning guidance and tool (ext)
	Energy plan and energy action and investment framework (MCR)	Open source consultation platform (ext); energy plan (int); template and guidance (ext)
	Inter-borough solar renewable energy opportunity analysis, framework contract and buying groups (Har)	Three project reports (int); possibly a tool (ext)
	Light supply licence project (Har)	Draft supplier services agreement; discussion paper (ext)
	Local renewable energy investment strategy and prospectuses (LCR)	Project report (int)
	Low carbon CHP and district heating study (BDP)	Specification for the feasibility study tender; reports on phases 1 and 2 of the feasibility study (int)

		Northumberland: carbon reduction pilot programme; Hexham Abbey renewable energy and low carbon technology project; renewable energy opportunities in Upper Coquetdale (Nor)	-
		Progressing area-based solar schemes (Bri)	Guidance (ext)
		Renewable energy strategy review (BDP)	Consultation materials from the strategy review, including details of a renewable energy resources assessment (int)
4. Contributing to national carbon reduction initiatives	Supporting national initiatives at the local level e.g. Green Deal, smart meter roll out, renewable energy deployment	Many of the above projects will contribute to national objectives such as Green Deal (particularly domestic emissions projects) and renewable energy deployment (particularly low carbon energy generation projects)	-