



## Evaluation of the Local Carbon Framework Pilots

### 3. Project summaries

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

November 2011

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# 3. Project summaries

## Note to reader

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

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
<b>A. BOURNEMOUTH, DORSET AND POOLE MULTI-AREA AGREEMENT</b>												
<a href="#">Area based approach: maximising potential of appropriate energy efficient home improvement</a>												
<a href="#">Carbon accounting for household waste prevention activities</a>												
<a href="#">Community Sustainable Energy Network</a>												
<a href="#">Developing a sustainable food supply chain for Bournemouth, Dorset and Poole</a>												
<a href="#">Dorset Energy group Renewable Energy Strategy Review</a>												
<a href="#">Electric vehicle charging demand study</a>												
<a href="#">Energy from Waste</a>												
<a href="#">Identifying the market for behaviour change interventions to encourage a switch to low carbon travel</a>												
<a href="#">Low carbon CHP and district heating study</a>												
<a href="#">Reducing car use and carbon associated with the school journey</a>												
<b>B. BRISTOL CITY COUNCIL</b>												
<a href="#">Carbon costing toolkit</a>												
<a href="#">Community Energy Support Programme</a>												
<a href="#">Community pathways to action on climate change</a>												
<a href="#">Critical local council leadership skills for LCF delivery</a>												

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

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 href="#">Greater Manchester Energy Plan: an Energy Action and Investment Framework</a>												
<a href="#">Low Carbon Investment Appraisal</a>												
<b>F. NORTHUMBERLAND COUNTY COUNCIL</b>												
<a href="#">Delivering community leadership on climate change and implementing carbon reduction within protected historic and natural environments</a>												
<b>G. NOTTINGHAM CITY COUNCIL</b>												
<a href="#">Developing low carbon generation capacity and awareness through energy mapping</a>												
<b>H. OXFORD CITY COUNCIL</b>												
<a href="#">A partnership approach to carbon reduction across the city of Oxford (OxCO<sub>2</sub>)</a>												
<a href="#">Enabling large-scale carbon reduction projects for Oxford: Producing a standardised outline business case for renewable energy deployment.</a>												
<b>I. PLYMOUTH CITY COUNCIL</b>												
<a href="#">Final steps towards a low carbon economy- carbon metrics, aspects of behaviour change and the provision of clear guidance on future delivery</a>												
<a href="#">Enabling low carbon development – establishing a Plymouth Energy Services Company.</a>												

## 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

<b>Learning Themes</b>	Housing retrofit / Green Deal
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	Potentially relevant for any council, but perhaps of most relevance in areas where there is a significant amount of non-traditional housing stock.
<b>Replicable?</b>	✓✓

### 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.

<b>Outputs</b>	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.
<b>Contact</b>	Jon Bird

Energy Efficiency Development Officer Dorset County Council <a href="mailto:j.bird@dorsetcc.gov.uk">j.bird@dorsetcc.gov.uk</a> 01305 221 895
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### **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

<b>Learning Themes</b>	Mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	Awareness of a toolkit that can help to incorporate carbon reduction in the planning of household waste prevention activities.
<b>Applicability</b>	The tool is relevant to all councils
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	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.
<b>Contact</b>	Marten Gregory Waste Reduction Officer Dorset County Council <a href="mailto:m.k.gregory@dorsetcc.gov.uk">m.k.gregory@dorsetcc.gov.uk</a> 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

<b>Learning Themes</b>	Winning hearts and minds
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	This project demonstrates how a web resource to support community energy action can be developed and implemented.
<b>Applicability</b>	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.
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	Community energy web resource on the Sustainable Dorset website <a href="http://www.sustainabledorset.org.uk/community-energy">http://www.sustainabledorset.org.uk/community-energy</a>
<b>Contact</b>	Pete West Renewable Energy Development Officer Dorset County Council <a href="mailto:P.West@dorsetcc.gov.uk">P.West@dorsetcc.gov.uk</a> 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

<b>Learning Themes</b>	Winning hearts and minds
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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).
<b>Applicability</b>	Most relevant for urban centres with nearby rural areas.
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	The Dorset Urban Food Project Phase One: Final Report <a href="http://www.bournemouth.gov.uk/Environment/Sustainability/TheDorsetUrbanFoodProject.aspx">www.bournemouth.gov.uk/Environment/Sustainability/TheDorsetUrbanFoodProject.aspx</a>
<b>Contact</b>	Lee Green Environmental Strategy and Sustainability Manager Bournemouth Borough Council <a href="mailto:Lee.Green@Bournemouth.gov.uk">Lee.Green@Bournemouth.gov.uk</a> 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

<b>Learning Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	City-regions, counties and sub-regions
<b>Replicable?</b>	✓✓✓

### 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 assessment<sup>1</sup> 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.

<sup>1</sup> 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.

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

<b>Learning Themes</b>	Mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	Any council
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	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.
<b>Contact</b>	Adam Bows Principal Transport Planner (Strategy) Dorset County Council <a href="mailto:a.bows@dorsetcc.gov.uk">a.bows@dorsetcc.gov.uk</a> 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

<b>Learning Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	This project highlights the potential for significant carbon emissions reductions by using new options for waste management.
<b>Applicability</b>	Any council that is keen to look at new ways to tackle waste management.
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	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 <a href="http://www.boroughofpoole.com/environment/sustainability-and-carbon-reduction/carbon-management-programme/">http://www.boroughofpoole.com/environment/sustainability-and-carbon-reduction/carbon-management-programme/</a>
<b>Contact</b>	Paul Cooling Carbon Reduction Manager Borough of Poole <a href="mailto:p.cooling@poole.gov.uk">p.cooling@poole.gov.uk</a> 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

<b>Learning Themes</b>	Winning hearts and minds
<b>Project Summary</b>	Carrying out market research to segment the Dorset sub-region according to its potential for a successful travel behaviour change campaign.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	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.
<b>Replicable?</b>	✓✓✓

### 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 Choices<sup>2</sup> 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 data<sup>3</sup>) 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.

<sup>2</sup> 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.

<sup>3</sup> 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 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.

<b>Outputs</b>	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.
<b>Contact</b>	Adam Bows Principal Transport Planner Dorset County Council <a href="mailto:a.bows@dorsetcc.gov.uk">a.bows@dorsetcc.gov.uk</a> 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

<b>Learning Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	Urban areas, preferably for councils that already have a track record in action on carbon emissions reduction.
<b>Replicable?</b>	✓✓✓

### 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 CRC<sup>4</sup> 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

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<sup>4</sup> 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.

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

**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

<b>Learning Themes</b>	Winning hearts and minds
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	An understanding of the usefulness of investigating reasons behind choices before designing behaviour change interventions.
<b>Applicability</b>	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.
<b>Replicable?</b>	✓✓

### 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.

<b>Outputs</b>	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.
<b>Contact</b>	Adam Bows Principal Transport Planner (Strategy) Dorset County Council <a href="mailto:a.bows@dorsetcc.gov.uk">a.bows@dorsetcc.gov.uk</a> 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

<b>Learning Themes</b>	Enhancing reputation, mainstreaming climate change
<b>Project Summary</b>	This toolkit has been used to assess CO <sup>2</sup> 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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	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.
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	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: <a href="http://www.bristol.gov.uk/page/council-action-climate-change">http://www.bristol.gov.uk/page/council-action-climate-change</a>
<b>Contact</b>	Margot McGinty Bristol City Council <a href="mailto:margot.mcginty@bristol.gov.uk">C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\margot.mcginty@bristol.gov.uk</a> 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

<b>Learning Themes</b>	Winning hearts and minds, sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	All councils
<b>Replicable?</b>	✓✓✓

### 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 fruition<sup>5</sup>.

### 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

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<sup>5</sup> 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.

<b>Outputs</b>	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: <a href="http://www.bristol.gov.uk/page/council-action-climate-change">http://www.bristol.gov.uk/page/council-action-climate-change</a>
<b>Contact</b>	Graham Starmer Bristol City Council <a href="mailto:graham.starmer@bristol.gov.uk">graham.starmer@bristol.gov.uk</a> 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

<b>Learning Themes</b>	Winning hearts and minds, mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	Councils can provide a key role in supporting communities to take action on climate change, without necessarily having to provide any direct funding.
<b>Applicability</b>	All councils
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	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: <a href="http://www.bristol.gov.uk/page/council-action-climate-change">http://www.bristol.gov.uk/page/council-action-climate-change</a>
<b>Contact</b>	Steve Marriott Bristol City Council <a href="mailto:steve.marriott@bristol.gov.uk">steve.marriott@bristol.gov.uk</a> 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

<b>Learning Themes</b>	Enhancing reputation, mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	Whilst the toolkit has been developed by a metropolitan council, there are some parts of the toolkit that will be relevant to any council.
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	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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	<a href="http://www.bristol.gov.uk/page/council-action-climate-change">http://www.bristol.gov.uk/page/council-action-climate-change</a>
<b>Contact</b>	Steve Marriott Bristol City Council <a href="mailto:steve.marriott@bristol.gov.uk">steve.marriott@bristol.gov.uk</a> 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

<b>Learning Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	The detailed methodology will provide useful learning for other councils
<b>Applicability</b>	It will be relevant to other councils with area-based regeneration schemes or developments.
<b>Replicable?</b>	✓✓✓

### 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 TIF<sup>6</sup> (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.

<sup>6</sup> 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.

<b>Outputs</b>	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:  <a href="http://www.bristol.gov.uk/page/council-action-climate-change">http://www.bristol.gov.uk/page/council-action-climate-change</a>
<b>Contact</b>	Steve Marriott Bristol City Council <a href="mailto:steve.marriott@bristol.gov.uk">C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\steve.marriott@bristol.gov.uk</a> 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

<b>Learning Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	<p>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.</p> <p>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.</p>
<b>Applicability</b>	<p>This is most relevant to councils with a large urban area and therefore the potential for significant amounts of solar energy generation on rooftops.</p> <p>The guidance for schools and community groups is relevant nationally.</p>
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	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:  <a href="http://www.bristol.gov.uk/page/council-action-climate-change">http://www.bristol.gov.uk/page/council-action-climate-change</a>
<b>Contact</b>	Kieran Highman Bristol City Council <a href="mailto:kieran.highman@bristol.gov.uk">C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\kieran.highman@bristol.gov.uk</a> 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

<b>Learning Themes</b>	Enhancing reputation, mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	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.
<b>Replicable?</b>	✓✓✓

### 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.

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

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

### 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 BREEAM<sup>7</sup>/Code for Sustainable Homes levels<sup>8</sup>(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:

<sup>7</sup> BRE Environmental Assessment Method (BREEAM) is an environmental impact rating for non-domestic buildings, established by the Building Research Establishment (BRE).

<sup>8</sup> 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).

<b>Outputs</b>	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: <a href="http://www.bristol.gov.uk/page/council-action-climate-change">http://www.bristol.gov.uk/page/council-action-climate-change</a>
<b>Contact</b>	Celia Beeson, Bristol City Council <a href="mailto:celia.beeson@bristol.gov.uk">C:\WINNT\Profiles\taylor\Local Settings\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\5630NW7F\celia.beeson@bristol.gov.uk</a> 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

<b>Learning Themes</b>	Mainstreaming climate change
<b>Project Summary</b>	A methodology and guidance for calculating the carbon footprint of council procurement.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	All councils
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	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: <a href="http://www.bristol.gov.uk/page/council-action-climate-change">http://www.bristol.gov.uk/page/council-action-climate-change</a>
<b>Contact</b>	Christine Storry Bristol City Council <a href="mailto:christine.storry@bristol.gov.uk">christine.storry@bristol.gov.uk</a> 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

<b>Learning Themes</b>	Other (commercial property retrofit)
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	Councils in dense urban areas
<b>Replicable?</b>	✓✓

### 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.

<b>Outputs</b>	The report 'Supporting Carbon Reduction in Commercial Properties' is available on:  <a href="http://www.leedscityregion.gov.uk/uploadedFiles/Research_and_Publications/MAA/Leeds%20Report%20for%20External%20Use.pdf">http://www.leedscityregion.gov.uk/uploadedFiles/Research_and_Publications/MAA/Leeds%20Report%20for%20External%20Use.pdf</a>
<b>Contact</b>	Melanie Taylor Project Manager Leeds City Region <a href="mailto:Melanie.Taylor@leeds.gov.uk">Melanie.Taylor@leeds.gov.uk</a> 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)

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

### 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 23<sup>rd</sup> 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.

<b>Outputs</b>	The project report will be made available on the Leeds City Region website: <a href="http://www.leedscityregion.gov.uk">www.leedscityregion.gov.uk</a>
<b>Contact</b>	Colin Blackburn Leeds City Region <a href="mailto:colin.blackburn@leeds.gov.uk">colin.blackburn@leeds.gov.uk</a> 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

<b>Learning Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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
<b>Learning outcomes</b>	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.
<b>Applicability</b>	High density urban areas
<b>Replicable?</b>	✓

### 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.

<b>Outputs</b>	The project report will be available on the Leeds City Region website: <a href="http://www.leedscityregion.gov.uk">www.leedscityregion.gov.uk</a>
<b>Contact</b>	Melanie Taylor Project Manager Leeds City Region <a href="mailto:Melanie.Taylor@leeds.gov.uk">Melanie.Taylor@leeds.gov.uk</a> 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

<b>Learning Themes</b>	Enhancing reputation, mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	The study identifies the core requirements for undertaking such an analysis.
<b>Applicability</b>	Theoretically relevant to all councils, but may be too onerous for small councils to undertake on their own
<b>Replicable?</b>	✓✓

### 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.<sup>9</sup> 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.

<sup>9</sup> [http://www.hm-treasury.gov.uk/sternreview\\_index.htm](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.

<b>Outputs</b>	The outputs will be an interim and final report. These will be made available on the Leeds City Region website: <a href="http://www.leedscityregion.gov.uk">www.leedscityregion.gov.uk</a>
<b>Contact</b>	Melanie Taylor Project Manager Leeds City Region <a href="mailto:Melanie.Taylor@leeds.gov.uk">Melanie.Taylor@leeds.gov.uk</a> 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 an 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

<b>Themes</b>	Housing retrofit / Green Deal, mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	All councils with housing responsibilities. County councils could play a coordinating role in a sub-regional partnership.
<b>Replicable?</b>	✓✓✓

### 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 CO<sub>2</sub> 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 Boroughs<sup>10</sup> 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 Camco<sup>11</sup> to develop an understanding of a detailed housing stock analysis and opportunity mapping for retrofit, comprehensive individual

<sup>10</sup> A consortium of six London Boroughs: Camden, Hackney, Haringey, Islington, Newham and Waltham Forest.

<sup>11</sup> Camco is a low carbon energy and sustainable development consultancy [www.camcoglobal.com](http://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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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% CO<sub>2</sub> 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 CO<sub>2</sub> 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.

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

<b>Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	The toolkit is a useful resource for any council interested in investigating heat generation potential in its area.
<b>Applicability</b>	The toolkit can be used by all councils, at any scale, particularly relevant to urban areas.
<b>Replicable?</b>	✓✓✓

### 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 CO<sub>2</sub> 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.

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

<b>Themes</b>	Carbon saving, sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	The project has examined the benefits and difficulties of a strategic approach to solar PV and solar thermal.
<b>Applicability</b>	All councils
<b>Replicable?</b>	✓✓✓

### 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 savings<sup>12</sup>;
- 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.

<sup>12</sup> 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 CO<sub>2</sub>teq 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.

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

<b>Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	All councils considering developing decentralised energy projects
<b>Replicable?</b>	✓✓✓ <sup>13</sup>

## 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

<sup>13</sup> 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 group<sup>14</sup>.

### 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

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<sup>14</sup> 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.

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



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### **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

<b>Themes</b>	Mainstreaming climate change, Enhancing reputation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	Relevant to all councils with green growth potential.
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	Outputs from the project will be available from <a href="http://www.haringey4020.org.uk">www.haringey4020.org.uk</a> .
<b>Contact</b>	John McGill Director, North London Strategic Partnership <a href="mailto:John.mcgill@haringey.gov.uk">John.mcgill@haringey.gov.uk</a> 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

<b>Themes</b>	Mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	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.
<b>Replicable?</b>	✓✓✓

### 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.<sup>15</sup> 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)**

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<sup>15</sup> That is they had committed to setting targets against (now defunct) national indicator 185, measuring CO<sup>2</sup> 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.

<b>Outputs</b>	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.
<b>Contact</b>	Bryan Cosgrove Manchester City Council - Green City Research Officer <a href="mailto:b.cosgrove@manchester.gov.uk">b.cosgrove@manchester.gov.uk</a> 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

<b>Themes</b>	Housing retrofit / Green Deal, enhancing reputation, carbon saving
<b>Project Summary</b>	The project provides strategic support to the Greater Manchester Retrofit Programme and delivers retrofit standards research.
<b>Learning outcomes</b>	The programme has been exploring models for the Green Deal. It has also undertaken research on behaviour change and retrofit standards.
<b>Applicability</b>	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.
<b>Replicable?</b>	✓✓✓

### 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.

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

<b>Themes</b>	Sustainable energy generation
<b>Project Summary</b>	The project involved the development of the Greater Manchester Energy Plan, and a template and guidance on producing such plans.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	The project is relevant to all councils, but particularly relevant to city regions.
<b>Replicable?</b>	✓✓✓

### 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.

<b>Outputs</b>	<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: <a href="http://www.agma.gov.uk/environmentcommission">www.agma.gov.uk/environmentcommission</a>
<b>Contact</b>	Sarah Davies Head of Strategy and Programmes Greater Manchester Environment Commission Strategy Team <a href="mailto:Sarah.Davies@oldham.gov.uk">Sarah.Davies@oldham.gov.uk</a> 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

<b>Themes</b>	Improving reputation, mainstreaming climate change
<b>Project Summary</b>	The project is developing an appropriate and transferable investment framework capable of being shared with other regions with similar characteristics.
<b>Learning outcomes</b>	The project’s approach was to develop an appropriate and transferable investment framework capable of being shared with other regions with similar characteristics.
<b>Applicability</b>	To all councils but particularly city regions.
<b>Replicable?</b>	✓✓✓ <sup>16</sup>

### 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.

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<sup>16</sup> 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.

<b>Outputs</b>	<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 <a href="http://www.claspinfo.org">www.claspinfo.org</a>.</p> <p>Details of the availability of the investment appraisal model were not known at the time of writing.</p>
<b>Contact</b>	<p>Lisa Hoyland          Greater Manchester Environment Commission          c/o Oldham Council  <a href="mailto:Lisa.Hoyland@oldham.gov.uk">Lisa.Hoyland@oldham.gov.uk</a>          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

<b>Learning Themes</b>	Winning hearts and minds
<b>Project Summary</b>	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).
<b>Learning outcomes</b>	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.
<b>Applicability</b>	Particularly rural county councils
<b>Replicable?</b>	✓✓

#### 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 focussed 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.

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

<b>Themes</b>	Mainstreaming climate change, sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	Area-wide energy mapping can enable more informed council decision-making (e.g. for planners) and raise awareness of the low carbon generation potential
<b>Applicability</b>	All councils, subject to access to appropriate skills
<b>Replicable?</b>	✓✓✓

#### 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 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.

<b>Outputs</b>	<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>
<b>Contact</b>	<p>Alex Moczarski          City Energy Manager          Nottingham City Council  <a href="mailto:alex.moczarski@nottinghamcity.gov.uk">alex.moczarski@nottinghamcity.gov.uk</a>          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 \(OxCO<sub>2</sub>\)](#)

[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 (OxCO<sub>2</sub>)

<b>Learning Themes</b>	Winning hearts and minds.
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	All councils
<b>Replicable?</b>	✓✓

### 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, OXCO<sub>2</sub> 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.

<b>Outputs</b>	The <a href="http://www.lowcarbonliving.org.uk">Low Carbon Living</a> 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): <a href="http://www.lowcarbonliving.org.uk/index.php">http://www.lowcarbonliving.org.uk/index.php</a>
<b>Contact</b>	Paul Robinson Team Leader, Energy and Climate Change Oxford City Council <a href="mailto:probinson@oxford.gov.uk">probinson@oxford.gov.uk</a> 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 OxCO<sub>2</sub> 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

<b>Learning Themes</b>	Sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	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.
<b>Applicability</b>	All councils
<b>Replicable?</b>	✓✓

### 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 rates<sup>17</sup>. 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'

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<sup>17</sup> 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](http://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 rules<sup>18</sup>.

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.

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<sup>18</sup> 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.

<b>Outputs</b>	<ul style="list-style-type: none"> <li>• The business case</li> </ul> <p>Details on the availability of these outputs were not known at the time of writing.</p>
<b>Contact</b>	<p>Paul Robinson          Team Leader, Energy and Climate Change          Oxford City Council  <a href="mailto:probinson@oxford.gov.uk">probinson@oxford.gov.uk</a>          01865 252541</p>

**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

<b>Themes</b>	Mainstreaming climate change
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	The pilot has produced some valuable baseline data and research which draws out lessons and actions relevant to other Councils.
<b>Applicability</b>	All councils
<b>Replicable?</b>	✓✓

### 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 Plymouth<sup>19</sup> 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 reduction<sup>20</sup> 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.

<b>Outputs</b>	<p>The outputs are the three pieces of research described above which are available on:</p> <p><a href="http://www.plymouth.gov.uk/homepage/environmentandplanning/sustainableplymouth/susclimatechange/localcarbonframework.htm">http://www.plymouth.gov.uk/homepage/environmentandplanning/sustainableplymouth/susclimatechange/localcarbonframework.htm</a></p> <p>The council is also planning to make the learning available as formal training through the University of Plymouth.</p>
<b>Contact</b>	<p>Jackie Young          Corporate Sustainability Manager          Plymouth City Council  <a href="mailto:Jacqueline.Young@plymouth.gov.uk">Jacqueline.Young@plymouth.gov.uk</a>          01752 304220</p>

<sup>19</sup> *The Low Carbon and Environmental Economy in Plymouth*, by the Regional Economic Development Group at Plymouth Business School

<sup>20</sup> *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

<b>Themes</b>	Enhancing reputation, sustainable energy generation
<b>Project Summary</b>	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.
<b>Learning outcomes</b>	The project provides important learning to any council or partnership considering the development of an ESCo.
<b>Applicability</b>	Any urban council of reasonable size and density.
<b>Replicable?</b>	✓✓✓

### 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 OJEU<sup>21</sup> 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.

<b>Outputs</b>	Feasibility Study for an Energy Services Company in Plymouth: <a href="http://www.plymouth.gov.uk/homepage/environmentandplanning/planning">http://www.plymouth.gov.uk/homepage/environmentandplanning/planning</a>
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<sup>21</sup> European Union requirement to procure through the Official Journal of the European Union (OJEU)



	<a href="/planningpolicy/ldf/ldfbackgroundreports/feasibilitystudyforesco.htm">/planningpolicy/ldf/ldfbackgroundreports/feasibilitystudyforesco.htm</a> Plymouth City and Derriford Sustainable Energy Study: <a href="http://www.plymouth.gov.uk/homepage/environmentandplanning/planning/planningpolicy/ldf/ldfbackgroundreports/cityandderrifordsustainableenergystudy.htm">http://www.plymouth.gov.uk/homepage/environmentandplanning/planning/planningpolicy/ldf/ldfbackgroundreports/cityandderrifordsustainableenergystudy.htm</a>
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### 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.