



**CENTRE FOR
SUSTAINABLE
ENERGY**

Local & Regional Action to Cut Carbon

An appraisal of the scope for further CO₂ emission reductions from local and regional activity

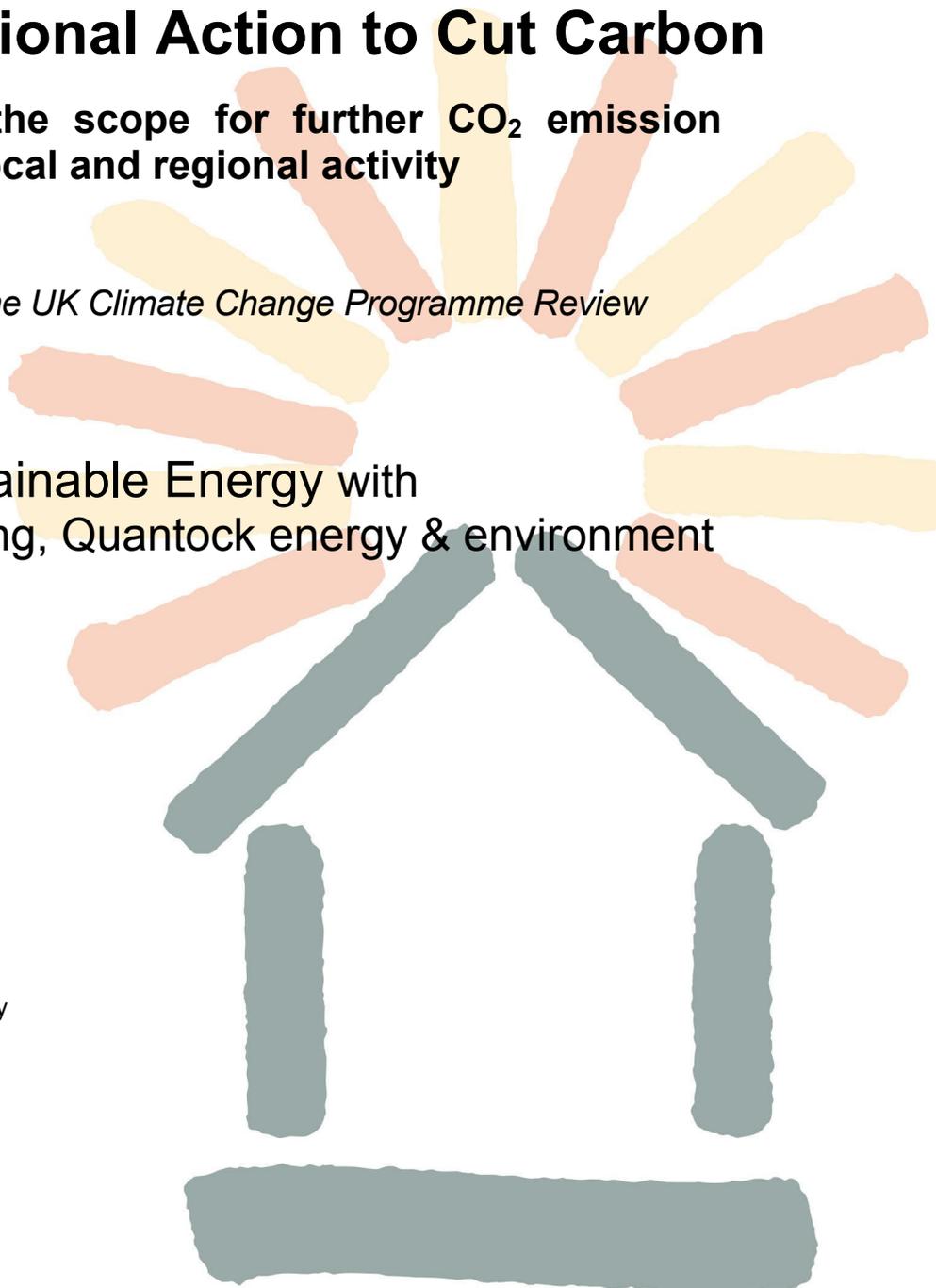
Report to DEFRA for the UK Climate Change Programme Review

Centre for Sustainable Energy with
Impetus Consulting, Quantock energy & environment

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EXECUTIVE SUMMARY

Background

Local and regional bodies are described as having a 'key role' within the UK Climate Change Programme (CCP). This shows an appreciation of the diffuse nature of many of the activities causing carbon emissions – particularly in homes and cars – and how they are influenced by existing local and regional strategies, services and actions.

However, the 'key role' has not been precisely defined. No indication is given in the CCP of the anticipated quality of action by local and regional bodies or of the impact on UK carbon emissions from widespread fulfilment of the role. There is certainly no requirement on local or regional bodies to fulfil it.

This study was commissioned as a contribution to the UK Climate Change Programme Review to try to address this lack of detail. More specifically it was designed to assess the potential for additional carbon emission reductions in England from activities by local authorities, regional development agencies and regional assemblies, and to propose policy options for realising this potential.

The project team, led by the Centre for Sustainable Energy, used a combination of literature review, interviews with local, regional and national stakeholders, an expert consultation workshop, and structured input from an interdepartmental steering group and the SEPN Regional Energy Group. For the purposes of analysis, the study examined carbon management through its five principal constituent elements within which most action actually occurs:

- Domestic energy efficiency
- Business energy efficiency
- Public sector energy efficiency
- Renewable and low carbon energy generation
- Transport

KEY FINDINGS

- **Lack of robust evidence of impact of actions to date (Section 3)**

The study found little robust evidence to demonstrate the impact on carbon emissions of local or regional action. This is more likely to have been due to a failure of effective monitoring and evaluation than to an actual lack of impact. Occasional well-documented case studies provide some indications of what impacts could be achieved through 'best practice' but the case studies (and the examples of best practice) are the exception rather than the rule. There is little academic research in this field.

- **The role of the 'Wilful Individual'**

It is clear that these few current examples of good practice at local and regional level are principally down to the work of enthused, informed and committed individuals. With limited explicit requirements on local or regional bodies to take account of carbon management, these 'Wilful Individuals' have taken it upon themselves to secure progress. They have applied their willpower, doggedness and professional expertise, typically over several years, and managed to create conditions within their organisation in which they can operate effectively.

In the absence of more explicit requirements for action on carbon management by local and regional bodies, the 'best practice' established by these Wilful Individuals (and disseminated within existing support programmes) is unlikely to be replicable by anyone other than another wilful individual.

Many stakeholders interviewed during the study complained about the lack of attention to defining and supporting 'good enough practice' which could be achieved by less wilful but equally competent people.

- **The key roles for local and regional bodies (Section 4)**

Through analysis both of the roles required in the UK to deliver carbon emission reductions and of the current range of roles and functions undertaken by local and regional bodies, there are clear areas of where local and regional action can (and does) have a direct influence on carbon emissions. It therefore makes sense to align practice at local and regional level with national carbon management priorities.

As the analysis shows, these range right across the activities of local and regional bodies but particularly relate to:

- Planning
- Supporting energy services delivery and low carbon transport provision (including skills development)
- Ensuring public sector investment reflects carbon management priorities
- Integrating and targeting grants programmes
- Engaging and persuading and motivating populations and communities
- Leadership and exemplars (which includes procurement)
- Enforcement of efficiency standards and building regulations (local)
- Support for low carbon innovation (regional).

The study identified important aspects of carbon management which lend themselves well to the scale and approach of local and/or regional bodies. Indeed there are things which local and regional bodies can do which are simply beyond the reach of national bodies.

This is particularly the case with the need to engage directly with individuals and communities – as householders, business leaders, transport users etc – to stimulate understanding, improve motivation and secure action to reduce their carbon emissions. It is also relevant to the need to create effective partnerships to enhance service delivery, improve skills and supply chain coherence and drive technological innovation.

However, the fact that these opportunities for action exist does not mean that local and regional bodies are necessarily taking them. And there is no evidence of a clear or widespread understanding of what local and regional bodies need to do in order to realise the opportunities.

- **Introducing the Local and Regional Carbon Management Matrix (Section 4.3)**

In order to define more clearly the opportunities for local and regional bodies to practise carbon management – and to establish yardsticks to measure the quality of such performance – the project team has developed the Local and Regional Carbon Management Matrix. This addresses each of the five aspects of carbon management separately. It draws out for each the levers and types of action available to local and regional bodies. It then defines four levels of performance quality associated with each

lever – as ‘weak’, ‘fair’, ‘good’ and ‘excellent’ – and describes the behaviour which corresponds with that level of performance.

By detailing behaviours at each level of performance, the Matrix provides a picture of the incremental steps involved in improving performance. It therefore has the potential to act as both a yardstick to measure performance and a guide to improve it. It can also guide national policy makers in terms of what they could potentially expect of local and regional bodies in response to national policy initiatives (See pages 33 – 47).

Currently a relatively unsophisticated draft in need of further refinement, the approach enshrined within the Matrix has been welcomed by stakeholders consulted during this study as a potentially effective performance assessment tool.

- **The quality of current practice is low (Section 5)**

The quality of performance by local authorities and regional bodies in England is generally weak or fair on all aspects of carbon management. There are very few authorities which could be characterised as achieving good or excellent standards. Table 3 below summarises the assessment made for this study:

Table 3: Initial assessment of current carbon management performance by local and regional bodies

	Level	PERFORMANCE QUALITY			
		Weak	Fair	Good	Excellent
Domestic energy efficiency	Local (% of 386)	46%	45%	7%	2%
	Regional (of 9)	4	4	1	
Business energy efficiency	Local	60%	35%	5%	
	Regional	3	4	2	
Public sector energy efficiency	Local	30%	45%	20%	5%
	Regional	5	3	1	
Renewables and low carbon techs	Local	55%	40%	4%	1%
	Regional	3	4	2	
Transport	Local (own use)	35%	55%	7%	3%
	Local (LTP etc)	25%	55%	15%	5%
	Regional	2	5	2	

The likely improvements to local and regional performance between now and 2010 under Business as Usual (BaU) were analysed. This revealed little currently planned action to drive performance improvement with the exception of: (a) regional activities on renewables planning and technology innovation and business energy efficiency, and; (b) financial efficiency pressures on local authorities which could potentially drive improved performance on public sector energy efficiency.

- **The need for ‘pressure to improve’ rather than further ‘opportunities to act’**

There was strong consensus amongst stakeholders consulted during the study that further ‘opportunities to act’, new powers or even new funding (unless strings are firmly attached) are unlikely to secure action by any other than the most wilful.

Stakeholders were firmly of the opinion that the focus for policy to improve performance must therefore be on raising the profile and priority of carbon management within local and regional bodies, creating conditions within which the less wilful can be effective. They proposed focusing on including carbon management in performance assessment processes for local and regional bodies.

- **Performance improvement will lead to additional carbon emission reductions and lower the risk of not achieving reductions already within CCP (Section 6)**

The potential carbon emissions delivered by improving performance from ‘weak’ to ‘excellent’ (and each stage on the way) were analysed. Case study evidence of improvements resulting from effective local authority action is available for domestic energy efficiency, public sector energy efficiency and transport. These were therefore assessed quantitatively as well as qualitatively. Such evidence is not currently available for business energy efficiency or renewables or for the impact of effective regional action.

Four scenarios were developed to reflect different levels of policy intervention to drive performance improvement. The results of this analysis, and some additional risk assessment of the likelihood that the policy interventions will deliver the predicted performance improvement, shows a positive impact on carbon emissions.

Table 13: Annual and lifetime carbon emission reductions from different scenarios

Scenario	Carbon emission reductions beyond BaU in 2010 (MtC)	Lifetime Carbon emission reductions beyond BaU (MtC)
1 support	0.29	2.6
2 support/guidance	0.53	5.2
3 CPA plus	1.56	18.9
4 Legal targets	2.09	26.5

There was not a strong appetite for Scenario 4 amongst stakeholders consulted during the project (though it is the route which has now been taken to deliver waste reduction and recycling targets). It is nevertheless a viable approach with fewer risks of failure than options based more on performance assessment and support.

There was a strong consensus amongst stakeholders that Scenario 3 represented a genuine and effective tool to stimulate improvement in local authority performance. This is reflected in the recommendations for policy intervention outlined below.

The impacts of improvements in performance on domestic energy efficiency (c. 0.56 MtC per year by 2010 under Scenario 3) are deemed principally to result from the fact that improved local authority performance in this area will stimulate householder interest and motivation. It will thereby create additional ‘ripe’ opportunities for national programmes like the Energy Efficiency Commitment (EEC). If action is taken to drive the improvement of local and regional action on domestic energy efficiency, then

targets for these national programmes can be increased (beyond what they otherwise would have been) to take advantage of this additional householder interest without increasing costs per tC saved.¹

For transport, which provides up to 1 MtC reduction per year by 2010 under Scenario 3, nearly all of the activities identified for local and regional bodies to achieve the carbon savings are beyond (and therefore in addition to) the current scope of the CCP and national programmes.

The analysis also shows that there are aspects of planning activity on renewables, the development of business relationships and the management of their own carbon emissions where local and regional bodies have vital roles to play to ensure existing elements of the CCP achieve their anticipated impact on carbon emissions. There is some risk that failure to improve local and regional performance in these areas will result in shortfalls on assumed carbon savings already in the CCP.

CONCLUSIONS (Sections 7 and 8)

The analysis here shows that improving performance by local and regional bodies on carbon management can make a significant additional contribution to the UK's efforts to meet its 2010 and longer term carbon emissions targets.

Deliberate steps to drive and support improved performance in England could add 1 - 1.5 MtC saving per year to the Climate Change Programme by 2010, either directly through specific local and regional actions or indirectly by creating cost-effective opportunities to expand national programmes which need effective local and regional delivery to succeed.

Realising the potential for local and regional bodies to contribute significantly to the UK CCP requires direct and purposeful intervention by central government. This is necessary to ensure that local and regional bodies give carbon management a higher priority and develop (and put into effect) appropriate understanding, skills and systems.

A low cost package of policy interventions was identified with stakeholders during the study to realise this potential. With additional funding of under £40 million per year, this policy intervention would deliver carbon reductions of 1 - 1.5 MtC per year by 2010 whilst creating significant net benefits.

The risks of failure to achieve these savings are controllable. The policies proposed fall short of introducing legally binding targets and financial penalties which characterise the approach that the Government has taken to local authority waste management and reduction. There would therefore remain opportunities to 'ratchet up' the intervention to secure local and regional performance improvement in the event that progress was falling behind targets.

RECOMMENDATIONS FOR THE NEW UK CCP (Section 8)

On the basis of the analysis in this study and the accompanying stakeholder consultation, the new CCP needs to include a comprehensive package of new measures which deliberately drive improvement in the carbon management performance by local and regional bodies. The new CCP should therefore include:

1 Assuming that there are no supply chain or delivery constraints (for example in the cavity wall insulation market) which might limit the potential to meet the demand growth caused by a higher EEC.

1. Direct reference to the important roles which local and regional bodies can play with specific definitions of the expected actions as provided by a refined version of the Matrix.
2. A target for overall performance improvement by local and regional bodies, together with an explicit acknowledgement in the CCP of the level of carbon savings from improved local and regional performance (to ensure such improvement is credited with tangible value for its impact).
3. A commitment to introduce carbon management into the Comprehensive Performance Assessment process for local authorities and into similar assessment frameworks for regional bodies and other local public sector agencies.
4. An undertaking to establish a legal duty for local and regional bodies 'to address climate change' (or 'to aim to reduce greenhouse gases') within their strategies and activities.
5. The development of clear guidance, associated with the Matrix, to define 'good enough' practice on carbon management by local and regional bodies, with model policies for Community Strategies, Local Area Agreements, Public Service Agreements and the various regional strategies.
6. A review of all existing government and Audit Commission guidance to local and regional bodies relevant to carbon management to ensure it is aligned with national carbon management priorities.
7. Commitment to a new £36 million per year programme to support local and regional performance improvement, to include:
 - Additional funding of c. £70K for each local authority for dedicated staff resources to drive carbon management activities (potentially linked to the achievement of specific performance improvement targets).
 - An extra £200K per English region for the creation of a genuine regional locus for action and co-ordination of carbon management effort within each region.
 - Provision of additional technical capacity within each region to support planning developments on renewables and transport and to co-ordinate activity to enforce building regulations and new planning policies stipulating the use of buildings-integrated renewables.
 - A nationwide programme of 'county-level' support initiatives for sub-regional groups of local authorities to work together.
 - A national programme of training and guidance materials for managers and members of local and regional bodies and the Audit Commission, linked to opportunities for action identified in the Matrix, including training on effective management and organisation for the delivery of carbon management as a cross-cutting objective.
8. Streamline the agencies currently providing support and funding programmes to local authorities and regional bodies on carbon management, to create a 'one-stop-shop' focused on meeting their support and information needs.

9. Standardised methodology for monitoring and evaluation of local and regional carbon management initiatives and the routine provision of high resolution local emissions and energy consumption data.
10. UK Energy Research Centre to develop research on local and regional initiatives to establish some academic underpinning for future analysis.

As the Chair of the LGA Environment Board said in June 2005 in relation to action on climate change by local authorities;

“The aim of the game is to get everyone up to a much better level of performance.”

The measures recommended here are designed to work together and reinforce one another to help to achieve this aim. As a whole they represent a purposeful intervention with the potential to integrate local and regional bodies fully into a unified national effort to curb carbon emissions.

1 INTRODUCTION

Although significant progress has been made by the UK towards achieving its targets under the 1997 Kyoto Protocol, more action is needed to achieve the government's own target of a 20% reduction in CO₂ emissions from 1990 levels by 2010 and its long term goal of a 60% reduction by 2050. As a consequence, a major review is currently underway of the UK Climate Change Programme (CCP).

The CCP – and the Review consultation paper – acknowledged the unique and critical roles that local and regional bodies² play in ensuring delivery of the programme at a local and regional level (HM Government 2004). The Energy White Paper (EWP) also made it clear that local authorities, Regional Development Agencies and regional assemblies have a key role to play in delivering sustainable energy objectives (HM Government 2003).

This analysis shows an appreciation of the diffuse local nature of many of the activities causing carbon emissions – particularly in homes and cars – and the extent and depth of social, technological and behavioural changes required to meet reduction targets.

However, none of these documents was clear about the precise nature of this 'key role'; or about the assumptions made about how well the role is, or will be, fulfilled by local and regional bodies. There was certainly no indication of the impact on UK carbon emissions which would be achieved by widespread fulfilment of the role.

There is acknowledgement that local and regional bodies are well placed to help the government meet its national emissions target. This is not only in terms of the direct influence they can have on their own buildings, vehicle fleets and housing stock, and through the services they provide, taxes they raise and money they spend. It is also in terms of the facilitative role they can play in raising awareness, providing leadership, and building capacity within their localities and amongst their communities. The regional and sub-regional energy policies and strategies developed by a number of regional bodies on various aspects of carbon management provide examples of the regional activity adding value to national policy, such as on planning for renewable energy, low carbon technology innovation, and extending the reach and impact of programmes to improve carbon management in businesses.

Similarly, the policies and practices of leading local authorities and local agencies can have impacts far in excess of their local area by pushing boundaries and demonstrating to others what is achievable within (and sometimes in spite of) the constraints of national policies and guidelines.

However, practice is of uneven quality across England. The positive activities and impacts of some are not necessarily a direct consequence of central government policy or specifically tied in to national programmes. Indeed, there are few explicit national requirements on local or regional bodies to act.

Moreover, the tendency to focus on identifying and promoting 'best practice' by the few has meant there has been little analysis to date of the quality of practice in most other local authorities and regions. And little has been done to identify the potential for improvement to secure widespread 'good enough practice' and to create a clear picture

2 As explained in Section 1.1, for the purposes of this study local and regional bodies are defined as: "local authorities, Regional Development Agencies and Regional Assemblies in England including all formally connected committees, boards and groups."

of what such practice looks like. As a result, there has been only patchy assessment on the conditions and policy measures required to overcome the current barriers to realising that potential.

There has also been an apparent lack of systematic appraisal of the relationship between local, regional and national actions to curb carbon emissions and how the actions at all levels can be most productively aligned. What is best done at each level? What are the 'natural' spheres of influence and service provision at each level? How can the actions of local and regional bodies genuinely facilitate the delivery of nationally determined elements of the CCP – such as the Renewables Obligation, the Energy Efficiency Commitment or new building regulations?

And perhaps most importantly, which policies at national level create the conditions within which local and regional government and agencies can (and do) fulfil required roles and potential for impact?

To help to answer these questions as part of the CCP Review, in March 2005 DEFRA commissioned the Centre for Sustainable Energy, with Impetus Consulting and Quantock Energy and Environment, to undertake this study.

1.1 Study objectives and scope

The objectives of the study were to:

- identify the levers and opportunities which exist at regional and local level to drive or impact on CO₂ emissions;
- identify what is required from local and regional bodies to deliver *existing* government CO₂ reduction policies and programmes and whether additional measures are needed to ensure they take the required action;
- model the scope for *further* cost effective CO₂ emissions reductions from local and regional action, to 2010 and 2020, including identifying the measures that central government needs to take to make this happen;
- analyse the extent to which effective local and regional action can help reduce the cost and/or increase the impact of nationally delivered action;
- identify current barriers to action and causes of inaction for local and regional bodies.

The primary goal was to identify policy measures which government departments and national agencies could potentially take to:

- deliver further CO₂ savings from local and regional action, and;
- ensure existing CO₂ savings dependent on local and regional action are delivered.

The study focused on local authority and regional bodies in England, more specifically defined in the research specification as; "local authorities, Regional Development Agencies and Regional Assemblies in England including all formally connected committees, boards and groups."

The study considered the potential for carbon emission savings in all aspects of carbon management covered by the CCP – including renewable energy and CHP, energy efficiency (domestic, business and public sector), and reduced emissions from transport.

1.2 The structure of this report

This report lays out the findings of this study. Section 2 describes the methodology (with additional detail in Appendix A) and the approach taken to attempt to meet the study objectives.

Section 3 describes the general lack of data found about the carbon emission impacts and costs of local and regional activities – and the lack of detail within the CCP about the assumed quality of local and regional activity to deliver key national programmes. Section 3 also assesses the validity of the current approach of trying to drive improvements in performance of the many by highlighting the ‘best practice’ of a few. And it introduces the concept of the ‘wilful individual’ as the principal driver of effective local and, to some extent, regional action to date.

Section 4 initiates the process of drawing up a clearer picture of, and justification for, the ‘key role’ for local and regional bodies, detailing opportunities for action by local and regional bodies on the various different aspects of carbon management. It introduces concepts of performance quality – weak, fair, good and excellent – and, through a matrix structure, identifies the types of behaviour and activity associated with each level of performance.

Section 5 assesses the current level of performance of local and regional bodies within the context of this matrix, highlighting the generally low level of current achievement in most aspects of carbon management. It also highlights the potential for performance improvement if future policy creates a context in which less wilful individuals can succeed on local and regional carbon management.

Section 6 attempts, largely in the absence of quality empirical data, to provide an indication of the levels of carbon emission reduction savings associated with different levels of performance. It also draws out the issues associated with the extent to which local and regional bodies are simply facilitating the delivery of existing CCP policies and activities. The section examines the potential for improvements in local and regional action: (a) to ensure that existing CCP policies are effectively realised; (b) to augment existing CCP policies by bringing forward more opportunities for delivery, and; (c) to add new savings above and beyond those already built into the CCP.

Section 7 outlines the policies which, in combination, may drive performance improvement by local and regional bodies. An initial attempt is made to assess the costs and impacts of these policies and to undertake an analysis of the likelihood that the anticipated carbon emission impacts would be achieved.

Section 8 draws out the study conclusions, outlines recommended policy options and makes recommendations for next steps.

2 METHODOLOGY

The methodology adopted for the study was designed to achieve the study objectives by:

- finding and assessing any evidence currently available of the impact and carbon savings associated with existing local and regional activities;
- ascertaining views of local and regional practitioners on opportunities for, and barriers to, good or better practice;
- creating a clear analytical framework for assessing quality of current practice at local and regional level and the potential for improvement;
- seeking the views of key stakeholders on the policies, actions and measures which would help enhance the impact and effectiveness of regional and local bodies.

This was done through:

- a comprehensive desk analysis of published evaluation and documentation of current and planned activities;
- more than 30 detailed telephone interviews with stakeholders at local, regional and national level;
- an expert stakeholder workshop;
- liaison with DEFRA's interdepartmental project steering group and the Sustainable Energy Policy Network's Regional Energy Group.

The project team itself also had extensive knowledge of current regional and local activities across England, through first-hand experience of working with, and assessing the performance of, local authorities, regional bodies and national government and agencies on energy efficiency, renewable energy, and transport.

The list of interviewees, the attendees for the expert stakeholder workshop, and the interdepartmental steering group membership can be found in Appendix A.

It is important to acknowledge that few people at local and regional level are trying to deliver 'carbon management' as such. Rather, they are working to improve energy efficiency, install more renewable energy and low carbon technologies, or reduce transport emissions. 'Carbon' does provide a common currency for assessing the value of their actions in the context of mitigating climate change. However, to see the detail of action at local and regional level, the study focused its analysis down onto these different aspects of carbon management, specifically:

- Domestic energy efficiency
- Business energy efficiency
- Public sector energy efficiency
- Renewable and low carbon energy generation
- Transport

As outlined below, the study exposed little systematic analysis of the current and potential role, quality and impact of local and regional action on carbon management or its relationship with the current CCP. A key output and focus for this study therefore became the development of a clear matrix of roles and performance indicators for local and regional bodies associated with these various aspects of carbon management.

These five elements of carbon management and the associated performance matrices provide a framework for presenting the findings and analysis of this study.

3 THE IMPACT OF LOCAL AND REGIONAL ACTIVITIES

The activities which determine the levels of carbon emissions from the UK population are generally diffuse. This is particularly true of the use of fossil-fuelled energy to heat homes, in the energy-using equipment people buy to use in their homes, and in the cars people choose to drive. Together, these two end-uses of carbon emissions – our homes and transport – which are driven principally by the purchasing decisions, behavioural choices and habits of individuals, currently account for 51% of total UK emissions (HM Government, 2004).

A further 6.6% of UK emissions are currently produced by more than 900,000 small businesses scattered across the country (Carbon Trust 2005).

Even decisions which enable the introduction of non-fossil sources of energy (such as wind farms or biomass power stations) or which give higher priority to non-carbon forms of transport (like walking and cycling) are principally taken on a relatively diffuse basis, within a committee in a local council. Indeed, it is likely that some 60% of the UK renewable energy target for 2010 will be delivered by projects of a scale at which planning permission is determined by local authorities.³

As a result, most activities and decisions required to reduce carbon emissions ultimately have to take place at a local or individual level. For example:

- the choices of individuals and households to curb energy wasting behaviour, purchase more efficient equipment, travel less by car, improve the energy performance of their homes;
- the installation of insulation and efficient heating by skilled contractors;
- the decisions of councils on renewable energy applications and lower carbon transport priorities;
- the quality of new housing developments (and their conformity with building regulations);
- the extent to which investment decisions by small and medium-sized businesses reflect carbon management objectives;
- the impact of education and training activities on any of the above.

These activities and decisions, like the decisions and activities which produce carbon emissions, are undoubtedly shaped by national policies and nationally established standards which can limit purchasing choices to more efficient products and standards. They may be stimulated by national communications activity, and they potentially take advantage of nationally driven and funded programmes, such as those run by energy suppliers under their Energy Efficiency Commitment (EEC).

But ultimately they still require an individual householder, transport-user or small business leader to decide to take-up the energy saving programme offer, choose the lower carbon transport option, support a positive planning decision by their local councillor, and curb their use of energy-wasting equipment.

Because many of the carbon-reducing decisions and activities must take place at a local or individual level, it is difficult not to believe that the quality of relevant activities by local and regional bodies has a strong influence over the likelihood and scale of appropriate action being taken.

3 Source: informal discussions with DTI officials

After all, these bodies deliver services and communicate directly to the public and they determine and deliver planning, housing, transport and economic strategies. They therefore help to create, alongside national action, the context in which people and groups take decisions and act as householders, transport users, businesses and communities. That context can support and encourage actions which reduce carbon emissions or it can, often unintentionally, have the opposite effect.

Indeed, it is such thinking which underpins the assertion of the 'key role' for local and regional action on sustainable energy and climate change in the CCP and EWP.

However, the 'key role' is not clearly defined in these documents. The same is true of the relationships between local, regional and national roles and their particular and combined influences on carbon emissions. (Section 4 addresses these in more depth).

Irrespective of these shortcomings, if there is a 'key role' for local and regional action there should be evidence of its impact. Indeed, in any appraisal of the potential for local and regional action to contribute to the CCP, it is vital to establish a picture of the scale of impact which such action can have on carbon emissions.

For this study, an attempt was made to do this through an extensive literature review (see Appendix B for details) and the interviews with key stakeholders. A key focus of the literature review was whether there was robust evidence of the carbon impacts of local and regional action. A key question for the interviews was whether they had any data, however robust, of the impact of their activities.

3.1 The lack of evidence of impact at local and regional level

There is a reasonable body of literature describing the activities and, in some cases, the plans of various local authorities and regional bodies on the different aspects of carbon management.

For example:

- the Energy Saving Trust's Practical help programme details more than 100 cases of local authority activities to deliver domestic energy efficiency improvements, energy management in their own buildings, renewable energy installations, and transport emission reductions.
- research for the Energy Efficiency Partnership for Homes details the extent to which climate change issues are addressed in the community strategies and activities of Local Strategic Partnerships.
- the Carbon Trust's Local Authority Carbon Management Programme provides descriptions of the activities of local authorities participating in the scheme.
- all 9 RDAs have each recently published 3 year corporate plans which, to varying degrees of detail, outline their plans for action. The Energy Saving Trust's Practical help programme has recently reviewed regional activity delivering the Energy White Paper.

However, the study has found almost no reliable, peer reviewed, quantitative data on the impact of these activities in terms of carbon emissions. Nor was there data on the

costs of achieving these (largely unmeasured) impacts. With a few notable exceptions (eg Allman et al 2004), there is no academic research on the topic.

There may still be data available which has yet to be published (e.g. the Energy Saving Trust is reviewing some of its data from evaluation of some aspects of local authority activities; further data on the Carbon Trust's Local Authority Carbon Management Programme may yet be forthcoming). And, as outlined below in Section 6, there are individual case studies which have at least tried to establish a baseline and quantify impacts. These can provide some guidance as to the potential impact of more local and regional bodies taking action.

Interviewees and expert stakeholder workshop participants readily explained this gap in the data. They consistently gave two reasons:

- i. there is not a comprehensive data set of energy use and emissions at local or regional level. This makes the establishment of baselines and the tracking of progress complex (and not standardised), and;
- ii. there is no clear standard methodology for monitoring and evaluating local and regional action (assuming the data were available).

As outlined in Section 7, addressing this issue forms a core priority for policy action by national government.

This lack of data does not mean that local and regional action has no impact. It is more a reflection of the lack of adequate monitoring and evaluation and, allied with this, the difficulty of separating out the influences of local, regional and national action on individual behaviour and choices.

Nevertheless, the literature review and stakeholder interviews did provide some fresh insights into the workings of current programmes to encourage local and regional action on carbon management. They also created a picture of what is behind effective local and regional action. These are examined in more detail in Section 3.2 and 3.3 below.

3.1.1 Expectations of local and regional action within the CCP

In spite of acknowledgement in the CCP of the importance of local and regional action to curb carbon emissions, there is little detail available of the contribution such action is expected to make to the CCP or the elements within.

In the course of this study, effort was made to extract more information on this from various sources. With the exception of an assumption in the transport programme for CCP that 9 road pricing schemes are introduced, principally at local level (contributing a very small element of the transport total), the project team found no evidence of clear expectations of local or regional action. It is reasonable to conclude that this is because the contribution of local and regional action to the existing CCP has not been carefully considered.

Yet there are several aspects of the current CCP where the performance of local and regional action could have a significant impact on the achievement of CCP expectations for carbon emission reductions:

- targets for renewable electricity generation;
- improvements in energy efficiency resulting from building regulations;

- meeting Decent Homes standards, and;
- carbon savings from the public sector estate.

This is even before consideration is given to activities which local and regional bodies could (and do) undertake to ripen interest and stimulate and facilitate participation in other programmes forming part of the CCP (e.g. energy supplier Energy Efficiency Commitment schemes, Warm Front grants, more efficient vehicle purchases, take up of Energy Saving Trust and Carbon Trust programmes and services etc).

The specific role and purpose of local and regional action in delivering carbon management is analysed in more detail in Section 4. The extent to which local and regional action is necessary to deliver existing CCP programmes and the potential for local and regional action to augment participation in some schemes is examined further in Sections 5 and 6.

In essence, in relation to the CCP, there are potentially three different effects of local and regional action (and in particular from improving it beyond 'business as usual'):

- to create carbon emission reductions which are **ADDITIONAL** to current CCP programmes;
- to provide sufficient (and above average) facilitation and encouragement for local or regional participation in current CCP programmes so that the local and/or regional actions are effectively **AUGMENTING** the future potential for these CCP programmes;
- to ensure the conditions are in place which are **ENABLING** existing CCP programmes to be delivered to their anticipated extent.

The lack of extensive existing data, both on the impact of local and regional action and of the expectations of the current CCP for such action, means that analysis of these three different effects and impacts should be undertaken cautiously and with clear explanation of any assumptions being made.

3.2 Beyond 'best practice' – towards 'good enough practice'?

A central approach of national programmes to improve local and regional action on the various aspects of carbon management has been that improvement can be driven by exposing 'best practice' and encouraging its replication. This is a feature of programmes such as the Energy Saving Trust's Practical help, the Best Practice in Housing Programme, the Improvement and Development Agency's Beacon Council scheme and its Knowledge scheme (with its occasional attention to aspects of carbon management).

It is undoubtedly true that case studies demonstrating the potential for positive action can inspire others to follow suit.

However, in the project team's assessment, those responsible for best practice amongst local authorities are relatively few in number and, for the most part, have been the high achievers in their field for many years. The literature is dominated by a relatively small number of local authorities who are consistently delivering good examples of new ways to increase take up of domestic energy efficiency measures,

use new powers to secure funding for public sector energy improvements, or improve local transport practices.

Importantly, there is no evidence of a 'snowball' effect as others seek to replicate this best practice. It is certainly not the case that the best practice of 10 years ago is now the norm.

This is because the success of the best practice approach depends not only on the inspirational qualities of the best practice case, but also on the situation of the target audience (i.e. those who need to improve their own practice). This audience may have several questions:

Is best practice within their reach?

Some of the best practice cases actually represent the impressive summit of 15 or 20 years of sustained activity. This can create a sense of being beyond the reach of someone looking to improve their own practice; for some it may demotivate rather than inspire.

Do they have a good understanding of the steps which they have to take to achieve it?

Often best practice case studies start quite a long way along the path towards their achievements and fail to show the early steps in the process – most particularly how to create the conditions in which action is permitted and resourced.

Are the conditions which enabled the best practice to be achieved actually replicable within their situation?

With much best practice resulting from many years of activity, it is often the case that the underlying organisational structure, political and management approach, and resource prioritisation have evolved to ensure that approaches are not directly transferable. Moreover, some best practice describes activities which are generally not considered the job of, for example, a local authority (e.g. establishing a private electricity distribution network).

Typically these have been led by a local authority focused on achieving a legitimate carbon management objective (e.g. more local, embedded low carbon energy supply) and finding ways to overcome obstructions related to national energy policy (e.g. energy market regulation). However, rather than encourage others to overcome the obstruction in a similar way, it may be more appropriate to use such best practice to demonstrate the potential benefits of removing the obstruction through changes in national policy.

The focus on best practice means that there tends to be little documentation or public discussion of activities and programmes which are ineffective. This 'only-good-news' tendency protects the ineffective from legitimate criticism and fails to expose the pitfalls and problems on the path to success for the others. By ignoring the failings and difficulties, it underplays the effort and determination required to achieve success. It also probably ensures that some are destined to repeat the mistakes of others.

The focus on the best practice of a few also means there is little assessment of, or focus on, the quality of performance of the many. As outlined below, there is evidence that the general quality of performance on carbon management at local and regional level is relatively low, falling some way short of the best practice examples.

There is clearly value in documenting best practice to show what can be achieved. It undoubtedly helps already active and engaged local and regional bodies with extra ideas, new angles on funding, and technical solutions to similar problems.

However, the apparently limited impact of this approach on the quality of practice of most authorities indicates that a more comprehensive methodology to improving practice may be required.

Best practice tends not to document the incremental steps required over time to move from 'weak' practice to 'best' practice. And it does not set a benchmark of 'good enough practice' at which a local or regional body is achieving 'what is expected of them' within a national effort to improve carbon management and reduce the threat of climate change (though there are some signs that this is changing for regional bodies).

This latter point – the failure to identify what is considered 'good enough practice' – is reflected in two common complaints which emerged from the interviews and expert stakeholder workshop for this study:

- there is little by way of official documentation and guidance as to what local and regional bodies are expected to be doing on carbon management across its different aspects and how it ties in with national policies, programmes and initiatives;
- there are currently no explicit and telling consequences of failure by a local or regional body to act on carbon management.

As a result, the vast majority of local authorities have no clear picture of what they are expected to be achieving and what steps to take to achieve that level of performance. Perhaps most importantly, there is no obvious official pressure to give carbon management more of a priority at local or regional level.

In this setting, it is all the more impressive that some local and regional bodies are managing to achieve 'best practice' on some aspect of carbon management. Why? What is it about these bodies that means they have succeeded where many have not even tried?

3.3 The role of the 'Wilful Individual'

From the evidence assessed for this study and the experience of the project team, it is clear that good practice at local and regional level is principally down to the work of enthused, informed and committed individuals. With few explicit requirements on local or regional bodies to take account of carbon management, these individuals have taken it upon themselves to secure progress.

Through their willpower, doggedness and professional expertise, these 'Wilful Individuals' have managed to create the conditions within local authorities or in some regional body in which they can operate effectively.

At regional level, the individuals have typically supported capacity building and the creation of effective delivery channels in addition to the strategy development anticipated by nationally provided output-related funding.

These individuals, many of whom were interviewed for this study, consistently remark on the need for them to be continually vigilant to sustain political buy-in, secure resource prioritisation, and maintain influence across relevant policies and strategies.

There is a sense that this buy-in and these priorities, resources, and strategic influence are not locked in, ratchet style, once some effective practice has emerged. In this sense, it is not yet 'mainstreamed'.

Many interviewees for this study also mentioned a feeling that the same is true of Central Government where understanding and commitment to local and regional action on carbon management or its constituent elements has a habit of waxing and waning, depending on the interests of the individual civil servants involved.

A number of recent policy changes and signals (on wellbeing powers, spend to save, etc) have provided these 'wilful individuals' with a few more policy tools and financial 'wheezes' which can make their work a little less onerous and/or a little easier to resource. However, it is not clear that these changes and signals are yet bringing this work into the mainstream and leading to increased involvement by other as yet inactive authorities.

Moreover, there has been a tendency to see the conditions which these wilful individuals have managed to create – strategic coherence, political and senior management support, resource prioritisation etc – as the conditions required for success. Thus, best practice advice tends to stress the importance of these conditions to achieving best practice.

There is undoubtedly some truth in this advice. It is unusual to find effective and sustained local authority action on some aspect of carbon management without these conditions having been established.

However, this may be mistaking cause for effect. It is even more unusual to find effective and sustained local authority action on some aspect of carbon management without a wilful individual being involved. It is much more likely that these 'conditions' are actually the symptoms of a successful wilful individual who has been at work for several years.

This conclusion was reinforced by the interviews undertaken for this study, with a clear picture emerging that it was often a battle waged over several years to secure commitment to carbon management activities in local and regional bodies (and always a battle to sustain commitment).

The interviewees report little sense of support from central government when it came to establishing priorities for the local and regional decision-makers who set their budgets and agreed work programmes. Rather than being given resources and opportunities to act to meet shared objectives and stated national Government priorities on climate change, the interviewees felt they had to fight continually for them.

These few wilful individuals show what can be done with sustained personal commitment, battling over time to create conditions in which they build up the support and resources to act. Many will say that they started with one small initiative which demonstrated benefits which initially met authority priorities other than carbon management (such as housing improvement or road safety). Through that success they started to build political and senior management backing, laying out more ambitious strategies, seeking additional support and resources.

In the current context for local and regional action on carbon management, it takes a wilful individual to deliver good performance. The implication of this is that, unless the context for action changes or there is a sudden influx of extra wilful individuals into local and regional bodies to work on carbon management, the quality of local and regional action on carbon management will not significantly improve.

3.4 The focus for policy: creating a context in which the less wilful can act

The focus of policy options identified in this study is therefore on creating conditions at local and regional level which allow the wilful individuals to flourish and, much more importantly, enable and encourage less dogged, less wilful, but still professionally competent individuals to achieve much more.

This theme is examined in more detail in Section 7. Beforehand, it is important to identify more precisely the nature of performance improvement on carbon management, to assess the potential for improvement and to examine whether it justifies additional policy effort.

4 DEFINING PERFORMANCE AT LOCAL & REGIONAL LEVEL

To assess the quality of action on carbon management at local and regional level – and the potential for improvement – it is necessary to have a clear understanding of the actions which can be taken at these levels. More specifically, what are the appropriate levers available to local and regional bodies to deliver carbon emission reductions?

In answering this question, it is useful to consider **why** it is that local or regional action has a ‘key role’ to play, as well as what precisely that role can be.

As the CCP demonstrates (and as outlined in Section 3.1.1 above), this subject is often overlooked, with little effort made to define how local and regional action fits in to a national programme to achieve carbon management objectives.

The result is that there is not a clearly stated understanding of the relationships between action at local, regional, and national level – either in terms of what each can do for each other towards common objectives, or how national policy can best work to maximise the effectiveness of these relationships and their impact on reducing carbon emissions.

Without a clear understanding of these relationships, there is a tendency for the debate to retreat into two camps. Both of these camps were encountered during this study. To define them loosely:

- the first camp (mainly peopled by Wilful Individuals) can tend to assert the pre-eminence of local action, with calls for powers to unleash local bodies to do far more. This ‘let-us-get-on-with-it’ approach is to make up for what they see as a failure of national policy and programmes to align with their objectives and support their actions. This camp often overlooks the fact that most local authorities are not blessed with a Wilful Individual who could or would ‘get on with it’ given the opportunity.
- the second camp is peopled more by those involved in developing national policy and programmes. This camp can tend to treat action by local or regional bodies as, at best, a ‘nice-to-have’ added extra of little genuine consequence and, at worst, a messy and unreliable substitute for effective nationally determined programmes. There is little sense of such action as a potentially fundamental and vital element in many aspects of an effective national carbon management strategy.

This polarisation in the debate is unhelpful. Avoiding it requires the development of an understanding of the relationships between local, regional and national action. This, in turn, needs an explicit expression of the particular carbon management opportunities available to local and/or regional bodies. These opportunities may be by virtue of:

- the services which local or regional bodies deliver;
- the strategic roles they play;
- the regulatory roles they have to enforce national standards and directives;
- the relationship (and therefore potential influence) they have with the citizenry, voluntary and business sector and/or other public bodies in their vicinity.

Detailing these opportunities and examining how they fit with national action to enable more effective carbon management should provide a more precise description of the

much vaunted 'key role' for local and regional bodies. And it may show both camps a common, effective and, above all, pragmatic route forward. This is explored in more detail in Section 4.1.

Of course, the fact that these opportunities for action exist does not mean that local and regional bodies are necessarily taking them. It also does not mean that there is a clear picture of what represents 'good enough' practice in how to take them.

It is important therefore not only to define the opportunities for action by local and regional bodies – and show how they enable and augment a national programme – but also to establish yardsticks by which to gauge performance in realising these opportunities. The approach developed for this study is explained in Section 4.2.

To address these two needs – for defined opportunities to act and for yardsticks to measure the quality of action – the project team has developed the Local and Regional Carbon Management Matrix (hereafter referred to as 'the Matrix'). As explained in Section 4.3, this addresses each of the five aspects of carbon management separately. It draws out for each the levers and types of action available to local and regional bodies. It then defines four levels of performance quality associated with each lever – weak, fair, good and excellent – and describes the behaviour which corresponds with that level of performance.

By detailing behaviours at each level of performance, the Matrix provides a picture of the incremental steps involved in improving performance. It therefore has the potential to act as both a yardstick to measure performance and a guide to improve it. It can also guide national policy makers in terms of what they could potentially expect of local and regional bodies in response to national policy initiatives (e.g. Energy Efficiency Commitment, Planning Policy Statement 22 on renewable energy, the EU Biofuels Directive).

The analysis presented in this Section has drawn on discussions at the SEPN Regional Energy Group, within the project team, with interviewees, and at the expert stakeholder workshop. It is still in a relatively unsophisticated form. For example, no account is taken at this point of the differences between local authorities (e.g. rural or urban) or regions (e.g. whether more or less endowed with renewable energy resources). It requires refinement.

Nonetheless, from the review of this approach during the project, particularly in the expert stakeholder workshop, it is considered a useful foundation for establishing a framework for assessing performance and leading improvement.

4.1 Identifying levers for action on carbon management at local & regional level

In drawing up the Matrix, the project team has identified levers and activities available and appropriate to local and regional bodies for each of the five aspects of carbon management.

It is important to explain the thinking behind this process since it helps to expose the relationships between local, regional and national actions and the mutually reinforcing effects they can have. The exercise has partly been informed by discussions on this issue at the SEPN Regional Energy Group.

The first step in the process is to consider the roles and functions involved in delivering effective carbon management in the UK. Table 1 (below) provides a simplistic list. It

has been derived from a variety of sources and is by no means presented here as definitive. Indeed, the specifics of this list are less important than how this can help with the next stage in the process of identifying levers and actions appropriate for local and regional bodies and showing the interplay between national, regional and local level:

Table 1: Roles/functions required for effective carbon management in the UK
Taxation system which favours low carbon solutions and deters carbon emissions
Regulatory frameworks for utilities and transport systems which enable & reward carbon management and share the cost of change fairly amongst consumers
Energy distribution & trading systems managed to maximise the value of embedded and renewable generation
Tough and enforced equipment, vehicle and building standards
Effective innovation systems to bring forward low carbon technologies and processes
Organised, well-trained, customer-focused energy services delivery and low carbon transport provision
Planning system which encourages & supports carbon management
Integrated and targeted grants programmes and efficient allocation of public monies on capital (cf revenue)
Public sector infrastructure investment (transport, buildings, regeneration etc) that reflects carbon management priorities.
Willing, engaged and accepting population & communities
Leadership and exemplars to demonstrate, excite and inspire

Various sources: Roberts (2003, 2004a, 2004b), Energy Policy (2004), Energy Saving Trust (2005), Sustainable Development Commission (2005)

The next stage in the process of identifying appropriate levers and activities for each level is to consider the scale and level – local, regional, and/or national – at which these required roles and functions need to be engaged in order to be effective.

This requires some thinking about the differences between action by local and regional and national bodies and what each level brings to the potential effectiveness of the overall effort. This, in turn, is informed by consideration of the following issues:

- the scale of impact required – is it every citizen or every school or just the UK's 100 largest business emitters of carbon dioxide?
- existing powers and structures (though these could potentially change)
- the need for commonality across the country
- the need to reflect genuine differences in regional or local needs and circumstances (eg available renewable energy resources, range of commercial activity, level of rurality, quality of existing energy infrastructure etc)
- the need to establish new partnerships and relationships to enhance delivery and the scale of organisation with whom partnerships are needed (eg for

delivery of energy services, low carbon transport schemes, technology innovation etc)

- the need to engage directly with the citizenry (potentially as householder, energy consumer, transport user/driver, voter, community group member, business leader, inventor/innovator etc).

These must also be informed by an underlying consideration of 'cost-effectiveness' (translating the 'need to' into 'need to and value of') – though, as explained in section 3.1, the evidence base to enable precision in this aspect is relatively poor.

Fortunately the exercise is not starting from scratch. There are some individual policy areas (e.g. planning) which are characterised by reasonably clear definitions of the roles of local, regional and national bodies and the relationship between them.

Indeed, historically there has been debate and discussion around establishing these definitions for most other policy areas (e.g. taxation, utility regulation, provision of social housing, education, economic development, waste management, transport planning etc). Whether or not the current position for each policy area represents an ideal arrangement, they nevertheless represent a situation which can assume to have arisen for reasonably appropriate reasons. They can therefore provide a starting point for analysis here.

The exercise has therefore borne in mind the accepted potential of local authorities to:

- manage their own buildings, housing stock and staff activities and procure equipment and a wide range of services
- deliver a range of services to the public (housing, education, social services, waste, leisure/tourism, culture, etc)
- establish and control planning strategy
- co-ordinate local regeneration and economic development activity
- manage and/or influence public sector investment in local infrastructure
- enforce building regulations and trading standards
- provide civic leadership within their communities, encouraging behavioural change and leading by example (eg through Local Strategic Partnerships)
- create and support effective partnerships (with each other and across sectors) to meet defined objectives
- make nationally significant issues locally relevant and motivating
- promote community wellbeing
- showcase good practice.

It has also considered the accepted potential for regional bodies, either directly or through the funding they can make available, to:

- establish clear strategic frameworks for planning, housing, economic development, transport and other issues across a region
- provide effective co-ordination of local action and partnerships, sharing resources, improving information flows, and providing a common voice
- marshal regional and national funding streams into coherent spending programmes
- support regional business, supply chain and skills development
- encourage innovation through effective regional partnerships with business and academic institutions and through accessible exemplar projects.

These are all described without reference to climate change or carbon management because they represent what local authorities and regional bodies already exist to do in order to serve other policy objectives. They could therefore also potentially serve carbon management policy objectives.

Indeed, with an overarching and fundamental cross-cutting issue like carbon management, it is highly likely that each of these accepted roles for local and regional bodies already has an influence on carbon emissions (whether or not it is deliberate or positive or negative). The question here is how to ensure these roles are aligned with national carbon management priorities so that their influence is benign and positive.

The issues for this study are therefore:

- a. how the relatively new and cross-cutting priority of carbon management plays out within these existing roles – does anything need to change to ensure existing roles are aligned with carbon management objectives (rather than potentially opposing them)?
- b. is there anything about the nature of carbon management which means that these accepted roles for local and regional bodies need to develop or receive more or less emphasis?

To address these questions it is worth considering the nature of carbon management and the scale of the task in hand to meet carbon reduction targets (short and long-term) which might influence the relative importance of local, regional and national action. There are three particular aspects of carbon management which stand out:

- implementation of carbon management is highly diffused – requiring a sustained change in behaviour and consumer choices by every householder, transport user, and business;
- amongst the individuals and groups who need to implement these changes, the current levels of motivation to act and the understanding of required actions are still relatively limited;
- the tools and technologies, services and skills to enable action are not all widely available and are currently often found in smaller organisations (voluntary, business or academic) which can fall ‘below the radar’ of national bodies.⁴

This emphasises the need for a focus on changing attitudes, building understanding and motivation to act, and enabling new partnerships and service developments to test and deliver the necessary changes.

As the recent Futerra report (Futerra 2005) to DEFRA and others on climate change communications concludes that there is a vital and fundamental role for local bodies in achieving these changes. As outlined above, local authorities particularly have:

- direct connections with individual households, community groups and businesses by virtue of existing service provision and electoral relationships;

4 For example, see various papers, including by Ekins and Gross, in Energy Policy (2004) for recognition of importance of SMEs in the supply chain for energy efficiency and renewables innovation.

- opportunities to identify, bring together and support local organisations and encourage businesses to provide services which reflect local need and circumstance;
- potentially strong ability to establish and maintain a sense of local identity and civic pride which can make national and global issues seem locally relevant.

To this could be added a list of particularly relevant attributes of regional bodies by virtue of their size and geographical focus:

- activities to stimulate and target support for technology and service delivery research and innovation;
- potential to provide co-ordination of local and sub-regional actors to share experiences, improve practice, reduce duplication, develop appropriate common resources and messages;
- explicit roles in establishing the economic and planning strategic frameworks within which local authorities and businesses take decisions and act;
- potential to engage with national programmes and organisations (eg energy utilities and government agencies) to make them relevant, manageable, targeted and accessible for sub-regional organisations, local authorities and businesses;
- development and co-ordination of relevant supply chains across the region (often involving companies too small to participate in nationally co-ordinated activities);
- support for skills development through relationships with regional and sub-regional learning and training organisations.

This does not mean that local authorities or regional bodies are currently applying these attributes to addressing climate change. But it is difficult to imagine an effective national effort to reduce carbon emissions in which they don't.

The analysis outlined here – of existing, accepted roles for regional and local bodies and of specific characteristics of carbon management – can now be applied to the table of roles and functions required for effective carbon management in the UK. This will provide a broad sense of what the 'key role' for local and regional bodies might look like.

In so doing, a generally conservative view has been taken of the potential for local and regional influence and involvement in traditionally national level policy issues such as taxation and fuel duties, energy market regulation, and the setting of appliance and vehicle efficiency standards and building regulations.

The potential level of influence and impact and the importance of involving this level in delivering the role or function has been given a rating – in '♦' – in Table 2. A higher number indicates greater importance, influence and impact. Three ♦s is used to show a fundamental role; two ♦s indicates an important facilitating or supporting role; one ♦ indicates potentially valuable involvement to provide co-ordination or information.

Table 2: The importance of national, regional and local action in carbon management roles/functions

Role/function required	National	Regional	Local
Energy pricing which better reflects environmental costs	◆◆◆		
Taxation which favours low carbon solutions	◆◆◆		
Regulatory framework for utilities and transport systems which enables & rewards carbon management and shares the cost of change fairly amongst consumers	◆◆◆		
Distribution & trading systems managed to maximise the value of embedded and renewable generation	◆◆◆	◆?	
Tough and enforced equipment, vehicle and building standards	◆◆◆		◆◆ (enforcement)
Effective innovation systems to bring forward low carbon technologies and processes	◆◆◆	◆◆◆	?
Organised, well-trained, customer-focused energy services delivery and low carbon transport provision	◆◆◆	◆◆◆	◆◆◆
Planning system which encourages & supports carbon management	◆◆◆	◆◆◆	◆◆◆
Public sector infrastructure investment (transport, buildings, regeneration etc) that reflects carbon management priorities	◆◆◆	◆◆◆	◆◆◆
Integrated and targeted grants programmes and efficient allocation of public monies on capital (cf revenue)	◆◆◆	◆◆	◆◆
Willing, engaged and accepting population & communities	◆◆◆	◆	◆◆◆
Leadership and exemplars to demonstrate, excite and inspire	◆◆◆	◆◆◆	◆◆◆

This points to levers and actions for carbon management appropriate for local and regional bodies which relate to:

- Planning
- Supporting energy services delivery and low carbon transport provision (including skills development)
- Ensuring public sector investment reflects carbon management priorities
- Integrating and targeting grants programmes
- Engaging and persuading and motivating populations and communities
- Leadership and exemplars (which includes procurement)
- Enforcement of efficiency standards and building regulations (local)
- Support for low carbon innovation (regional).

None of these actually represent new roles or responsibilities for local or regional bodies – except that they need to be considered in the context of carbon management rather than other policy objectives.

Indeed, what this list shows is that most existing policy, public expenditure and service delivery activities by local and regional bodies are already relevant to carbon management. The issue is ensuring that these activities do, in future, take carbon management priorities into account.

The Matrix is designed to do this; it is also designed to show more explicitly than Table 2 the potential importance of regional bodies in supporting and driving effective action

at local level, providing common support and creating an effective bridge between local activities and national policies, programmes and funding streams.

Table 2 also points to the importance of combining and aligning national, regional and local action and objectives, where each has a role to play. This is important partly because it makes sense to ensure that action at all levels is working in the same direction and ‘in harmony’.

But it is also important because local and regional bodies can potentially act to influence the producers of carbon emissions in ways which are beyond the reach of national policy and programmes but which are nevertheless fundamental to effective carbon management.

4.2 Defining levels of performance quality

As mentioned in the introduction to this Section, to assess the quality of performance by local and regional bodies in relation to these levers and actions, there needs to be a yardstick to use.

Since many of the levers and actions have an indirect impact on carbon emissions, it is difficult to develop a purely quantitative measurement of performance. However, this does not mean that the quality of performance is beyond assessment.

It is possible to describe the type of behaviour which would correspond with each of, say, four levels of performance quality for each lever. Performance can then be evaluated by assessing which of these four ‘behavioural indicators’ for each lever most closely resembles the activity being undertaken.

From discussions at the expert stakeholder workshop and steering group meetings, it was decided to adopt the terminology for each level which is already used in existing performance assessment tools for local authorities: weak, fair, good and excellent.⁵

To give an example of this approach, for domestic energy efficiency, local authorities can potentially take action in relation to energy efficiency grant and delivery schemes. In the terminology used here, that is a lever available to them. Performance at the different levels might be described thus:

Weak	‘Minimal signposting to available schemes on a reactive basis’
Fair	‘Reactive response to schemes to provide ‘endorsement’ and enable distribution of materials to local households’
Good	‘Supporting/engaging with EEC schemes and Warm Front to promote locally increased take-up, with own funding schemes to ‘fill in gaps’ and action to incentivise take-up (e.g. council tax reduction)’
Excellent	‘Co-ordinated effort with wide range of partners (health, suppliers, EEAC, other local authorities etc) to maximise take-up of available grants and schemes with ‘one-stop-shop’ approach to signposting and delivery’

⁵ In fact there are five categories used in the Comprehensive Performance Assessment (CPA) system used to assess local authority performance. However, the lowest grading, ‘poor’, is generally considered so dreadful that, in the context of carbon management, it would represent actions akin to the wilful production of excess carbon emissions.

In an assessment process, it would be reasonably straightforward to provide evidence as to which of these behavioural indicators most accurately described the current performance of a particular local authority.

As mentioned above, this approach lays out the incremental steps involved with improving performance. It therefore provides the Matrix with the potential to act as both a yardstick to measure performance and a guide to improve it.

The Matrix approach can also give national policy makers guidance in terms of what they could potentially expect of local and regional bodies in response to particular national policy initiatives – and also some indication of what extra impact might be achieved by improving local and regional performance.

4.3 Introducing the Local and Regional Carbon Management Matrix

As outlined above, the Local and Regional Carbon Management Matrix presented here should be considered an early version of an approach which requires further refinement through stakeholder consultation.

The Matrix is divided into five separate aspects of carbon management:

- Domestic energy efficiency
- Business energy efficiency
- Public sector energy efficiency
- Renewable and low carbon energy generation
- Transport

This is to reflect the fact that carbon management is the end result of action on one of these aspects, with many actions potentially being delivered for a range of purposes and motivations (e.g. affordable warmth, economic development, road accident reduction, local air quality).

At this stage in the development of the Matrix, there is a relatively unsophisticated approach to the several different layers of local government in England. Distinctions between the responsibilities of district councils, unitary authorities and county councils are not examined in any great depth. Where appropriate, co-ordinating and partnership activity has been identified.

There has also been no attempt to draw out clear distinctions between the various bodies at regional level – the Regional Assembly, Regional Development Agency, Government Office and other key players. Here, the extent of co-ordination, strategic coherence and common purpose between these bodies is a relevant aspect of performance.

The domestic energy efficiency and transport matrices were examined at the expert stakeholder workshop for this study and some adjustments made as a result. The workshop was asked to consider the following questions:

- Is there anything missing from the levers as things currently stand?
- Are there things which are happening somewhere in England which are not captured?
- Are there behaviours described which are not currently possible or no one is doing? (i.e. does this accurately capture the range of opportunities available to local and regional authorities to act?)

- Do the levels of performance 'read down the page' on a reasonably consistent basis? (i.e. do most of the 'fair' level behaviours tend to go with one another and/or are they consistent?)
- What other (possibly new) levers/powers should be considered which aren't covered here?

These questions remain valid for further review of the detail in the Matrix.

4.3.1 Domestic Energy Efficiency Matrix

DOMESTIC ENERGY EFFICIENCY: LOCAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
District/unitary	OVERALL APPROACH	No real engagement with domestic energy efficiency	Some public commitment to energy/environment goals but limited action or strategic engagement	Senior strategic engagement with domestic energy efficiency with resourcing and 'champion' with power to act	Full engagement with effective cross-dept action, relevant strategic commitments, and several active staff
	Strategic engagement and resourcefulness	Minimal attention to energy efficiency within corporate plans and strategies	Broad commitment to importance of energy efficiency but no clear plan of action or resourced programme	Clear strategic focus (either as domestic energy efficiency or as part of climate change strategy). Feature of Community Strategy and LSP activity, with measurable targets for achievement. Understanding and use of range of powers (wellbeing, regulatory reform order, spend to save etc)	As 'good' plus targets at or in excess of Energy White Paper with local authority taking responsibility for leading delivery within community
	Own housing stock/social housing sector policies	Not on track to meet Decent Homes and no clear strategy for addressing	Planning to achieve Decent Homes	Setting higher thermal standards than Decent Homes with clear programme for achievement	As 'good' plus training and advice support for tenants and staff on efficient use of heating etc
	Private sector housing / HECA	Minimal HECA reporting	HECA strategy being followed with at least 2-day per week officer	Specific programmes to improve private housing, with grant regimes reflecting e.e. priorities. Full time officer	Strategic approach to private households with clear targets for improvement, partnerships for advice and delivery, and monitoring
	Planning policy and control			LDF encourages high energy efficiency standards (beyond building regs) in new housing (no targets)	LDF sets targets for additional energy performance in new build housing (beyond building regulations)
	Building regulations enforcement	Little attention to Part L in building control activities	Part L assessment within building control but not high priority within enforcement	Part L assessment within building control a priority focus of enforcement activity	Systematic assessment and review of Part L aspects of plans and enforcement review of actual construction
	Regeneration / economic dev schemes	No recognition of potential role of home energy efficiency improvements in area renewal	Recognition of value of home energy efficiency improvements	Renewal/regeneration schemes actively seek projects delivering energy efficiency advice and improvements	Specific energy efficiency targets within renewal/regeneration schemes

DOMESTIC ENERGY EFFICIENCY: LOCAL					
LEVEL	LEVER	Weak	Fair	Good	Excellent
District/unitary (cont.)	Energy advice provision	Occasional distribution of EEAC materials	Distribute EEAC materials regularly and modest funding (<£5K)	Consistent support and engagement with local EEAC including funding, joint promotions, own staff training	As 'good' plus clear policy of training and supporting front-line staff in energy efficiency advice and signposting
	Project support		Occasional funding into energy saving projects	Active and funded support for energy saving initiatives	Leadership or lead partner role within development of local energy efficiency exemplars and focused approach to securing funding (wellbeing powers, PSA targets etc)
	Grant and e.e. delivery schemes (EEC, Warm Front etc)	Minimal signposting to schemes, on reactive basis	Reactive response to schemes to provide 'endorsement' and enable distribution of materials	Supporting/engaging with EEC schemes and Warm Front to promote locally increased take-up, with own funding schemes to 'fill in gaps' and action to incentivise take-up (e.g. council tax reduction)	Co-ordinated effort with wide range of partners (health, suppliers, EEAC, other local authorities etc) to maximise take-up of available grants and schemes with 'one-stop-shop' approach to signposting and delivery
	Monitoring and reporting	Minimal attention to HECA monitoring	HECA monitoring with standard data management approach	As 'medium' with system for collecting data on measures installed	Database of all properties. Planned use of data to target future activities (e.g. GIS).
	Communications, education and leadership	None	Strategic framework limited to standardised 'declarations' with occasional publicity on energy efficiency. Some engagement with sub-regional co-ordination	Clear and tailored corporate strategy with political buy-in to improve energy efficiency with regular publicity for activities	As 'good' plus sustained programme of training of councillors and staff (part of induction) and other key partners
County/sub-regional partnerships (also Unitary)	Co-ordination of district-level activity and technical advice/support	No effective co-ordination between districts	Erratic engagement with sub-regional co-ordination, mainly reactive to third party efforts (e.g. LASP)	Active engagement with LASP programme/HECA fora, with sharing of technical advice and support and joint development of schemes (EEC, other grants) and strategies	Strong partnership approach across the sub-region with clear strategic goals and action plan to delivery them
	Communications, education and leadership	No sense of potential role of county-level action or education	Occasional involvement on reactive basis to school energy education initiatives	Active encouragement for schools to engage with energy education	County-wide programme for schools energy education

DOMESTIC ENERGY EFFICIENCY: REGIONAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
REGIONAL	OVERALL APPROACH	No real sense of regional role on domestic energy efficiency	Regional action taking place but lacking buy-in from key actors and without clear strategy	Regional strategy and role developed to add value to sub-regional and local action	Full engagement at regional level on domestic energy efficiency with clear approach to delivery and effective co-ordination of local action
	Regional Sus Dev Framework	Only passing acknowledgement of home e.e.	Routine endorsement of energy efficiency as key aspect of sustainable development but no targets	Clear and active endorsement of strong energy efficiency targets	As 'good' with specific examples of implications for other regional policies, programmes and actions
	Regional Spatial Strategy	Only passing acknowledgement of home e.e.	RSS highlights importance of domestic e.e. and urges planning authorities to consider it in their LDFs	Active encouragement for local plans to include policies for new housing developments to exceed building reg standards (no targets)	As 'good' but with targets and technical support and training for local planning authorities to enable them to integrate into own policies
	Regional Housing Strategy	Only passing acknowledgement of home e.e.	Acknowledgement of energy efficiency as tool for assisting with affordable warmth but no clear targets	Clear affordable warmth targets for all new build based on high energy efficiency targets	As 'good' with training support for housing authorities to enable delivery
	Regional Economic Development	No sense of economic value of increased domestic e.e.	Economic value of improved domestic e.e. identified (but not acknowledged by RDA)	RDA and Regional Economic Strategy acknowledges potential for improved domestic e.e. to add economic value	Direct RDA support and funding to stimulate domestic energy efficiency activity
	Skills & sector development		Construction skills development activity includes some aspects of energy efficiency	Focused approach to improving skills of construction industry to enable more efficient building and insulation techniques	Commitment to developing domestic e.e. skills and sector to ensure (a) sufficient skilled local labour (b) economic value of e.e. improvements is retained in region
	Co-ordination of sub-regional activity and national funding streams	Limited co-ordination through EEACs and HECA forum but no sense of regional role	Value of regional activity acknowledged and some resource provided but no clear action plan or stakeholder buy-in	Strategic approach to regional activity on domestic e.e. with stakeholder buy-in, appropriate resources and clear locus for action	Regional co-ordination of domestic e.e. activity and funding, supporting appropriate delivery of advice and support at local, sub-regional and regional level

4.3.2 Business Energy Efficiency Matrix

BUSINESS ENERGY EFFICIENCY: LOCAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
District/unitary	OVERALL APPROACH	No real engagement with business energy efficiency	Limited signposting to schemes	Integration of potential role in encouraging business improvement into other business services	Deliberate targeting of services for business on achieving energy efficiency improvements
	Strategic engagement and resourcefulness	Minimal attention to energy efficiency within corporate plans and strategies	Broad commitment to importance of energy efficiency but no clear plan of action or resourced programme	Clear strategic focus (either as business energy efficiency or as part of climate change strategy). Feature of Community Strategy and LSP activity, with measurable targets for achievement	As 'good' plus targets at or in excess of Energy White Paper with local authority taking responsibility for leading delivery within community
	Economic development and regeneration activities	No	Limited acknowledgement of energy efficiency as a factor in business performance	Emphasis given to opportunities to improve business efficiency through energy efficiency improvements as part of economic development and regeneration activities	Core focus of economic development activity to secure high efficiency standards in projects and activities and participating businesses
	Planning policy and control			LDF encourages high energy efficiency standards (beyond building regs) in new commercial developments (no targets)	LDF sets targets for additional energy performance in new commercial developments (beyond building regulations)
	Building regulations enforcement	Little attention to Part L in building control activities	Part L assessment within building control but not high priority within enforcement	Part L assessment within building control a priority focus of enforcement activity	Systematic assessment and review of Part L aspects of plans and enforcement review of actual construction
	Business advice provision (either direct or through support for 3rd party)	No reference to energy efficiency within existing business advice services	Limited reactive signposting to Carbon Trust and other sources of business energy efficiency advice and support	Active promotion of business energy advice services and strong case made for action	Targeted involvement with local business networks to promote available services and identify opportunities and funding
	Procurement			Procurement practices include minimum energy performance standards for businesses providing relevant services	Use of procurement practices specifically to drive energy efficiency improvements in businesses providing services

BUSINESS ENERGY EFFICIENCY: LOCAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
District/unitary (cont.)	Communications and leadership	None relating to business energy efficiency	Limited promotion based on standard 'declarations'	Active engagement with business sector to encourage action	Strong leadership shown to business sector on climate change as core element of LSP
County/sub-regional partnerships (also Unitary)	Co-ordination of district-level activity and technical advice/support	No effective co-ordination between districts	Erratic engagement with sub-regional co-ordination, mainly reactive to third party efforts (e.g. LASP)	Co-ordinated engagement with sub-regional business networks and advice services	Strong partnership approach across the sub-region with clear strategic goals and action plan to deliver them

BUSINESS ENERGY EFFICIENCY: REGIONAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
REGIONAL	OVERALL APPROACH	No real sense of regional role on business energy efficiency or economic value	Regional action taking place but lacking buy-in from key actors and without clear strategy	Regional strategy and role developed to integrate with national schemes and specific advice and support	Full engagement at regional level on business energy efficiency with clear approach to delivery and effective leadership on issue in business networks
	Regional Strategies	Only passing acknowledgement of value of improving business e.e. and potential role in stimulating improvement	Routine endorsement of energy efficiency as key aspect of sustainable development and economic strategy but no targets	Clear and active endorsement of strong business energy efficiency targets (including high standards in new commercial developments) with clear sense of economic benefit	As 'good' with specific action plan for delivery of improvements across region and specific goal of using regeneration projects as exemplars for best e.e. practice in commercial development
	Business sector advice and integration of national schemes (Carbon Trust, BREW etc)	No acknowledgement of energy efficiency as element of business advice	Limited signposting to national schemes available within business links and similar advice and support services	Structured regional approach to provision of energy advice to businesses with Carbon Trust involvement, integration with other business advice services and signposting to support schemes	Strong targets for improvement with energy efficiency improvements a core priority for business advice, with specific support for initiatives assisting businesses to take-up funding and support opportunities
	Regional leadership and co-ordination of sub-regional activity to create common sense of purpose	Limited co-ordination through regional networks of chambers of commerce	Value of regional activity acknowledged and some resource provided but no clear action plan or stakeholder buy-in	Strategic approach to regional activity on business energy advice with effective energy managers networks and strong push on energy efficiency through existing business contacts	Active regional leadership through all business contacts and co-ordination and support of regional and sub-regional advice delivery

4.3.3 Public Sector Energy Efficiency Matrix

PUBLIC SECTOR ENERGY EFFICIENCY: LOCAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
District/unitary	OVERALL APPROACH	No strategic approach to management of own energy use	Basic strategy in place but limited reach across organisation and limited resources applied	Clear strategy across council with savings targets, resources planned, understanding and use of funding powers and clear procurement objectives	Strong energy management approach, taking advantage of national schemes, funding powers, with effective monitoring and prioritisation of energy efficiency improvements in building management and equipment procurement
	Strategic engagement and resourcefulness	No political interest in reducing carbon emissions in own buildings. No interest or plans to write an energy strategy and action plan	Signed up to Nottingham Declaration or made public commitment to climate change agenda. Activities underway to develop an emissions strategy and/or energy efficiency improvement plan for council's own estate	Energy strategy and action plan in place with progress towards CO ₂ reduction targets for own energy use and buildings being made	Targets in excess of national targets with clear action plan to meet targets. (Long term ambition to become carbon neutral)
	Carbon management programme (Carbon Trust or equivalent)	Little awareness or interest in programme	Awareness and some officer interest but no senior level commitment to proceed	Participation in Carbon Trust LA Carbon Management Programme	Followed through strategies and actions planned in LA Carbon Management Programme, delivering savings and sustained programme of activity and monitoring
	Staff motivation and involvement	Minimal energy efficiency training	Some energy efficiency training for some staff	Energy efficiency training included in induction and in re-fresher courses as part of coherent strategy	Departmental targets set and staff aware of their contribution towards the target. 'Energy champions' scheme in place with at least one champion per department. Incentives offered towards staff achieving targets
	Dedicated resources	No dedicated resources	Some funding available but not ring fenced. Responsibility given to one person as part of another role	Ring fenced funding to spend on improving energy efficiency, but less than 10% of energy bill invested in improvements per annum. Ad hoc use of 'invest to save' and Carbon Trust schemes	As good with strategic approach to funding and at least 10% of the council's energy bill being invested in energy efficiency per annum and staffing of more than 1 full time equivalent per £1m spent on energy bills

PUBLIC SECTOR ENERGY EFFICIENCY: LOCAL					
LEVEL	LEVER	Weak	Fair	Good	Excellent
District/unitary (cont.)	Own buildings energy management (incl. approach to Energy Performance in Buildings Directive)	Ad hoc integration of energy efficiency improvements during refurbishment but no systematic approach	Systematic consideration given to energy efficiency improvement during refurbishment	Clear prioritisation of energy efficiency investments in existing buildings and strong focus on energy performance during refurbishment and plant replacement	As good, plus plans in place to use EPB Directive to highlight energy performance with public display and link to staff awareness strategy
	Monitoring of energy use & carbon emissions	Limited monitoring of building-specific energy use and no reporting to budget holders	Building-by-building energy use data available but not related to potential performance improvements in building and equipment	Detailed energy performance data held for each building and equipment uses, with clear reduction target monitoring and communication	As good plus use of metering and data to provide feedback to energy users and target further reductions
	Schools energy management	Left entirely to discretion of head teachers with no proactive support	Support and guidance on energy management provided to head teachers and/or bursars and/or caretakers	Clear energy management strategy and action plan for schools with prioritised funding support for improvements, training for key staff, and technical advice	As good plus use of whole school approach to energy management with educational activities on sustainable energy
	Procurement (equipment, buildings and refurbishment)	No energy performance consideration during procurement	Basic energy efficiency standards set for procurement but no strategic consideration of life-time costs	High energy efficiency standards set for all equipment and buildings procurement and active engagement with regional or sub-regional procurement activities to increase leverage and buying power	As good plus use of procurement to drive higher energy efficiency standards in service providers
County/sub-regional partnerships (also Unitary)	Sub-regional resource sharing and co-ordination	No effective engagement with experience beyond own organisation	Occasional liaison with other public sector energy managers	Effective sharing of energy management experience and resources within public sector energy manager network	Leadership role in public sector energy management with strong joint approach to data management, procurement, engagement with funding schemes etc.
	Co-ordination of procurement activity	No effective co-ordination	Local buying consortium with basic energy efficiency standards	Co-ordinated approach to procurement with strong sustainability themes	Aggressive targets for sustainability within procurement partnership with drive to recruit additional members to increase influence and impact

PUBLIC SECTOR ENERGY EFFICIENCY: REGIONAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
REGIONAL	OVERALL APPROACH	No acknowledgement of potential regional role in public sector energy efficiency and no energy management function within regional bodies	Energy management function within regional bodies but no regional approach	Strong energy management for own buildings and projects within regional bodies and effort to co-ordinate procurement and strengthen local and regional delivery in public sector	Full engagement at regional level on public sector energy efficiency with clear approach to delivery and effective leadership on issue in regional public sector networks
	Regional bodies' own energy management	No energy management function	Energy management function within regional bodies with attention to data gathering and building and equipment performance	Good energy management activities with targets for improvement and investment and management strategies to meet them	As good plus commitment to exemplary energy performance standards and involvement of staff and partners in effort
	Procurement for energy efficiency	No acknowledgement of energy efficiency within procurement activity	Regional co-ordination of procurement with basic energy efficiency standards acknowledged but no life-time cost approach	Regional procurement organisation setting demanding energy efficiency standards for all equipment and buildings used by public sector	As good plus use of procurement to drive up energy efficiency performance of service providers
	Regional leadership and co-ordination of sub-regional activity to create common sense of purpose	No active participation in regional networks	Some engagement in regional energy manager networks to improve own practice	Support for, and engagement with public sector energy management co-ordination, information sharing and common resource development	Active regional leadership in public sector energy management and procurement with co-ordination and support of regional and sub-regional activity

4.3.4 Renewables and low carbon technologies Matrix

RENEWABLES AND LOW CARBON TECHNOLOGIES: LOCAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
District/unitary	OVERALL APPROACH	No engagement with renewable energy district heating or CHP	Acknowledgement of benefits from renewables and low carbon technologies, but no strategic approach	Positive attitude towards renewable energy and low carbon technologies in new developments and new generating projects but lacking systematic practical follow-through	Supportive and proactive approach to renewables and low carbon technologies with strong engagement with sub-regional and regional activities
	Planning policy and control (new build)	No acknowledgement of role of renewable energy (RE) in Local Plan (LDF) or of the role of District Heating (DH) and CHP	Local Plan (LDF) encourages RE in new build (no target). Also encouragement for DH and CHP but no target	LDF sets target (10% or less) of energy use from on-site renewables in new development but no assessment or enforcement procedures in place. Use of DH and CHP encouraged with targets where RE not appropriate. Gas based DH seen as precursor to use of biomass	LDF sets target for at least 10% of energy use from on-site RE in new development. Clear systems for technical assessment and enforcement. Use of DH and CHP encouraged with targets where RE not appropriate. Gas based DH seen as precursor to use of biomass
	Planning policy and control (new generating capacity)	Pre-PPS 22 policy and decisions made on ill-informed basis driven by opposition groups	PPS 22 policy but decisions made on ill-informed basis driven by opposition groups	Positive planning policy consistent with PPS22 and consistent decisions based on material considerations and balanced assessment of local opinion. Clear expectations of community engagement	As good plus proactive community engagement in planning activity on RE (e.g. SW Protocol) and low carbon technologies
	Regeneration schemes and own buildings	DH/CHP and RE not on the radar	Encourages use of DH/CHP and RE within own new build and within regeneration schemes	Use own buildings (new and old) and regeneration schemes to showcase renewable electricity and heat technologies, and DH and CHP	As 'good' but adopts installation of RE as standard with target >25% of energy use DH and CHP implemented as standard measure where RE not appropriate

RENEWABLES AND LOW CARBON TECHNOLOGIES: LOCAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
District/unitary (cont.)	Individual project support and technical expertise	No point of contact for RE and DH/CHP	Officer training to familiarise with technologies	Co-ordinated action with other authorities to enable delivery of RE projects and DH and CHP. Signposting to national grants schemes	Proactive identification of RE project opportunities and encouragement similarly with DH and CHP
County/sub-regional partnership (also Unitary)	Co-ordination of policy and technical expertise/advice	Nothing happening	Occasional discussion on agenda of county planning groups etc	Co-ordinated action on landscape assessment, EIA evaluation and planning policies. Active support for county 'champion' organisation (in house or agency)	As 'good' plus co-ordinated provision of technical advice and support on buildings integrated RE targets, and targets for DH and CHP
	Planning policy & Strategy	DH/CHP and RE play no part in planning policy and strategy	County strategy but limited buy-in and no clear approach to delivery	County-wide strategy with target (from RSS), political buy-in and clear action plan to enable delivery	Active and positive response of county to planning applications
	Communications, education and leadership			Regular and positive County-level communications. Active encouragement for schools to do RE projects	As 'good' plus challenge to opposition groups and promotion of positive local benefits

RENEWABLES AND LOW CARBON TECHNOLOGY: REGIONAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
Regional	OVERALL APPROACH	Little interest in renewables or district heating and CHP beyond the 'must dos'	Delivery of PPS22 basics plus some interest in renewables but not built in to key strategies and no dedicated capacity. Awareness of role of district heating and CHP and some examples but no clear strategy for implementation.	Clear targets, strategy and action plan with delivery mechanisms in place and buy-in and funding from key regional bodies for DH/CHP and renewables. Energy hierarchy approach implemented	Renewables a key driver for economic development reflected in relevant strategies and resourcing of regional and sub-regional agencies. Gas DH/CHP standard measure supporting renewables and as interim step to use of biomass
	Regional Spatial Strategy	2010 regional renewable electricity target	2010 targets by sub region plus explicit support for on-site generation policies in new build (no target). Targets for DH and CHP.	2010 targets by sub region plus 2020 electricity target plus explicit support for on-site generation policies in new build (with target %). Targets for DH and CHP	As 'good' with renewable heat target, plus support and advice for planning officers translating into LDFs. DH/CHP standard measure where RE not feasible
	Regional Economic Development	Little sense of potential economic benefits of renewables	Some interest in renewables and DH/CHP but no strategy or action plan for region	Active renewable energy/low carbon tech's agency and strong and appropriate commitment to renewables within RDA plans and RES	As good, plus clear funding strategy to support renewables and DH/CHP development and training of economic development teams
	Innovation and sector development		Limited strategic approach to sector development and/or inappropriate focus in terms of regional potential	Clear and appropriate focus for regional innovation activity on renewables and DH/CHP. Gas DH/CHP installed as interim step to longer term use of biomass DH/CHP	Funded projects enabling innovation and sector development
	Regeneration / new building funding	No sense of potential role of District Heating, CHP or renewables	Renewables and district heating/CHP encouraged in new buildings funded by RDA but not often realised or insisted upon. Energy hierarchy approach not being followed	Target set (and met) for renewables and DH/CHP in all new buildings and developments funded by RDA. Energy hierarchy used to drive implementation of RE and DH/CHP	As good plus exemplar 'zero carbon' buildings and developments. Replacement of existing gas DH with biomass DH

RENEWABLES AND LOW CARBON TECHNOLOGY: REGIONAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
Regional (cont.)	Co-ordination of sub-regional activity and national funding streams		Occasional regional meetings of local and county 'champions'	Dedicated agency with active co-ordination of sub-regional agencies with clear links to regional strategy and targets	As 'good' plus Proactive approach to securing funding for sub-regional bodies and supporting improved performance
	Communications and leadership	Little activity and poor co-operation with national programmes	Receptive to, and involved with, national communications and training initiatives	Positive renewables /DH/CHP communications strategy and proactive training for councillors and planners in renewables/DH/CHP policy and planning	As good plus proactive challenging of opposition group misinformation

4.3.5 Transport Matrix

TRANSPORT: OWN ORGANISATIONAL TRAVEL ACTIVITIES					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
All: own activities	OVERALL APPROACH	No real consideration of energy or carbon issues in the transport activities	Effects of their own travel activities are being considered and basic measures are being put in place to manage	Pro-active approach to reducing carbon emissions from transport activities with reasonable reductions expected	Vigorous efforts to reduce carbon emissions being made.
	Travel Plans	No use of travel plans in the authority, perhaps a travel policy	Basic travel plan, focused on commuting activity. Promotes public transport, walking and cycling. Some consideration of facilities for cyclists. Improvement target at 5%	Full travel plan looking at commuting and business travel. Working with public transport providers to adjust service. Car sharing schemes. Good facilities for walking and cycling. Target 10% reduction	Broad travel plan including visitors. Considering financial incentives. Looking at the use of pool cars/car clubs and other innovative schemes. Full time travel co-ordinator for own sites. Target 15% reduction
	Fleet management	No real consideration of energy or environmental issues in running of fleet	Monitoring of fleet fuel use and basic targets set. 5% reduction	Wider fleet management policy covering fleet vehicles and company cars. Driver training given and incentives for improvements. Use of some techniques to reduce mileage	Strong green fleet management policy. Fuels policy looking at alternatives and CO ₂ limits on company cars. Consideration of policies to reduce fuel use in private fleet through mileage allowance and other policies.
	Procurement of transport services	No consideration given to energy issues. Possible mention in environmental aspects	Provision of advice and informal discussion with service providers to reduce carbon emissions	Soft targets for vehicle emissions and fuel use	Hard targets and standards in tenders relating to vehicle specification and behaviour. Define fuels and behaviour required for delivery of contract

TRANSPORT: LOCAL					
LEVEL	LEVER	Weak	Fair	Good	Excellent
LOCAL/COUNTY	OVERALL APPROACH	No real engagement with the transport and energy issue. Not seen as a local problem	Beginning to engage with issue and consider in policies	Considered as a local issue and some pro-active measures to tackle carbon emissions	Seen as an important local issue. Pro-active in schemes to reduce carbon emissions. Support national initiatives with local implementation
	Local Transport Plan - covers local transport investment	Follows basic guidelines with work on reducing congestion and air quality (which are likely to effect carbon emissions) but no specific discussion of climate change	Brief discussion on climate change with LTP as part of AQ and environment issues, but not as a policy driver. SEA and NATA assess climate change implication of plan	Specific material on climate change and discussion on how other elements of the plan will effect carbon emissions. Indicator on carbon emissions	Pro-active policies on reducing carbon emissions (perhaps along side air quality). Resources allocated to tackling climate change. Target set for reducing emissions
	Local Air Quality Management	No requirement for AQMA, carbon issues not addressed in review and assessment	Carbon issues considered in review and assessment but not followed through	Carbon emissions in inventory, and in analysis of AQAP and AQS	Specific measures to deal with climate change and carbon reduction in AQAP and AQS. Targets set and budget allocated
	Energy strategy	No energy strategy	Energy statement as part of environmental/sustainability strategy	Specific energy strategy that includes corporate transport	Detailed energy strategy that includes wider transport emissions and links to LTP and AQAP
	LSP/community strategy	Energy issues not considered	Energy considered as part of wider sustainability agenda	Specific work on energy and aspirational target set. Recognition of transport within this	More detailed work on this, with specific transport elements and target. Clear vision for low carbon transport for the community
	Planning system	Limited discussion of land-use planning and energy issues, in planning policies	Energy and land use issues considered in policy. Some use of planning conditions to control traffic from new developments	Good understanding of energy and land use. Positive work on planning for alternative fuel infrastructure. Pro-active approach to planning conditions to reduce impact new of developments	Strong policy position on transport and land use, rigorous linkage to transport hubs and new development. Reduce limits for car parking and promoting of low and zero car developments
	Awareness campaigns/communication strategies	Some transport and congestion related work	Work on travel reduction with business. Information on alternatives such as PT, walk, cycle	Develop links with travel reduction and AQ and carbon benefits. Links across councils for programmes and with other agencies	More detailed advice on reducing fuel use to businesses and residence and work on promoting alternative fuels and clean vehicles. Integration with travel reduction advice. Co-operation with energy agencies, channel for EST and CT schemes and advice

TRANSPORT: REGIONAL					
LEVEL	LEVER	<i>Weak</i>	<i>Fair</i>	<i>Good</i>	<i>Excellent</i>
REGIONAL	OVERALL APPROACH	No recognition of transport and climate change as a regional issue	Limited recognition of issue. Mention in policy documents	Inclusion in policies. Beginning to look at direct regional actions	Direct regional action on transport and climate issues support both transport energy efficiency and low carbon transport technologies
	Regional spatial strategy and transport strategy	Limited mention of transport and climate issues	Recognition of climate and transport issues as a regional theme	Attempt to consider land use and transport energy use in regional plan. Consideration of carbon reduction potential of major regional transport schemes	Strong climate theme and transport theme. Guidance and support for LTPs to tackle this issue. Support for major schemes on both regional economic and climate grounds
	Regional economic development	No recognition of benefit of transport fuel efficiency for industry and a low carbon transport industry	Recognition that transport e.e. can be good for industry. But no concrete actions	Direct recognitions that transport e.e. is important and policy framework to allow support. Acknowledge potential benefit of a low carbon transport industry in region	Direct support for transport efficiency and co-operation with EST/CT programmes. Policy to promote growth of low carbon transport technology industries
	Skills and sector development	Not seen as a useful sector to support	General recognition of need to support skills in this area	Networking and sign posting activities to support skills and industry	Direct financial support for skills, R&D, and sector development
	Business advice through Business Links and regional bodies	Not seen as a business issue	Seen as a business issue but not directly tackled	Business Links used to signpost information and included in environmental work with businesses	Specific programmes on transport carbon reduction for businesses. Working with EST/CT schemes. Regional focus. Additional direct funding

5 THE QUALITY OF CURRENT PERFORMANCE

5.1 Assessing the quality of current performance

To begin to understand the potential for improved local and regional performance on carbon management, there first needs to be an assessment of the current quality of performance. What proportion of local and regional bodies fall in each quality category – weak, fair, good and excellent – of each of the five aspects of the Carbon Management Matrix?

The project team has attempted to answer this question, making an assessment of the quality of performance based on a number of sources:

- the literature review carried out for this study, including the LGA survey of local authorities, Practical help case studies, RDA corporate plans and review of regional activities associated with the Energy White Paper carried out for Practical help, ratings of the quality of Local Transport Plans (see Appendix B for a full list of references reviewed);
- the interviews with local, regional and national stakeholders (particularly the latter);
- the stakeholder workshop (where participants were asked to estimate proportions in each category for the domestic energy efficiency matrix);
- details of participation in the Carbon Trust Local Authority Carbon Management programme;
- the project team's own extensive knowledge of local and regional practice on the various aspects of carbon management.

In other words, it was not a scientific or academically robust exercise. However, in the absence of data or routine assessment of carbon management performance, it serves as a 'first stab'. It has been done with a very broad brush and no local or regional bodies are named. In some cases, particularly with only 9 regions, the assessment has tended to 'round down' performance where it was considered, for example, to meet some fair and some good characteristics. The results are shown in Table 3 below.

There is potential to use the Matrix, once refined, to assess performance on a more systematic basis in the future. In the mean time, the Matrix gives an indication of the evidence of local or regional activity that would need to be provided in order to justify changing the proportions in each quality category.

As with the Matrix, at this stage the performance assessment does not endeavour to break down performance by type of local authority or regional body.

At this stage, the point is not so much the absolute precision of the judgments reflected in Table 1. The main point at this stage is just how poor current local authority and regional body performance is across the range of opportunities identified in the Matrix for more effective carbon management.

Table 3: Initial assessment of current carbon management performance by local and regional bodies

	Level	PERFORMANCE QUALITY			
		Weak	Fair	Good	Excellent
Domestic energy efficiency	Local (% of 386)	46%	45%	7%	2%
	Regional (of 9)	4	4	1	
Business energy efficiency	Local	60%	35%	5%	
	Regional	3	4	2	
Public sector energy efficiency	Local	30%	45%	20%	5%
	Regional	5	3	1	
Renewables and low carbon techs	Local	55%	40%	4%	1%
	Regional	3	4	2	
Transport	Local (own use)	35%	55%	7%	3%
	Local (LTP etc)	25%	55%	15%	5%
	Regional	2	5	2	

5.2 Business as Usual local and regional performance

Before assessing the potential impact of introducing new policies to stimulate an improvement in quality of performance, it is important to establish what improvements could be anticipated between now and 2010 on the basis of existing policies and programmes.

In theory, understanding 'Business as Usual' (BaU) should enable a clearer picture of whether local and regional action already 'in the pipeline' is sufficient (or in excess) of that already anticipated within the CCP. In practice, however, it has proved difficult to identify the extent of the CCP's expectations. Nevertheless, establishing BaU can at least provide an indication of the remaining additional space for performance improvement.

BaU has been considered for each aspect of carbon management for the period from now until 2010.

5.2.1 Domestic Energy Efficiency Business as Usual

Improving domestic energy efficiency is a key element of the CCP. The most recent appraisal (Future Energy Solutions/Policy Studies Institute 2005) indicates that current measures will deliver carbon savings of 4.8 MtC by 2010. The main contributions come from building regulations improvements, EEC, and Warm Front.

Building regulations are enforced by local authorities. The quality of enforcement is therefore a factor in the extent to which anticipated savings are realised in practice. The FES/PSI evaluation is silent on this subject except to indicate that there have been some failings on air leakage standards (reinforced by the recent report for the Energy Efficiency Partnership for Homes, BRE 2004). There is no reason to suppose that local authority enforcement performance will improve under the new regulations (even

though there is evidence to suggest that there will need to be increased attention to local authority enforcement in order to achieve in full the anticipated savings from building regulations improvements).

In general, energy suppliers have been relatively reactive in their approach to working with local authorities under EEC in relation to private sector households (which represent 75% of all households). As outlined in Section 6.1 below, there is some anecdotal evidence that suppliers are achieving more success with their EEC schemes in those areas where local authorities perform better. However, there is no evidence at present that energy suppliers are aiming actively to improve local authority performance and secure more widespread involvement in their schemes. It therefore cannot be assumed that EEC will lead to performance improvement at local authority level.

Are there other policies or programmes already in place which might improve performance above current levels?

One such scheme, the Energy Saving Trust's LASP scheme, would be a possible candidate. While there is no data available (to date), the project team believes that this programme has had a major impact over the last few years on moving 'weak' authorities up to 'fair' (and in a few cases, creating partnerships which collectively achieve 'good' or even 'excellent'). However, there is no commitment to expansion of this current support programme for local authorities, which currently cover about a half of local authorities in England. It is unlikely that, in the absence of additional resources for the programme and/or actions to raise the priority given to domestic energy efficiency amongst local authorities, the current resources will be able to do more than sustain current performance levels.

There is a possibility that current regional programmes being funded by DTI and EST and developed by each region for greater levels of regional co-ordination and strategic direction may assist in securing improvement at regional level. The impact of this may feed down into performance improvement at local level. However, until regions have detailed their plans, it is too early to judge the likely impact.

On this basis, it seems reasonable to assume that the analysis of current performance outlined in Table 1 will not change significantly over the next 5 years. This fits with the analysis that improvement has been driven to date by Wilful Individuals; and there is no evidence that the number of such people within local authorities is due to increase in the next few years.

5.2.2 Business Energy Efficiency Business as Usual

Current performance by local authorities on stimulating business energy efficiency is generally low and there are no signs that it will improve under Business as Usual.

There are no national programmes specifically to encourage a role for local authorities in stimulating business energy efficiency improvements. Indeed, the CCP has an understandable focus on larger energy users, addressed by the Emissions Trading Scheme (ETS), Climate Change Agreements (CCA), and Carbon Trust activities. None of these (probably rightly) see local authorities as key partners in reaching or persuading their target businesses to participate.

Small and medium sized enterprises (SMEs) – which local authorities may be ideal partners to reach and persuade – are not currently a target for national carbon

emission reduction programmes. This is largely to do with the cost-effectiveness of reaching such a diffuse sector when compared with that of reaching larger energy users (over 900,000 SMEs currently collectively cause emissions of 10 MtC per year, compared with 13,200 large non-energy intensive businesses emitting 13 MtC (Carbon Trust 2005)).

This is not to say that reaching SMEs is not important to the achievement of long-term carbon emission targets. And there are resources currently available to SMEs who are interested in improving energy efficiency and reducing emissions. But there are no signs that reaching SMEs or encouraging local authorities to use their relationships with local businesses to drive carbon management in local businesses is going to happen as BaU.

Therefore, the current low level of performance by local authorities on business energy efficiency can be expected to continue without additional action.

At a regional level, there are indications from the interviews and literature review for this study that Regional Development Agencies are beginning to acknowledge and address the potential role they can play. In partnership with the Carbon Trust and with support being formulated as part of the Business Resource Efficiency and Waste Programme (BREW), RDAs or bodies they support are beginning to organise improved signposting to existing schemes (particularly Carbon Trust initiatives). In addition, at least one RDA (North West) is currently exploring opportunities to support activities to improve regional supply chains and meet skills requirements within the energy efficiency technology and service sector.

There are some informal indications from the Carbon Trust that the introduction of a regional manager in partnership with an RDA does lead to increased take up of these national programmes. The expansion of Carbon Trust regional management will drive this still further.

However, these improvements, driven principally by the Carbon Trust, are likely to be integral elements in the organisation's strategy to achieve its existing targets within the CCP and to ensure larger energy users are engaged effectively with ETS and CCAs as appropriate. Continued performance improvement at a regional level can therefore be expected, but it is difficult at present to see this as anything other than the BaU already assumed within the CCP for the business sector.

5.2.3 Public Sector Energy Efficiency Business as Usual

The public sector – and particularly the local and regional elements of it – is not a significant emitter of carbon emissions. It does, however, have significant control over its own emissions by virtue of its capacity to manage the energy it uses and influence the efficiency of the buildings it occupies and the equipment it procures. It also has a collective target in the CCP of cutting emissions by 0.5 MtC. However, there is little detail on exactly how this is expected to be achieved within the public sector and what proportion of the 0.5 MtC total is expected to be delivered by local authorities.

Nevertheless, some performance improvement can be expected as Business as Usual. Increasing attention has been paid to local authority performance on its energy management. This has included guidance from the Audit Commission on staff resourcing and levels of investment in energy efficiency as a proportion of energy bills. There was also, for a brief time, a best value indicator for the energy performance of local authority buildings. In the next few years, future Gershon-style cost-cutting and

resource efficiency drives in local government, plus potential rises in fuel costs, are likely to sustain this and drive management attention towards costs – like energy – which are controllable (and ‘reduceable’).

The Carbon Trust has recently embarked on a Local Authority Carbon Management programme which provides advice and support to local authorities to manage carbon emissions from their own buildings and transport activities. It explicitly focuses on those local authorities which have already made some strategic commitment to carbon management and where there is strong evidence of senior management buy-in to this approach (i.e. authorities which would currently rate at or near to ‘good’ on the Matrix).

This programme will therefore improve the performance of some authorities from good to excellent in the Matrix (and contribute emission reductions to the Carbon Trust’s CCP targets as a result). The scheme currently targets 30 new authorities per year. Some improvement in performance should therefore be assumed as BaU. However, on the basis of the analysis here, the Carbon Trust’s scheme will run out of candidates within a couple of years unless further action is taken to improve the performance of currently ‘fair’ authorities so that they meet the ‘buy-in’ criteria.

It is not currently clear to the project team whether this is part of the Carbon Trust’s plans (and therefore BaU). It may be that additional action to improve the performance of ‘fair’ local authorities and ensure more can meet the criteria for involvement in the scheme would increase the reach and impact of the scheme beyond that currently anticipated in the CCP.

At a regional level there is limited action on public sector energy efficiency by the regional bodies considered for this report. Because regional bodies have fewer buildings and smaller staff numbers than local bodies (owing largely to the lack of public service delivery from regional bodies), they are generally not a target for national schemes (such as those operated by the Carbon Trust). That said, some regions are providing co-ordination of energy managers’ networks (which include public sector energy managers) but these are the exception rather than the rule and there is no reason to suppose that overall regional performance will improve under BaU.

There are regional activities developing more systematically around local authority and public sector procurement, of which energy efficiency is potentially one element. These might lead to some marginal improvement in performance quality by regional bodies, but the main impact will be on the opportunities it creates for local authorities to meet good or excellent standing on the procurement element of the Matrix.

5.2.4 Renewables and Low Carbon Technologies Business as Usual

The Government’s 10% target for renewable electricity generation by 2010 is widely held to be challenging. From regional and local bodies it particularly requires a supportive planning policy framework and positive planning decisions.

There is currently activity by the Government to support and stimulate this planning environment. Planning Policy Statement 22, released in 2004, creates a more positive planning context for renewable energy projects. This should start to be reflected in Regional Spatial Strategies and, thereafter, in Local Development Frameworks over the next few years. Regional bodies have been specifically engaged, with support from the DTI, in the development of regional and sub-regional targets for renewable electricity. Training and advice to councillors and planners is being delivered across

England to improve understanding of this national and regional policy and their implications for local determination of renewable energy project planning proposals.

Alongside this, the Government is delivering longer-term policies and programmes to support innovation in new and emerging renewable energy technologies. While these have almost no impact on current or near-term levels of carbon emissions, they potentially provide the technological breakthroughs that will be driving emission reductions up to 2020 and beyond.

A number of RDAs or RDA-funded renewable energy agencies are engaged proactively with these innovation and planning activities, mainly spurred by the nature of regional renewable resources and the perceived economic development opportunities in associated business 'spin offs'.

PPS22 also provides opportunities for local authorities to establish targets for on-site renewable energy production in new housing and commercial developments. There are already signs that, mainly spurred on by Wilful Individuals (often acting at regional level or sub-regional level), a number of local authorities are adopting such approaches within planning policies. The manner and quality of enforcement has, in many cases, yet to be determined, but there is undoubtedly a trend of gradually improving performance in this aspect of local authority activity.

On the basis of this analysis, the performance of local and regional bodies can be expected to improve somewhat provided current supporting national activities continue. However, the CCP's currently anticipated contribution from renewable energy almost certainly requires a significant improvement in the performance of local authorities on renewables planning decisions and expanding business and planning support activities at regional level.

Being precise about the levels of performance improvement required is difficult; it may be that existing activities will not be sufficient to improve local and regional action enough to facilitate enough positive planning decisions to enable the targets to be met.

On this basis, there may be more work required to improve regional and local performance on renewables and low carbon technologies simply to enable CCP targets to be achieved.

A slightly different situation exists in relation to meeting CHP targets and their contribution to the CCP. Local authority interest and engagement with CHP, while not particularly widespread, does not at present seem to be a significant limiting factor for CHP. The technology is more constrained by its economics within an energy market which does not particularly credit the value of embedded generation. In the public sector this financial gap is partly addressed by a grant programme (Community Energy) which is generally oversubscribed.

5.2.5 Transport Business as Usual

The CCP currently makes no assumptions about transport energy use from the public sector. A rough estimate based on data from the Carbon Trust's Local Authority Carbon Management Programme suggests an additional 20% on public sector carbon emissions would arise from their transport activities - this is some 1.25MtC in 2005. The same information suggests that these transport emissions are expected to rise by about 10% by 2010 in a Business as Usual scenario, to 1.38MtC.

With regards to wider transport emissions the CCP currently assumes three main areas for carbon savings:

- the 10 year plan investment
- the EC voluntary agreement on new car CO₂ emissions (including VED and company car tax changes)
- the fuel duty escalator.

These measures were estimated to give a saving of 4.42 MtC on the 1990 baseline by 2010 (UK CCP 2000). Of this the 10 year plan, which includes local transport investment through the LTP process, accounted for 1.6MtC, which has been reduced more recently to an estimated 1.4MtC (Internal 2003 working paper, UK CCP review 2004). Local transport investment accounts for about £50 billion, which is about 1/3 of the total £180 billion set out in the plan, and so may achieve about 0.5MtC saving by 2010.

Savings from the 10 year plan include assumptions on investment in freight, public transport and congestion charging. The latter two, which assume 25 new LRT schemes, significant investment in bus priority, 9 road pricing schemes and 12 parking levy schemes, are the main assumptions for local transport investment. To date only one road pricing scheme has been introduced (in London), with others looking unlikely before 2010, no parking levy schemes have been introduced and work on LRT has slowed down.

On this basis it seems that Business as Usual is unlikely to generate any significant carbon savings from local transport actions. It also raises the questions of how much of the estimated 1.4MtC savings will actually be achieved by the 10 year plan and how improvement of LTP delivery can help to achieve these savings.

6 THE POTENTIAL IMPACT OF PERFORMANCE IMPROVEMENT

In the almost complete absence of systematic data regarding the impact of local and regional actions on carbon emissions, more rough and ready approaches have been adopted here to try to assess the potential impact of performance improvement.

This is detailed below in relation to each aspect of carbon management. Two different approaches have been taken.

The first approach is for those aspects of carbon management where there is likely to be some improvement in local and regional performance as part of existing CCP programmes under BaU (i.e. business energy efficiency, public sector energy efficiency and renewables). Here an estimate is made of the scale of performance improvement achieved under BaU and in each of four scenarios. The extent to which this additional performance improvement increases potential for carbon emission reductions or simply enables reductions already anticipated within the CCP can then be discussed.

The second approach is for those aspects of carbon management where there is significant potential for performance improvement within the Matrix but no sign of that transpiring from BaU (i.e. domestic energy efficiency and transport). For these, the approach has been to identify from case studies involving 'excellent' local authorities the carbon savings they have achieved. These are then considered to be the 'distance to travel' between weak and excellent performance (e.g. 25%). Where possible, details of the types of activity which have achieved these savings are identified (though, to some extent, these are already embedded within the Matrix).

The spread of savings across the Matrix is then assessed with reference to an 'average' – or BaU - performance (based on the distribution of authorities on the Matrix), and by the judgement of the project team.

While it would have been preferable to have done this with more detailed data, aggregating measured impacts from each lever in the Matrix on a 'bottom up' basis, this is not currently possible.

For the period assessed for performance improvement (2005 – 2010), any improvement amongst local authorities is assumed to be staggered evenly over these years and the level of impact in terms of carbon emissions related to the length of time spent at the new improved performance level.

In relation to the impacts identified, it is important for this second approach to assess how the carbon emission reductions relate to the existing CCP programmes. As outlined in Section 3.1, this involves a judgement regarding the extent to which the carbon emission reductions are:

- **ADDITIONAL** to current CCP programmes
- **AUGMENTING** the future potential for current CCP programmes by providing sufficient (and above average) facilitation and encouragement for enhanced local or regional participation
- **ENABLING** existing CCP programmes to be delivered to their anticipated extent – i.e. already assumed and required within the programme.

This is by no means straightforward because of the lack of an explicitly stated role for local or regional action within the CCP programmes. Nevertheless, an attempt is made to explain and justify the judgements made.

In terms of the impact of improving performance by regional bodies, no attempt has been made to model the effect on emissions. This is because there is an even greater lack of data on the carbon emission impacts of regional actions. It is also because the small number of regions involved make changes very 'lumpy'; one region being wrongly categorised changing results by roughly 11%.

However, the lack of modelling should not be seen as a mark of unimportance. As outlined in Sections 3 and 4 and within the Matrix across all aspects of carbon management, regional bodies can play key roles. They can create a crucial and facilitating link in the relationship between national programmes and effective local engagement and delivery. They can also support improved performance by local bodies and enable innovation and skills development in their own right. By setting regional strategies, they determine the context within which many local decisions are made and they establish regional priorities for action by regional and local bodies on enterprise, research and innovation, business sector and skills development. As the Matrix shows, these all have the potential to be aligned effectively with carbon management objectives.

6.1 Establishing 4 scenarios

In addition to BaU, four scenarios for performance improvement are considered for each aspect of carbon management (though these are only tied to carbon emission impacts for domestic energy efficiency and transport). As detailed below in Section 7, these reflect various levels of policy intervention to drive performance improvement beyond BaU. For the time being, and to use familiar labels, they may be characterised as 'weak', 'fair', 'good' and 'excellent'.

Scenario 1 is 'weak': policy intervention focuses on additional support activities.

Scenario 2 is 'fair': policy intervention builds not only additional support but also ensures that guidance provided to local and regional bodies across a range of roles and responsibilities has clear reference to carbon management and encourages stronger local and regional action.

Scenario 3 is 'good': policy intervention provides support and improved guidance and adds systematic and consequential performance assessment (e.g. within Comprehensive Performance Assessment – CPA – for local authorities) of the carbon management activities of local and regional bodies and a new duty 'to address climate change' within their work.

Scenario 4 is 'excellent': policy intervention does all the above and adds legally binding targets for performance improvement (as now with municipal waste management and recycling). In this Scenario, the legislation would require all local authorities achieve at least 'good' performance by 2010 on each aspect of carbon management.

The relationship between the anticipated improvements in performance and the proposed policy measures to achieve them is explored in more detail in Section 7.

6.2 Domestic Energy Efficiency

Practical help case studies of several councils such as Newark and Sherwood District Council indicate a delivery of 25% carbon emissions reduction across their own housing stock over a 10-15 year period, principally through improved energy efficiency. Very few authorities make estimates of carbon savings for the housing stock as a whole although Newark and Sherwood are on track to achieve a 25% cut over a 15 year period. Woking Borough Council's Beacon Council application reports achieving a 17% reduction in the whole of the Borough's carbon emissions over a 14 year period (the majority of which is likely to have come from housing, where a 26% improvement in energy efficiency has been achieved).

On this basis, a 25% emission reduction could therefore be considered the impact of improvement from weak to excellent standard on domestic energy efficiency over 15 years.

BaU 'average' performance is between weak and fair. For the analysis here, it has been assumed that 10% improvement (of the 25%) can occur between 2005 and 2010 with the remainder occurring up to 2020. Table 2 shows how the project team has judged the 'spread' of savings across the performance categories.

The higher reduction between 'fair' and 'good' than between 'good' and 'excellent' reflects a judgment that the behaviours identified under 'good' will have a significant and quick impact, particularly since 'fair' represents a low level of activity and limited engagement with programmes like EEC (which is relatively easy to improve).

Assessment of the National Atmospheric Emissions Inventory and UKCCP review statistics indicates that domestic sector carbon emissions for 2002 for England were approximately 28.6 MtC. This is possibly a slight underestimate but serves here as an estimate for domestic sector carbon emissions in 2005 (from which % reductions can be calculated).

Table 4: Carbon saving impacts of local authority performance improvement on domestic energy efficiency to 2010 and 2020 on 4 Scenarios

DOMESTIC ENERGY EFFICIENCY	Local Authority performance				Savings	
	Weak	Fair	Good	Excellent	Carbon to 2010 (MtC p.a.)	Carbon to 2020 (MtC p.a.)
% change in carbon emissions to 2010 (from 2005)	1%	-1%	-6%	-9%		
% change in carbon emissions to 2020 (from 2005)	5%	-5%	-18%	-25%		
Current LAs in each category	46%	45%	7%	2%		
BaU %LAs in each category by 2010	46%	45%	7%	2%	0.17	0.38
Scenario 1	40%	47%	10%	3%	0.25	0.67
Scenario 2	35%	45%	15%	5%	0.30	1.06
Scenario 3	0%	40%	50%	10%	0.73	3.36
Scenario 4	0%	0%	85%	15%	0.97	4.58

Table 4 shows that savings of up to 0.97 MtC are available by 2010 from improved performance by local authorities on domestic energy efficiency. By 2020, this increases (through sustained practice at the improved level rather than continuing improvement) to up to 4.58 MtC.

In terms of the CCP, it is important to assess the extent to which the carbon emission reductions calculated here are simply the result of local authorities securing take-up of existing CCP programmes. Are the reductions 'additional', 'augmenting' or 'enabling'?⁶

Making this distinction is difficult because there are several programmes within the CCP which are targeted at the domestic sector; none of them make clear the expected role of local authorities. As analysed in Section 5.2.1, none of them anticipates any improvement in local authority performance.

However, it is likely that most savings in these Scenarios would be delivered through activities by local authorities to increase take up of these programmes (EEC, Warm Front, Decent Homes etc) identified in the CCP.

The analysis above suggests that BaU will produce savings of about 0.17 MtC, principally as a result of currently 'good' and 'excellent' local authorities continuing their activities. Savings in addition to this in the scenarios are therefore certainly not anticipated by the CCP.

There is therefore an argument that local authority performance improvement above and beyond BaU creates new opportunities for action which are totally additional to existing CCP programmes.

One of the key elements of the CCP in this respect is the achievement of EEC carbon reductions. EEC targets (and therefore their carbon impacts) are set on the basis of negotiations with suppliers based on assessments (both by Government and the suppliers) of what savings can be achieved at what cost. The additional opportunity provided by improving local authority performance is therefore simply expanding the market for their EEC activities at no extra cost to suppliers.

There is some anecdotal evidence gained during interviews with energy suppliers that the quality of local authority performance is a strong factor in the effectiveness of their EEC schemes. This is reportedly not just about local authority endorsement or scheme involvement. It may be that better performing local authorities have more receptive and willing populations who are 'ripe' for EEC schemes.

EEC has often been described as energy suppliers picking the 'low hanging fruit' in domestic energy efficiency; the partial and anecdotal evidence here would suggest that local authorities play a vital role in ripening that fruit (and potentially bringing more fruit closer to the ground).

This role may include, on a sustained basis: routine promotion of energy advice and energy saving activities (by energy advice centres etc); political leadership and public statements of support and demonstration; publicly promoted exemplars within housing stock; support for local energy efficiency marketing through endorsement of supplier schemes; introduction of local incentive schemes (eg council tax rebates for energy efficiency improvements).⁷

If it is the case that EEC savings are focused in areas with more effective local authorities (say 'good' and 'excellent'), the logical conclusion is that the future potential for EEC savings (at same or lower cost) can be increased by improving effectiveness of other local authorities to 'bring them into play'. To extend the analogy above, this

⁶ See Section 3.1.1 for an explanation of each of these.

⁷ Indeed, the role includes good (and excellent) behaviours from the domestic energy efficiency matrix (see page 33).

would ripen up other low hanging fruit in districts where households are currently less responsive to energy supplier schemes.

The importance of this effect is not for the current EEC (EEC2) since much of the performance improvement in the scenarios comes into play after it expires in 2007/08. It is important to the likely ease and cost associated with achieving a further increase in EEC from 2008.

At present the Energy Efficiency Action Plan (EEAP) (DEFRA 2004a) assumes the same target for EEC3 as for EEC2 (delivering c. 0.7 MtC) but with higher costs per tonne saved because of 'saturation' (or lower availability of ripe low hanging fruit). This is reflected in the FES/PSI analysis of domestic measures for CCPR (FES/PSI 2005).

The 'ripening low hanging fruit' analysis here would suggest that the additional opportunity for carbon savings (beyond BaU) created by increasing the performance of local authorities could be added to EEC3 without increasing costs per kWh saved (or tonne of carbon reduced) beyond those in EEC2.⁸

In the case of Scenario 3, for example, this would be in the region of 0.5 MtC savings per year by 2010 which are not currently assumed with the CCP.

This is not to argue that expanding EEC to provide for the increased opportunity unleashed by improving local authority performance is necessarily the best way to realise this opportunity. It is to demonstrate how improving local authority performance can provide additional carbon emission reductions for the CCP.

Section 5.2.1 identified the likely need to improve local authority enforcement of building regulations to enable the achievement of related CCP targets. The CCP clearly assumes that they are enforced and therefore new buildings are meeting the stated standards.

The difference between the carbon emission savings achieved by a new building which fails building regulations and one which passes may be relatively small. However, the long-term implications for continuing building regulation improvements and construction industry confidence in, and adherence to, energy efficiency standards depends heavily on decent enforcement of existing standards.

The predicted carbon savings by 2020 in the various Scenarios are probably not very robust. However, they do show the longer-term impact of improving local authority performance between now and 2010 (3.36 and 4.58 MtC for Scenarios 3 and 4 respectively). Achieving these savings would almost certainly require national programmes which local authorities could work alongside. But most local authorities would then be performing at the levels currently achieved by only a handful of wilful individuals.

8 There is a separate question – not answered here – about the capacity of the insulation industry to expand to meet the commercial challenge of the extra demand created by expanding EEC as described. There is certainly no shortage of cavity walled housing which could benefit from insulation.

6.3 Business Energy Efficiency

With no case studies of effective local authority action to stimulate business energy efficiency improvements, it would not be sensible to speculate on the potential carbon emission savings available by improving local authority performance. Nevertheless, there is potential for local authorities to play a significant role in reaching and supporting SMEs to achieve carbon reductions.

Table 5: Local authority performance improvement on business energy efficiency to 2010 on 4 Scenarios

BUSINESS ENERGY EFFICIENCY	Local Authority performance			
	Weak	Fair	Good	Excellent
Current LAs in each category	60%	35%	5%	
BaU %LAs in each category by 2010	60%	35%	5%	
Scenario 1	55%	35%	10%	-
Scenario 2	50%	30%	15%	5%
Scenario 3	30%	30%	30%	10%
Scenario 4	0%	0%	85%	15%

While the CCP concentrates on larger business energy users, it is unlikely that local authorities will pay attention to this potential role and there are few, if any, examples for them to follow. However, by introducing clearer guidance and, more particularly, a strong steer towards taking more action within performance assessment (Scenario 3), local authorities may begin to engage with this sector on the carbon management agenda and link up with enhanced regional efforts already anticipated in BaU (see Section 5.2.2).

These regional efforts are likely to be potentially significant in the success of efforts to improve energy efficiency in business. As described in Section 5.2.2, the development of activity by regional bodies on business energy efficiency, including improved integration with Carbon Trust programmes and the BREW initiative, are likely to be fundamental to the achievement of national carbon emission reduction objectives for the business sector.

Indeed, continuing and concerted effort to improve the performance of regional bodies on business energy efficiency as described in the Matrix may well produce additional opportunities for nationally defined programmes to secure carbon emission reductions. In this respect, there are parallels between the analysis outlined above in relation to EEC and local authority performance. The difference here is that there is, as yet, only a sketchy picture of the scale of additional carbon emissions impact achievable from effective regional action on business energy efficiency.

6.4 Public Sector Energy Efficiency

Nottinghamshire County Council, High Peak District Council, and Shropshire County Council have achieved Beacon Status for Sustainable Energy partly on the basis of the significant improvements they have made to their own energy performance. In each case, they have achieved reductions in carbon emissions of the order of 20 - 30% within a relatively short period (5 to 7 years). Woking Borough Council has reduced its own energy use by nearly 50% from a 1990 baseline. On this basis, it would be reasonable to assume a potential reduction in carbon emissions between weak and

excellent performance of 25% by 2010. Table 6 below shows how this has been 'spread' between the performance categories.

However, as discussed in Section 5.2.3, the existing targets within CCP for the public sector estate would suggest that there is already anticipated considerable improvement in performance (though there is not much detail on how the improvement is expected to be delivered).

For the purposes of this analysis, and without data breaking down the 6 MtC of current non-transport emissions from the public sector between different forms of public administration (Carbon Trust 2005), the non-transport carbon emissions caused by local authorities in England have been estimated as 1.5 MtC (including state schools). This fits well with a bottom-up estimate derived from the average carbon emissions per type of local authority estimated by Allman et al (2004).

Table 6: Carbon saving impacts of local authority performance improvement on public sector energy efficiency to 2010 and 2020 on 4 Scenarios

PUBLIC SECTOR ENERGY EFFICIENCY	Local Authority performance				Savings
	Weak	Fair	Good	Excellent	Carbon to 2010 (MtC p.a.)
% change in carbon emissions to 2010 (from 2005)	5%	0%	-10%	-20%	
Current LAs in each category	30%	45%	20%	5%	
BaU %LAs in each category by 2010	20%	25%	35%	20%	0.06
Scenario 1 (assumed in BaU)	-	-	-	-	
Scenario 2 (assumed in BaU)	-	-	-	-	
Scenario 3	0%	30%	40%	30%	0.10
Scenario 4	0%	0%	75%	25%	0.11

Scenarios 3 and 4 therefore add additional potential to the programme, in the region of 0.1 MtC. This is a further 0.04 MtC beyond the expectations created by Carbon Trust activities and general pressure on local authority financial efficiency.

Scenario 3 may therefore be ensuring that local authorities will actually achieve a reasonable share of the 0.5 MtC savings from the public sector currently anticipated within CCP. The performance assessment approach should 'encourage' local authorities to participate and establish the internal 'buy-in' and commitment which is needed for the success of schemes like the Carbon Trust's Local Authority Carbon Management programme.

6.5 Renewables and Low Carbon Technologies

As explored in Section 5.2.4, achieving existing CCP targets for the contribution to carbon emission reductions from renewable energy is challenging. It is therefore assumed here that no additional carbon savings are achieved by improved local and regional action but that existing programmes to improve local and regional performance are fully sustained.

Nevertheless, the quality of regional and local performance is a key factor in the achievement of 2010 targets in terms of planning and longer term targets in terms of

securing positive planning decisions and, for regional bodies, engagement with innovation. As mentioned in the introduction to Section 3, it is reasonable to assume that 60% of the renewables target will be met by projects of a size for which planning is determined by local authorities (the remaining 40% of capacity will be either offshore or at a scale determined under s36 of the Electricity Act 1989). These local planning decisions will be made within the context of Regional Spatial Strategies and related regionally and sub-regionally determined targets and planning guidance.

Table 7: Local authority performance improvement on renewable energy and low carbon technologies to 2010 on 4 Scenarios

RENEWABLES & LOW CARBON TECHNOLOGIES	Local Authority performance			
	Weak	Fair	Good	Excellent
Current LAs in each category	55%	40%	4%	1%
BaU %LAs in each category by 2010	40%	40%	15%	5%
Scenario 1 (assumed in BaU)	-	-	-	-
Scenario 2 (assumed in BaU)	-	-	-	-
Scenario 3	30%	30%	30%	10%
Scenario 4	0%	0%	85%	15%

Whether the levels of performance achieved under BaU (or even Scenario 3) are sufficient to ensure the planning system 'does its bit' towards meeting the target is difficult to say. There is undoubtedly some risk that it is not.

Indeed, some commentators are privately anticipating a shortfall of perhaps 30% on the achievement of the renewables target for 2010 (i.e. 7% rather than 10% of electricity supply).

A proportion of this anticipated shortfall undoubtedly relates to concerns that the economics of offshore wind will not improve sufficiently quickly to sustain anticipated deployment rates. But difficulties securing planning consents for onshore wind on a timely and cost-effective basis are clearly a factor in this pessimistic outlook; as is the slow rate of development to date of biomass-fuelled electricity generation.

These are both areas where local and particularly regional bodies can potentially assist with removing obstacles – through developing and supporting more positive planning policies and practices and by assisting in the development of biomass supply chains and infrastructure.

What can therefore be said is that higher levels of local and regional performance will increase the speed and lower the risk (and therefore cost) of securing planning consent and deploying renewables. In terms of reducing the risk of a planning-related 'shortfall' in the achievement of the renewables target, there would be some genuine value in taking steps to improve performance beyond BaU.

One area where the CCP is currently silent is on the impact of the introduction into regional and local planning frameworks of policies which stipulate that new developments must provide a specified proportion of their energy demand from on-site renewable energy.

This is clearly an important policy development for the establishment of buildings integrated renewables as mainstream elements of new construction and to reduce the

carbon impact of individual developments. It is also likely to have longer-term benefits in terms of expanding markets and improving supply chains for smaller-scale technologies (and therefore improving installation skills and potentially reducing unit costs).

However, the short term impact on total carbon emissions of this policy is not particularly significant to the overall level of carbon emissions. Analysis done for the Government Office for the South West (Revision 2020, 2005) indicates that if, by 2010, 90% of all new major building developments (above 10 homes or 1000 m²) are meeting 10% of their energy demand from on-site renewable sources, carbon emissions would be reduced by 1,340 tC per year by 2010.

Assuming (simplistically) a similar level of new development and renewable resource availability in the 9 other English regions (which probably significantly underestimates the total potential), this gives a saving of some 12,000 tC per year by 2010.

While these levels of savings are not particularly material in the context of the CCP, they do represent effort to 'future proof' new buildings. Moreover, the policy levers to deliver them already exist and are relatively straightforward for regional and local bodies to use. On this basis, it would make sense to encourage further take up of these policies and provide support for their enforcement.

Another area where the CCP is silent but where regional action is potentially significant, is in the co-ordination and support for innovation in renewable technologies. These are likely to be more relevant to carbon savings by 2020. For example, there are a number of initiatives currently being pursued at regional level (e.g. development of biofuels production in East of England, the 'Wavehub' marine energy testing ground grid connection in the South West) which, if sustained and purposefully supported, could provide significant longer-term carbon benefits which will not be realised without deliberate regional intervention.

6.6 Transport

As described in Section 5.3.5, there are two types of impact that local and regional action can have on transport emission:

1. *Reducing emissions from the local and regional public sector's own transport activities.* This relates to the fleets, business travel and commuting for all districts councils, unitary councils, county councils and regional public bodies.
2. *Reducing the emissions from transport in the wider community.* This is the impact of highways authorities, the shire counties and unitary authorities, on managing transport in their areas. There will also be some impact from activities such as planning and air quality work at the district level.

These are assessed separately here.

6.6.1 Carbon savings from the local authorities' own transport activities

The Climate Change Programme review estimates that the public sector accounts for 6.2 MtC, excluding emissions from transport activities, in 2005. This figure includes Government estate, NHS and local and regional authorities. Data from the Carbon Trust's programme on carbon management in local authorities suggest that transport accounts for about 20% of total carbon emissions from a public authority. Assuming

this applies nationally it suggests that the public sector accounts for approximately 1.25 MtC as a result of its transport activities.

The matrix of transport measures in section 4.3.5 sets out what could be done to reduce these emissions. The likely impact on carbon emissions by excellent performing authorities from these measures is set out below in Table 8.

Table 8: Likely carbon impact of measures on own transport activities

Measure	Impact
Travel Plans	Recent research suggests that likely car trip reductions from a good travel plan are between 12-18%. (DfT report 'Smarter choices - changing the way we travel', 2004).
Fleet management	Under the EST Motorvate programme, top performing fleets are achieving savings of 12% over 3 years. Including low carbon fuels could achieve another 5% carbon savings.
Procurement of transport services	There is no real information available on the impact of this measure.

Based on this analysis, it has been assumed here that an excellent authority would have 25% lower emissions than an average (or fair) local authority by 2010. Similarly a weak local authority may have 5% higher carbon emissions and a good local authority 10% lower emissions than average. These impacts are shown in Table 9.

Table 9: Carbon saving impacts of local authority performance improvement on own transport use to 2010 on 4 Scenarios

TRANSPORT – OWN USE	Local Authority performance				Savings
	Weak	Fair	Good	Excellent	Carbon to 2010 (MtC p.a.)
% change in carbon emissions to 2010 (from 2005)	5%	0%	-10%	-25%	
Current LAs in each category	35%	55%	7%	3%	
BaU %LAs in each category by 2010	35%	55%	7%	3%	
Scenario 1	30%	50%	15%	5%	0.01
Scenario 2	20%	45%	22%	13%	0.03
Scenario 3	0%	40%	40%	20%	0.06
Scenario 4	0%	0%	85%	15%	0.08

Table 9 also shows that the distribution of local authorities within these categories currently is estimated at 35%, 55%, 7% and 3% respectively based on evidence from literature, interviews and the workshop. Given no further incentives (or penalties for failure to improve) this distribution is unlikely to change. However, if policies are put in place to support improvement such as inclusion of carbon management in the Comprehensive Performance Assessment process and more integrated support and information from EST and the Carbon Trust, then the balance between categories can change.

The table also shows an estimate of the additional savings that would be achieved in 2010, against a Business as Usual scenario, of improving the performance of public sector transport activities. These suggest savings of up to 0.08 MtC from a significant improvement in activity.

6.6.2 Carbon savings from wider transport activities

The current estimate of transport carbon emissions in 2005 is some 36.4 MtC for England (excluding emissions from public sector transport). Under a Business as Usual scenario, which includes the CCP measures, this is expected to rise to 37.1 MtC in 2010. This is based on current CCP projections and assumes the full 1.4 MtC savings are achieved from the 10 year plan.

The matrix of transport measures in section 4.3.5 indicates activities that could help reduce these emissions through local action. Table 10 below sets out evidence on the likely impact of these measures for excellent performing authorities.

Table 10: Likely carbon impact of measures on general local transport use

Measure	Impact
Investment through LTP's	The impact of this investment in terms of public transport, road pricing, etc is already taken into account in the CCP projections. However, it seems unlikely that the estimated savings will be achieved, also the CCP assumptions do not account for investment in soft modes. Therefore, action to improve the performance of LTPs in terms of carbon savings can give additional savings. However, even those looking at the most severe measures such as various kinds of constraint are only looking at reducing traffic levels by around 10%.
Air Quality Management	The LAQM process potentially has significant benefits for carbon reduction in transport and is now an integral part of the LTP process. However, it is difficult to know the direct impact on carbon emissions, but evidence from LAQM is that it has been hard to turn plans into actions and achieve real savings. (DEFRA, review of AQAP process).
Sustainable Energy Strategy	Such strategies are growing and increasingly include transport. They can support action both for the authorities own transport activities and through the LTP. However, there is no real information on direct impacts.
LSPs and Community Strategy	LSPs and the Community Strategy should underpin the priorities of all other strategies and plans. Therefore inclusion of climate change issues for transport will increase their priority in other plans such as the LTP. But again there is no evidence of likely impact on carbon emissions in areas that have strong carbon management themes in their LSPs.
The planning system	Land use planning can potentially have very significant impacts on transport emissions in terms of changing travel behaviour, but it is a long-term measure. Evidence on potential savings is still limited and none are likely before 2010 on measures implemented now.
Travel behaviour and awareness raising	These measures are most likely to have an immediate impact and work well at a local level. DfT research on soft measures such as travel plans (DfT Smarter Choices report, 2004) suggest that if rigorous effort is put in on these measures savings of some 11% could be achieved.

In short there is little evidence available on what these measures may achieve in terms of carbon savings. However, it would seem that in the short term the most productive measures to focus on would be getting the best out of the LTP process in terms of what

the CCP thinks could be achieved, and additional benefits from soft measures in terms of both investing in walking and cycling and travel awareness. In the longer term the planning system may well be the most influential measure if it can be used effectively.

Therefore, based largely on travel behaviour change and soft measures, the assumption made here is that an excellent authority can achieve some 10% lower carbon emissions in its area than an average authority. Then a weak local authority could have 5% higher emissions in its area and a good local authority 5% less than average.

Table 11 shows the proportion of local authorities currently in each of these categories, and it is assumed that this split will remain constant unless action is taken to promote more activity. Therefore in Business as Usual no additional savings are expected from local action above that which is already assumed in the national climate change programme review process, and even those look unlikely.

Table 11: Carbon saving impacts of local authority performance improvement on wider transport use to 2010 on 4 Scenarios

TRANSPORT	Local Authority performance				Savings
	Weak	Fair	Good	Excellent	Carbon to 2010 (MtC p.a.)
% change in carbon emissions to 2010 (from 2005)	5%	0%	-5%	-10%	
Current LAs in each category	25%	55%	15%	5%	
BaU %LAs in each category by 2010	25%	55%	15%	5%	0.00
Scenario 1	20%	50%	20%	10%	0.24
Scenario 2	15%	50%	25%	10%	0.40
Scenario 3	0%	40%	45%	15%	1.00
Scenario 4	0%	0%	85%	15%	1.29

Scenario 1, in Table 11, is the impact of improving the performance of 20% of authorities (with each improving by one category). This is the potential impact, by 2010, of promoting climate change issues more robustly through the LTP and LAQM process, and providing support and information. This suggests additional savings of 0.24 MtC could be possible.

Scenarios 2 and 3 give a picture of what might be the case if the process is strengthened and carbon issues are made a mandatory element of the LTP and political support is provided for more radical transport measures. This shows that improvements providing carbon savings of 0.40 MtC, rising to 1 MtC in Scenario 3 where improvements are assessed and consequential.

All of the savings in this analysis are assumed to be additional, as the analysis has only addressed activities that are not already accounted for in the CCP. However, there could be additional savings from improvements in LTP delivery in enabling the CCP targets on carbon savings from the 10 year plan to be achieved. As described in the Business as Usual section, about 0.5 MtC savings are attributed to local transport investment within the CCP and these currently seem unlikely to be achieved. Strengthening the LTP process to create a stronger focus on carbon management and thus stimulating local action could ensure that these savings are achieved.

7 POLICY OPTIONS TO DRIVE IMPROVEMENT

The findings of this study indicate that there is currently significant opportunity for improved performance on all aspects of carbon management for nearly all local and regional bodies.

There are also indications that a concerted effort to deliver performance improvement can lead to additional annual carbon emission reductions in England of the order of 1.5 MtC by 2010⁹ and in excess of 3 MtC by 2020 as well as greatly enhancing the opportunities for existing national programmes to reach their target markets and deliver effectively (particularly for renewable energy and public sector emission reductions).

The question now is: what policies and programmes are needed in order to deliver that level of performance improvement – and what would they cost?

Within current powers and resources, there are already some local authorities achieving excellent performance on some aspects of carbon management and more which are reaching ‘good enough practice’. It is therefore not immediately obvious that further powers are required to stimulate improvement (or that further powers would have the effect of stimulating improvement in the absence of a Wilful Individual).

Revisiting the analysis of Section 3.3 on the role which the Wilful Individual has played to date, the key challenge for the future is to create conditions within which less wilful individuals will be able to improve performance without having to sustain quite the same levels of personal commitment, drive and determination as their wilful counterparts.¹⁰

The policy-making focus should therefore be on policies, mechanisms and programmes which can mainstream carbon management activities for local and regional bodies by driving, encouraging and supporting performance improvement.

As Councillor David Sparkes, Chair of LGA Environment Board, said in his speech to the NSCA/CLARCC conference in London in June 2005;

“The aim of the game is to get everyone up to a much better level of performance.”

Identifying policy priorities was a central feature of the stakeholder interviews and the expert stakeholder workshop. There was a perhaps surprisingly high degree of consensus that performance improvement was the correct focus.

There was also consensus on what is needed from national government to deliver it. The emphasis is on ensuring that carbon management moves significantly up the agenda of local and regional bodies so that it gains senior management and political attention and where failure to improve performance has an impact on their priorities and finances.

In the course of the interviews and through the literature review (which included analysis of responses to relevant questions within the CCP Review Consultation), a wide range of policy options were proposed. At the expert stakeholder workshop, these

9 As from Scenario 3 ‘good’. See also risk analysis in Section 7.7.

10 As mentioned in Section 3.4, it is also important that the new policy context continues to provide opportunities for Wilful Individuals to flourish and innovate.

were successfully narrowed down to four key priorities for national policy which should be considered as a package:

- Introduce carbon management into Comprehensive Performance Assessment (CPA) for local authorities (tied to a duty to address climate change) and into equivalent priority setting and assessment processes for regional bodies.
- Clear and explicit guidance from national Government on what it expects from local and regional bodies in relation to carbon management, how these integrate with existing activities (e.g. local transport planning) and how they align with national policies and programmes.
- Training, support and co-ordination – to build skills and competencies, support organisational change to reflect carbon management priorities, enable sharing of resources and experience (and avoid duplication), provide appropriate technical advice, and simplify funding streams.
- Standard monitoring, evaluation and reporting methodologies and the provision of high resolution energy consumption, generation and transport usage data to enable the development of an evidence base of costs and impacts of action.

These are outlined in more detail below, followed by an assessment of likely costs, impacts and benefits of introducing this policy framework.

7.1 Putting carbon management into Comprehensive Performance Assessment (CPA), tied to statutory duty

The performance of local and regional bodies on the various aspects of carbon management should be assessed as part of the CPA process and linked to a statutory duty to address climate change. This will improve the priority and focus given to the different elements of carbon management at a local level.

Throughout the study, CPA was highlighted by local authority officers as a powerful motivator for senior management and local politicians to give an issue higher priority. The CPA process – which grades local authorities as poor, weak, fair, good or excellent and ties overall results to funding¹¹ – can ensure an issue receives at least some senior attention and ‘asks the question’. It therefore has strong potential to create conditions in which local authority leaders will be looking to enable less wilful people to be more effective on carbon management.

However, rather than tie the CPA on carbon management to a specific single target or indicator (e.g. carbon emission reductions), the workshop consensus (and subsequent one-to-one discussions with stakeholders) supported the idea of using a more refined version of the Matrix as the basis for assessment.

This was because of the difficulty of identifying a target for carbon emission reductions which could be supported by available data and which a local authority was sufficiently able to influence (and demonstrate its influence). Since CPA does typically use some sort of measurable performance indicator alongside more qualitative assessment, it is important to find an ‘assessable’ proxy for good performance.

The Matrix could perform this role. It should contain clear behavioural indicators for each of the different grades of performance with the potential to be ‘evidenced’ for

¹¹ As mentioned in Footnote 5 in Section 4.2, the lowest grading ‘poor’ is generally considered so dreadful that, in the context of carbon management, it would represent actions akin to the wilful production of excess carbon emissions.

assessment purposes. There is also a case for reducing the number of 'levers' within each aspect of carbon management, focusing on those with most significant impact. (It is too early to embark on such a 'cull' but further analysis and consultation may provide answers). Tying the CPA process to some version of the Matrix would also draw attention to the steps involved in improvement.

The Audit Commission, which undertakes the CPA, indicated to the project team that such an approach will only have significant impact if it is tied to a statutory duty (e.g. 'to address climate change' or 'to aim to reduce greenhouse gases') – since this will give their audit greater teeth and the consequences of failure will be more significant.¹²

Clearly, adopting the CPA approach to carbon management would create a need to train Audit Commission assessors in aspects of carbon management to enable effective and meaningful assessment. In addition, there was a strong sense amongst stakeholders that, because CPA is a complex and multi-disciplinary process, there would need to be significant training and support for local authorities to reinforce the inclusion of carbon management within CPA. As identified in 7.3 below, some of this training and support may be best provided on a regional level.

Of course, embedded within the Matrix are many strands of nationally driven policy activity – such as planning policy and local transport plans – which could potentially be 'extracted' from this process and addressed in isolation. Relevant national policy could be strengthened to ensure local and regional bodies give greater priority to carbon management for this or that particular aspect. Indeed, individual policy proposals along these lines were made during the study and tested with stakeholders in interviews and consultation (and this overall point is captured in 7.2 below).

However, the overwhelming sense from stakeholders was that a piecemeal 'command-and-control' approach like this is likely to be harder work overall and less successful than a more comprehensive effort to establish carbon management as a consistently high cross-cutting priority.

Incremental improvements in specific aspects of carbon management will have some impact and in some cases (e.g. introduction of a carbon indicator into Local Transport Plans) are necessary elements of enabling effective local action. But they will each require their own disconnected efforts to establish and support good practice and track progress. And they are unlikely to be broad enough to establish the mainstream attention and 'buy in' which can create a supportive and encouraging context for action right across the range of local and regional body activities.

A similar performance assessment approach using the Matrix should be applied to the regional bodies – particularly (but not only) Regional Development Agencies who now have a sustainable energy objective built into their Public Service Agreements.

Within the Climate Change Programme, the Government should then be able to set overall targets for performance improvement (e.g. all local and regional bodies to achieve 'good' rating by 2010) and create appropriate financial incentives and penalties within funding arrangements.

12 Under Scenario 4, this could include a statutory target to meet a specific emission reduction target by a particular date – or to improve performance to a particular standard (eg 'good') – or, as enabled under the Sustainable Energy Act 2003, to impose targets for energy efficiency improvements in the residential sector.

As a first step towards introducing carbon management into CPA, the issue should be included as a priority within the Central-Local Partnership Agreement negotiated between the Government and the LGA. This agreement identifies joint priorities for future action and funding. In spite of the apparent priority being given to climate change for the UK, the issue does not currently feature in the agreement. This may reflect a lack of shared ownership of both the problem of climate change and, even more importantly, a lack of shared understanding of the need for effective action by national, regional and local government.

It should be noted that the development of CPA can be a time consuming process without a shared commitment from local and national government to change its focus. Indeed, the CPA process has already undergone changes recently. Adding carbon management issues more explicitly into this process will therefore require some drive and sense of urgency if it is to succeed.

7.2 Clearly stated expectations for local and regional action with guidance on alignment with national policies and programmes

There were consistent calls within the interviews and workshop for clear guidance from Government on what it expects local and regional bodies to be doing in terms of carbon management.

This means, in the first instance, providing consistent guidance explaining how carbon management at local and regional level should be aligned with national policies and programmes and how the Government expects local and regional bodies to reflect this across the whole range of strategies and practices.

A good example of how, without a concerted effort, guidance can be out of step with apparent carbon management policy priorities is in transport. Climate change was featured heavily in the recent Transport White Paper but there is no requirement to consider it in the guidance for Local Transport Plans. The same is true of guidance on Local Air Quality Management and, in some cases, planning policy.

The guidance should also explain how carbon management at local and regional level is aligned with national policies and programmes and how it relates to other associated policy priorities (e.g. Local Air Quality Management, fuel poverty alleviation, innovation objectives within renewable energy technologies etc).

The guidance should bring together what local and regional authorities can do on various aspects of carbon management, how to identify the most fruitful actions and assess the impact they would be likely to have, the level of resources an authority should be expecting to commit to deliver against these expectations (as with the Audit Commission's past guidance that a public body should employ one energy manager for every £1m spent with 10% of the energy costs being invested in efficiency), what the financial and other benefits can be etc. This could include model policies for integration into Community Strategies, Local Area Agreements and Public Service Agreements.

In terms described in this report, this is about the Government describing what it considers to be 'good enough practice' on carbon management at local and regional level. Again, the Matrix has potential to be used within such guidance since it lays out incremental steps for performance improvement and indicates clearly the relationships between local and regional action and national policy (e.g. Local Transport Plans, Planning Policy Statement 22 for renewable energy etc).

Finally, a significant proportion of interviewees in the project asserted the importance of backing up such guidance with consistent and reinforcing messages and actions across Government on the priority of carbon management and the key role of local and regional bodies therein.

7.3 Training, support and co-ordination

Local and regional bodies need assistance to improve their performance. The CPA approach will raise the priority of carbon management. The Matrix and associated guidance will be clear about what performance improvement looks like and what levels of performance are expected. But there will also need to be activity to build skills and competencies, support organisational change to reflect carbon management priorities, enable sharing of resources and experience (and avoid duplication), provide appropriate technical advice, and simplify currently fragmented funding streams.

There are already a number of programmes run by the Energy Saving Trust or the Carbon Trust [e.g. Practical help, Local Authority Support Programme (now renamed Local Energy Support Programme), Energy Efficiency Best Practice, Local Authority Carbon Management, TransportEnergy] which are providing training and advice and support to local bodies.

It is likely that these would need to refocus their approaches and priorities in response to guidance based on the Matrix. None, for example, is targeted at regional bodies. Indeed, as outlined in Section 4, regional bodies actually provide an appropriate organising level for much of the training, advice and support.

And there is a tendency within each to encourage replication of 'best practice'. As discussed in Section 3.2 and analysed in Section 6, it would probably have more impact on carbon emissions to focus attention on working with 'weak' and 'fair' performing bodies and to identify the steps and provide support associated with establishing 'good enough practice'.

There is a strong argument expressed by stakeholders during the project, for streamlining the number of agencies which provide this support – to create 'one-stop-shops' which are designed specifically for the purpose of supporting local and regional bodies to improve performance in carbon management. At present a local or regional body would have to contact both the Energy Saving Trust and the Carbon Trust [and potentially the Improvement and Development Agency (IDeA) too]. They would also have to contact, possibly separately, some of the various schemes each of these run to pull together a comprehensive set of information about the support on offer (which may or may not suit their circumstances and current level of performance).

There are also explicit gaps in current training and advice provision, particularly in relation to helping local and regional bodies develop management and organisational structures which deal effectively with a cross-cutting issue such as climate change. It is not a failing unique to the public sector, but it does not have a good track record on establishing systems for addressing cross-cutting issues.

As the Matrix suggests, cross-cutting issues need a cross-cutting delivery structure with clear senior leadership and strategic purpose. Such a 'group' also needs clearly defined purpose and responsibilities, reporting relationships and accountabilities that make explicit what the group can decide and 'get on with' and what needs to refer back to existing departments or line managers. There can also be increased focus created if

the group has a budget made up of contributions from each department involved which only the group can decide to spend.¹³

Improved training and professionalisation of the different elements of carbon management activity within local and regional bodies would also help to raise the status and skills of these people; their abilities and confidence to rise to the challenge will be a key to success.

Carbon management should also become a central aspect of all local authority and regional body staff and professional training – so that the carbon impact of all management and service delivery decisions comes to be considered on a routine basis (not just by a ‘carbon management’ group or strategy).

Several interviewees pointed out that existing support schemes such as the EST’s Local Authority Support Programme are not available consistently across the country. This programme has led the development of sub-regional partnerships (typically county-level) between local authorities (mainly on domestic energy efficiency), supported improved understanding, developed common strategic approaches and shared resources, and provided the basis for projects to deliver carbon management at sufficient scale to spread project management costs.

While there is no direct evidence currently available to support it, there is anecdotal evidence that LASPs have particularly helped weak and fair authorities improve their performance on domestic energy efficiency.

At present LASPs only cover approximately half of England’s local authorities and there is a strong case to be made for expanding the programme to cover the whole country (and potentially also for expanding their brief to cover the other aspects of carbon management). The ‘county’ scale provides a manageable number of relationships (6 – 10), enabling detailed and informed support and opportunities for engagement on a number of ‘fronts’ with each local authority.

There were also widespread calls from stakeholders interviewed and consulted during the project for the streamlining of national funding streams for local and regional action relating to various aspects of carbon management. At present there are at least ten different funding programmes designed to support various aspects of local or regional action on carbon management. These rarely share funding criteria and nearly always have different application procedures and timetables – even when they are managed by the same agencies. Moreover, many are very focused on funding pilots and ‘innovation’ rather than ongoing services and replication. This can create a stop-start funding regime which undermines sustained effective action.

As the Matrix and the analysis in Section 6 shows, there is much that can be done by local and regional bodies which are not dependent on project funding (particularly in the move from weak to fair but also a number of elements of good). Nevertheless, streamlining and simplifying these various programmes would remove a potential hurdle to participation in carbon management in local and regional bodies and improve the efficiency of activity as it shifted from securing the funding to delivering the project.

Co-ordination of procurement between local and regional bodies, which is increasingly being achieved at a regional level, offers an opportunity for integrating strong carbon management features and providing leadership by example. The Public Sector Energy

¹³ See Goold & Campbell 2002 for a more detailed discussion of the issue of created effective cross-cutting structures to develop strategies and deliver programmes within organisations.

Efficiency Matrix identifies various aspects of procurement which are relevant to this, most particularly that local bodies should be engaging with regional procurement activities and regional bodies should be ensuring that these activities are driven by carbon management considerations. At an 'excellent' level, this could expand to include not only the procurement of leading-edge energy-using equipment, buildings and vehicles but also services (which then creates pressure on suppliers to meet carbon management objectives within their own organisations).

7.4 Standardised methodologies, reporting and high resolution data availability

The lack of evidence encountered in this study is sufficient grounds in itself for establishing a much more systematic and standardised methodology for monitoring, evaluating and reporting the impact (and costs) of local and regional carbon management activities.

Stakeholders would also welcome this standardisation to enable comparison between actions and provide feedback on their efforts. Many of the 'wilful individuals' have been frustrated by the lack of a consistent approach (and the general lack of funding for monitoring and evaluation). In particular, they pointed to the range of approaches to monitoring and reporting on the Home Energy Conservation Act which rendered largely meaningless any attempts at systematic comparison and targeted response by DEFRA (as the 'regulator').

They have also been frustrated by the limited availability of quality energy, transport and emission data at a sufficiently high resolution to enable meaningful monitoring on an area-wide basis. While effort is being made to improve availability, the level of resolution available seems hampered by concerns about data protection linked to a few large energy users. There is still work to be done to ensure that the published data is useful for monitoring, evaluation and reporting purposes.

There is also a paucity of academic research in this area – which, in the perverse world of setting research priorities, seems to have ensured that the UK Energy Research Centre is treating it as an area not worthy of study!

7.5 Linking the policies to the scenarios: carbon impact

These policy measures and programmes can be linked back to the Scenarios assessed in Section 6 as follows:

Table 12: Relationship between Scenarios and policy measures

SCENARIO		Policy measures included
1	Weak	Additional support (7.3) plus standard methodology and data (7.4)
2	Fair	As 1 plus clearer guidance on carbon management and stronger alignment of existing relevant guidance with carbon management objectives (7.2)
3	Good	As 2 plus systematic and consequential performance assessment combined with duty 'to address climate change' in strategies and services (7.1)
4	Excellent	Legally binding targets on all local and regional bodies to improve performance to 'good' by 2010 (and/or deliver specific emission reductions – as with municipal waste and recycling targets)

Combining the analysis presented in Section 6, specifically that for domestic energy efficiency and community transport emissions, the total impact on carbon emissions of these scenarios, beyond Business as Usual, can be presented (see Table 13).

Table 13: Annual and lifetime carbon emission reductions from different scenarios

Scenario	Carbon emission reductions beyond BaU in 2010 (MtC)	Lifetime Carbon emission reductions beyond BaU (MtC) ¹⁴
1 support	0.29	2.6
2 support/guidance	0.53	5.2
3 CPA plus	1.56	18.9
4 Legal targets	2.09	26.5

It should be noted that the carbon reductions in Table 13 do not capture the identified need for additional action by local and regional bodies (beyond BaU) to support the delivery of renewable energy, public sector and business emission reduction elements of the existing CCP.

At this stage in the process, there was not a strong appetite for Scenario 4 amongst stakeholders consulted during the project (though, of course, it is the route which has now been taken to deliver waste reduction and recycling targets and which is enabled, at least for residential energy efficiency, in the Sustainable Energy Act 2003). As discussed below in Section 7.6, establishing legally binding targets for performance improvement (or emission reduction) is a viable option which would ensure performance improvement from all local authorities, particularly if a less interventionist approach (eg Scenario 3) proved unsuccessful.

However, bearing in mind the limited support from stakeholders, further analysis here focuses on Scenario 3 and the extent to which reasonable assumptions have been made about the degree of performance improvement this scenario is expected to deliver.

The assumptions made about performance improvement achieved by the policies are inevitably coloured by the judgements of the project team and the opinions expressed by stakeholders interviewed and consulted during the project.

These were unanimous in their view that the CPA approach (Scenario 3) represented a genuine and effective tool to stimulate improvement in local authority performance. Most particularly they felt it had the potential to create a context in local and regional bodies within which less wilful individuals could be effective. This would represent a 'step change' in the quality of performance by many authorities on the various aspects of carbon management.

14 To calculate lifetime carbon emission reductions, the reductions achieved through domestic energy efficiency have, in the absence of a specific mix of measures, been assigned an average 'lifetime' of 25 years. In the transport sector, where the reductions are mainly the result of reducing car use through modal shift and behavioural change, they have been assigned a more cautious 5 year lifetime. No further reductions in carbon emissions are assumed beyond 2010 for the Lifetime assessment.

While additional support and clearer guidance were also sought, the consensus was that these would not achieve the same galvanising effect of the CPA approach. The latter should make carbon management and its constituent elements a consistently high, cross-cutting priority – whereas a more piecemeal, guidance-led approach would still be relying on Wilful Individuals to respond to the steer and opportunities provided.¹⁵

Table 14, below, summarises the predictions (from Section 6 above) for improvements in performance quality by 2010 for each of the aspects of carbon management, assuming the ‘good’ policy intervention implicit within Scenario 3.

Table 14: Projected performance of local and regional bodies in 2010 in Scenario 3 – ‘good’ policy intervention (assessment of current performance in brackets)

	Level	PERFORMANCE QUALITY in 2010 (2005)				Carbon savings by 2010 (MtC beyond BaU)
		Weak	Fair	Good	Excellent	
Domestic energy efficiency	Local (% of 386)	0% (46%)	40% (45%)	50% (7%)	10% (2%)	0.56
	Regional (of 9)	0 (4)	3 (4)	4 (1)	1 (0)	n/a
Business energy efficiency	Local	30% (60%)	30% (35%)	30% (5%)	10% (0)	n/a
	Regional	0 (3)	3 (4)	4 (2)	2 (0)	n/a
Public sector energy efficiency	Local	0% (30%)	40% (45%)	35% (20%)	25% (5%)	0.10*
	Regional	2 (5)	4 (3)	3 (1)		n/a
Renewables and low carbon techs	Local	30% (55%)	30% (40%)	30% (4%)	10% (1%)	*
	Regional	0 (3)	3 (4)	3 (2)	3 (0)	n/a
Transport	Local (own use)	0% (35%)	40% (55%)	40% (7%)	20% (3%)	0.06
	Local (LTP etc)	0% (25%)	40% (55%)	45% (15%)	15% (5%)	1.00
	Regional	1 (2)	4 (5)	3 (2)	1 (0)	n/a

* required to meet BaU under CCP

These represent reasonably ambitious assumptions about the levels of performance improvement achieved through this mix of policy measures. For the main carbon reduction impacts, transport and domestic energy efficiency, the scenario requires all local authorities to move up to at least ‘fair’ with about half of them achieving ‘good’ by 2010. Current ‘good’ authorities are generally assumed to become ‘excellent’ over the same period.

However, the project team believes they are achievable with concerted effort and a consistent and sustained approach. A particular change required of the policy mix is that support, co-ordination and training activity is focused on raising the standards of ‘weak’ and ‘fair’ authorities rather than on promoting ‘best practice’ that is beyond the reach of all but the already wilful (see Section 3.2 for development of this argument). Combined with a CPA regime for carbon management, this shift in the emphasis of support should have significant impact.

15 That said, there was also a strong feeling amongst stakeholders that, to ensure that the CPA approach achieved higher priority for carbon management within local and regional bodies, there would also need to be the other training, support and guidance described above.

7.6 Risk analysis: the likelihood of achieving such performance improvements

There is a risk that these improvements in performance predicted for Scenario 3 are not achieved. This may be because integrating carbon management into the performance assessment process does not do as much as assumed to raise the profile and priority given to carbon management within local and regional bodies. Or it may be because training and support is less effective than anticipated in reinforcing any CPA effect.

The effect of lower improvement would clearly be to reduce the emission savings predicted under Scenario 3. This reduction can be estimated.

For example, if the performance improvement predicted beyond Scenario 2 turned out to be only half that assumed in Scenario 3, the annual savings by 2010 would reduce to 0.6 MtC for transport and 0.34 MtC for domestic energy efficiency (beyond BaU). This is shown in 'weak scenario 3' in Table 15 below.¹⁶ This translates into lifetime carbon savings of 11.7 MtC calculated on the same basis as in Table 13.

Table 15: Impact on carbon savings of weaker improvement under Scenario 3 – 'good' policy intervention

	Local Authority performance				Savings
	Weak	Fair	Good	Excellent	Carbon to 2010 (MtC p.a.)
TRANSPORT					
Current LAs in each category	25%	55%	15%	5%	0.00
WEAK Scenario 3	10%	45%	32.5%	12.5%	0.60
Original Scenario 3	0%	40%	45%	15%	1.00
DOMESTIC ENERGY EFFICIENCY					
Current LAs in each category	46%	45%	7%	2%	0.17
Weak Scenario 3	18%	42%	32.5%	7.5%	0.51
Original Scenario 3	0%	40%	50%	10%	0.73

It is unlikely that the risk of lower performance improvement is the same for all aspects of carbon management. It is, for example, more likely that the original Scenario 3 savings would be achieved in those aspects where the anticipation of improved performance enables the expansion of national policies and programmes (such as discussed in relation to public sector and domestic energy efficiency). Subsequent poorer performance improvement by local and regional bodies is likely to have the effect of increasing the cost of such expanded national programmes (e.g. EEC) rather than denying the potential to meet the expanded ambition.

In contrast, the anticipated improvements in performance on transport, which do not lead to expanded national programmes, are more directly dependent on improvement in the performance of local and regional bodies.

The policy framework of Scenario 4 – which involves legally binding targets for improvement – shows that there is an opportunity for national government to respond to any emerging indication of failure of the less interventionist Scenario 3 'CPA plus guidance and training and support' approach. This 'legal targets' approach would put

¹⁶ Domestic energy efficiency BaU is estimated to achieve a 0.17 MtC saving, so additional savings from Weak Scenario 3 are 0.51 – 0.17 MtC.

carbon management on a similar footing as municipal waste management and recycling – with firm targets and serious financial implications of failure.

In this respect Scenario 4 is a much less risky approach to adopt from the outset, though it does involve a greater degree of 'imposition' on local authorities which may make it harder to secure introduction by consent and through a sense of partnership.

There is also a theoretical risk that the level of carbon savings associated with each step of improvement is less (or possibly more) than assumed here or takes longer to achieve. However, the assumed savings have been based on genuine case studies of local authorities exhibiting aspects of 'good' and 'excellent' behaviour on domestic energy efficiency and transport. While it has not been possible to build up the carbon impact of each specific 'excellent' behaviour, the overall impact and range does fit with the project team's experience and assessment of the Matrix elements and the available literature.

In summary, there is a risk of less impressive performance improvement by local and regional bodies than is predicted to result from good policy intervention (Scenario 3). This would lead to lower carbon savings – potentially reducing annual savings by 2010 to nearer 1 MtC compared with the 1.56 MtC predicted, and reducing lifetime savings from 18.9 MtC to 11.7 MtC.

However, there are more forceful and 'guaranteed' policy measures (Scenario 4) which could be introduced if the performance assessment data was showing a shortfall in improvement. This highlights the importance of careful and continual monitoring of performance; it also exposes the relatively high level of control available for the risks explored here.

7.7 The potential costs and benefits of policies

As with assessing the carbon impacts of performance improvement, there are difficulties assessing the costs and benefits. The data available on the costs and benefits of local and regional action is poor.

That said, and importantly, there is no indication that 'excellent' local authorities have necessarily spent any more of their own money or resources on securing the improvements they have achieved. It appears that they have simply:

- prioritised differently within their existing capital expenditure programmes (e.g. Newark and Sherwood prioritised energy efficiency instead of kitchen improvements in its own housing stock);
- recognised the savings which they can gain from managing their own energy and transport use better, and;
- organised themselves to build partnerships with those who can and need to deliver (energy suppliers, EST advice centres etc).

All the result, of course, of a Wilful Individual.

Some of the Wilful Individuals have set up their own funds to recycle energy savings for further investment in this area. For example:

- Woking Borough Council has operated an energy efficiency recycling fund since 1991. This uses the financial savings from energy and water efficiency schemes to provide capital funds for new energy efficiency projects. Current annual savings equate to £700,000 a year.
- Kirklees Metropolitan Borough Council has established two funding programmes for the council's work:
 - A pot of funding for work across the council, with half used to generated an internal loan fund to provide loans to a particular service to undertake work, and the service then paying half the cost savings back to the loan fund (with the other half used to fund environment activities). This fund will be self-financing by 2010.
 - A renewable energy fund, initially funded by the £130,000 savings the council made from the reduction in employers' National Insurance after the Climate Change Levy was introduced.

It is therefore not obvious that local authorities need more money directly themselves to achieve performance improvement.

Clearly, there is likely to need to be some expansion of the national 'pots' of funding for energy efficiency schemes which the 'good' and 'excellent' local authorities are currently marshalling into their areas, targeting delivery and enhancing take up.

This may be principally achieved through expanding EEC (i.e. at cost to suppliers/consumers rather than the Exchequer) and by giving existing LTP-related funding a stronger carbon focus. The latter may result in less of money being spent on other carbon-producing transport options as more is dedicated towards carbon-reducing transport activities. Of course, any growing demands on these 'pots' only emerge as local authorities commit to delivering carbon-cutting actions so there is little risk that extra expenditure would result in no impact.

However, even if the evidence indicates that local authorities should not require additional resources, the introduction of CPA and a duty to address climate change would be considered a new burden. There would therefore need to be some additional resources made available to local authorities as a 'carrot' to help them undertake the facilitation, public awareness, co-ordination, signposting, civic leadership, strategic management roles etc. Principal additional funding for regional activities would be as part of the expanded support programme.

Bearing this in mind, the project team has reviewed the costs of delivering the policy measures outlined above. These policy costs, totalling £36 million, are detailed in Table 16 below. It is currently anticipated that all of these costs would fall to the Exchequer (though some of them may emerge from redirecting existing support programmes and activities and therefore may not be new costs).

Table 16: Projected annual policy cost

LEVEL	ACTIVITY	Relevant scenarios	Units	Cost per unit (£,000s)	Total annual cost (£,000s)	Comments
LOCAL	Extra funding to each LA (district and unitary)	3	350	70	24,500	For extra staff resources (at least 1 senior FTE) for each local authority (could be tied to specific performance improvement)
REGIONAL	Regional co-ordination	1,2,3	9	200	1,800	Enough to drive creation of real locus for action and co-ordination in each region
	Sub-regional support (e.g. full LASP programme in England or support to county council activity)	1,2,3	50	100	5,000	At (roughly) county level (LASP or equivalent) – some already in EST budget
	Technical support (PPS22, building regs, etc) at regional level	1,2,3	9	150	1,350	For technical advice to avoid duplication within region
NATIONAL	Programme management	1,2,3	1	400	400	
	Data and monitoring systems	1,2,3	1	1,000	1,000	To establish common methodology, create monitoring system, retrieve data. Could also direct some of UKERC spend on academic evaluation research
	Training/guidance etc (materials and support to regional/sub-regional)	2,3	1	2,000	2,000	Produce guidance, support materials, training, professional development frameworks etc
				TOTAL	36,050	

Table 17: Projected costs and benefits of different scenarios

Cost of scenarios	Annual policy cost of support programme	Carbon emission reductions beyond BaU in 2010	Lifetime Carbon emission reductions beyond BaU ¹	NPV [Cost] Benefit to 2010 ²	NPV [Cost] Benefit Lifetime	Benefit per tonne of carbon Lifetime ³	Lifetime distributional impacts Net [costs] or benefits ⁵	
							Exchequer	Firms/Consumers
	£million	MtC	MtC	£million, 2005 prices	£million, 2005 prices	£ 2005 prices	NPV Lifetime £million, 2005 prices	
1 support	9.55	0.29	2.6	25	688	264	[1,727]	2,469
2 support/guidance	11.55	0.53	5.2	70	1,400	269	[2,902]	4,494
3 CPA plus	36.05	1.56	18.9	209	5,066	268	[7,225]	13,080
4 Legal targets	36.05	2.09	26.5	307	7,122	269	[9,269]	17,530

- 1 The Lifetime carbon emission reductions here assume, cautiously, that no additional carbon reductions are achieved beyond 2010 (i.e. the impact of performance improvement stops at 2010 in terms of delivering further emission reductions). To calculate lifetime carbon emission reductions, the reductions achieved through domestic energy efficiency have, in the absence of a specific mix of measures, been assigned an average 'lifetime' of 25 years. In the transport sector, where the reductions are mainly the result of reducing car use through modal shift and behavioural change, they have been assigned a more cautious 5 year lifetime.
- 2 No ancillary benefits (improved air quality, reduced congestion, improved comfort etc) and no value for cost of carbon have been included in these calculations.
- 3 The similarity between the numbers here is an artefact of the fact that the net benefits of the energy efficiency and transport emission reductions are directly proportionate to the levels of savings achieved – the only factor which is not proportionately linked is the annual policy cost of the support programme (which are dwarfed by the overall costs and benefits).
- 4 It has been assumed here that the Exchequer carries the full costs of programmes to reduce car use (whereas in practice, some costs may be carried by consumers and/or firms). The balance between cost/benefits to firms and costs/benefits passed through to consumers has not been assessed for impact on transport emissions and are therefore shown here combined (see also Section 7.7.1).

An attempt has been made to assess the policy costs and distributional impacts (to Exchequer and Consumers) of the different scenarios. These numbers should be treated with caution as they potentially compound any imprecision embedded into assumptions and estimates made elsewhere in the project.

For this assessment, the annual costs in Table 16 have been allocated to the three scenarios. It is assumed that the 'carrot' to local authorities (at a cost of £24.5 million) is only relevant to Scenario 3 as CPA is introduced (or to Scenario 4 if legal targets are imposed).

The costs and benefits are outlined above in Table 17 in accordance with Appraisal Guidance for the CCPR. These show significant net benefits per tonne of carbon saved. However, as noted in note 3 to Table 16 and discussed further in Section 7.7.2 below, the costs of the support programme are overwhelmed by the net benefits of the energy efficiency and transport emission reductions which result from improved local authority performance. Since the net benefits are directly related to the levels of carbon saved, they simply increase in proportion to the levels of carbon emission reductions achieved under each Scenario.

The 'top level' numbers shown in Table 17 combine the net costs and benefits of the domestic energy efficiency and transport emission reductions which result from improved local authority performance under each scenario. They also include the policy costs associated with the support programme detailed in Table 16 for the relevant scenarios. The relatively simple methodology applied for estimating the costs and benefits of the emission reductions is outlined below.

7.7.1 Methodology applied to estimate costs and benefits

The net benefit to consumers of the energy efficiency improvements can be estimated, though only very roughly. This is done here by assuming that the mix of energy efficiency measures, the total costs to consumers (either directly as contributions to measures or indirectly via fuel bills) and the scale and value of energy savings would be similar to those in EEC2 (DEFRA 2004b). The costs and energy savings are then scaled for the level of savings achieved under each scenario.

In the case of Scenario 3, the net present value of the lifetime net benefit to consumers of energy efficiency measures is £3.83 billion (£21 million npv to 2010) assuming increased EEC starts in 2007. This compares with less than £1 billion for Scenario 2. In Scenario 4, this rises to £5.6 billion (£30 million npv to 2010). There is assumed to be no cost the Exchequer of these energy efficiency measures (since, under EEC, energy consumers fund the measures either through the energy supplier passing on programme costs in tariffs or by contributing themselves for measures).

The net cost to the Exchequer and the benefit to consumers of the carbon savings from transport are less easy to estimate. At the most simplistic level, it can be assumed that all of the carbon savings from improved local and regional action result from people shifting from car-based travel to less carbon intensive modes. By converting the carbon savings into reduced litres of petrol required (at approximately 1600 litres per tonne of carbon), the impact on fuel duty revenues and the maximum potential savings to consumers can be calculated.

Under Scenario 3, fuel duty revenues are reduced by approximately £750 million per year by 2010. By contrast, if all consumers choose low cost carbon-free transport modes (walking or cycling) to deliver the savings, they stand to share nearly twice this (£1.35 billion per year by 2010) in avoided petrol purchases. Both figures assume, of

course, that no steps are taken to recover the lost revenue by increasing fuel duty on the fuel still being used.

If the cost of delivering the modal shift is 1.5p per car km saved (Dept for Transport, 2004b), this converts to an implementation cost of c. £270 per tonne of carbon reduction. This cost is assumed to continue throughout the lifetime of the measures (though in reality the cost may drop once travel habits have changed). For the analysis here (and in the absence of a full transport sector model) these costs have been allocated in full to the Exchequer; in reality it is likely that consumers and firms will meet some of the implementation costs.

Taking these various costs and benefits into account, the net benefit per year of these transport measures by 2010 under Scenario 3 is £435 million, with an npv to 2010 of £313 million and a lifetime npv of £1.55 billion. Under Scenario 4, the npv to 2010 is £404 million with a lifetime npv of £2 billion. It has been assumed in all scenarios that the local authority performance improvement which produces reduced emissions is delivered steadily from now until 2010, with costs, reductions in tax revenue and consumer benefits increasing accordingly (from zero).¹⁷

The social cost of carbon has not been included in these calculations; nor have any ancillary benefits of reduced car use (eg lower air quality damage and reduced congestion). The figures relate to improvements achieved by local and regional bodies in England only.

7.7.2 A cautionary comment on the cost/benefit appraisal results

These numbers demonstrate that reducing carbon emissions through improved domestic energy efficiency and reduced car use has significant net benefits. As with other studies, they also show that the more emission reductions achieved, the greater the net benefits.

There are likely to be differences between the numbers here and those in other studies which are designed explicitly to assess the costs and benefits of transport and energy efficiency measures. Differences which do exist are likely to be a function of the assumed profile over time of emission reductions and the levels and distribution of costs and benefits which have been used.

However, the question for this study is much more about whether such reductions can be stimulated through improved performance by local and regional bodies along the lines detailed in the Matrix. And if so, (a) by how much would carbon emissions be reduced by different levels of performance improvement, and (b) what would be the cost of delivering such improvements amongst local and regional bodies.

Table 17 details the levels of carbon savings which can be achieved under the different scenarios; Table 16 estimates the costs of improving local and regional performance on an annual basis at £36 million for Scenarios 3 and 4. In effect, this expenditure, combined with policy measures described in Section 8, unlocks the opportunities to achieve the carbon emission reductions and the accompanying financial benefits described in Table 17.

17 These numbers are inevitably simplistic as they have not been derived from a sophisticated model of travel behaviour. Instead, they assume all consumers shift to carbon-free alternatives and pay nothing towards the cost of reducing car use. This may explain why the numbers are a little higher (in terms of net benefits) than those found in an internal Department for Transport evaluation for the CCPR of measures to reduce car travel.

8 CONCLUSIONS AND RECOMMENDATIONS

The analysis here shows that improving performance by local and regional bodies on carbon management can make a significant contribution to the UK's efforts to meet its 2010 and longer term carbon emissions targets.

Deliberate steps to drive and support improved performance in England could add 1 - 1.5 MtC saving per year to the Climate Change Programme by 2010, either directly through specific local actions or indirectly by creating cost-effective opportunities to expand national programmes which need effective local delivery to succeed. There are also aspects of planning activity on renewables, the development of business relationships and the management of their own carbon emissions where local and regional bodies have vital roles to play to ensure existing elements of the CCP achieve their anticipated impact on carbon emissions.

The UK Climate Change Programme has in the past approached the role of local and regional bodies without a clear picture of what such bodies can add to the CCP's nationally determined policies and programmes. Yet, by virtue of their existing roles in a range of policy spheres, strategic issues and service delivery, local and regional bodies are already deeply immersed in activities which have an influence on carbon emissions. This influence may currently be deliberate or unintended, positive or negative.

It therefore makes sense to ensure their actions within these spheres and in delivery of their public services – from planning and economic development to investment in local transport infrastructure and management of their own energy use – are effectively aligned with national carbon management objectives.

There are also important aspects of carbon management which lend themselves well to the scale and approach of local and/or regional bodies.

This is particularly the case with the need to engage directly with individuals – as householders, business leaders, transport users etc – to stimulate understanding, improve motivation and secure action to reduce their carbon emissions. It is also relevant to the need to create effective partnerships to enhance service delivery, improve skills and supply chain coherence and drive technological innovation.

The strong consensus of stakeholders consulted during this study is that the potential for improvement in local and regional carbon management activities will not be realised through 'Business as Usual'. Effective performance to date has been largely the result of 'Wilful Individuals' driving their organisations to act beyond what is required or expected of them. Such performance is relatively rare and replication is largely dependent on other wilful individuals.

Realising the potential for local and regional bodies to contribute significantly to the UK CCP therefore requires direct and purposeful intervention by central government. This is necessary to ensure that local and regional bodies give carbon management a higher priority and develop and put into effect appropriate understanding, skills and systems.

A series of policy interventions as outlined in Scenario 3 in Sections 6 and 7 would realise this potential. These have the support of stakeholders consulted during this

study. With additional funding of under £40 million per year, this 'good' policy intervention would deliver carbon reductions with significant net benefits.

The details of this policy intervention are outlined in Section 7. It is summarised here as recommendations to government with respect to the current review of the CCP.

8.1 Recommendations for the new UK CCP

On the basis of the analysis in this study, the new CCP needs to include a comprehensive package of new measures to create the conditions which deliberately drive improvement in the carbon management performance by local and regional bodies. To achieve this 'mainstreaming' of good practice, the new CCP should therefore contain:

1. Direct reference to the important roles which local and regional bodies can play with specific definitions of the actions expected of these bodies with respect to each aspect of carbon management, as provided by a refined version of the Matrix outlined here.
2. A target for overall performance improvement by local and regional bodies, together with an explicit acknowledgement in the CCP of the level of carbon savings anticipated as a result of improved performance by local and regional bodies. Some of the savings would be due to opportunities for expanding national programmes created by this performance improvement. While such savings cannot therefore be counted twice, it remains important to give credit for the savings to improvement in local and regional action. Then its essential contribution to the CCP as a whole will be clear, unambiguous and given tangible value.
3. A commitment to introduce carbon management into the Comprehensive Performance Assessment process for local authorities and into similar assessment frameworks for regional bodies and other local public sector agencies.
4. An undertaking to establish a legal duty for local and regional bodies 'to address climate change' (or 'to aim to reduce greenhouse gases') within their strategies and activities.
5. The development of clear guidance, associated with the Matrix, to define 'good enough' practice by local and regional bodies on the different aspects of carbon management: domestic, business and public sector energy efficiency, renewables and low carbon technologies and transport. This could include model policies and guidance with respect to Community Strategies, Local Area Agreements, Public Service Agreements and the various regional strategies.
6. A review and, where necessary, redrafting of all existing government and Audit Commission guidance to local and regional bodies relevant to carbon management to ensure it is aligned with national carbon management priorities and acknowledges opportunities for local and regional action (e.g. spatial and transport planning, air quality management, public sector energy management, etc).
7. Commitment to a new programme, costed here at c. £36 million per year, to provide training, support, improved co-ordination and guidance, and some basic resources for local and regional bodies. Specifically this would include:

- Additional funding of c. £70K for each local authority to enable the provision of dedicated staff resources to drive carbon management activities (potentially linked to the achievement of specific performance improvement targets).
 - Expansion of existing funding to regional bodies (an extra £200K per year per region) to enable creation of a genuine regional locus for action and co-ordination of carbon management effort within the region.
 - Provision of additional technical capacity within each region to support regional and local planning developments on renewables and transport and to co-ordinate activity to enforce building regulations and new planning policies stipulating the use of buildings-integrated renewables.
 - A nationwide programme of 'county-level' support initiatives for sub-regional groups of local authorities to work together (as currently occurs in roughly half of the country on domestic energy efficiency with the EST's LESP programme).
 - A national programme of training and guidance materials for managers and members of local and regional bodies and the Audit Commission, linked to the opportunities for action identified within the Matrix and embodied within the proposed new performance assessment frameworks. This should include training and guidance on effective management and organisation for the delivery of objectives – such as carbon management – which inevitably cut across organisational structures.
8. Streamline the agencies currently providing support and funding programmes to local authorities and regional bodies on carbon management, to create a 'one-stop-shop' focused on meeting their support and information needs. This would particularly avoid the need for each local authority itself to 'join up' the various and disparate services and programmes on offer into the comprehensive service they actually want.
 9. The establishment of a common methodology for monitoring and evaluation of local and regional carbon management activities and a consistent approach to the provision of local emissions and energy consumption data at appropriate levels of detail and resolution.
 10. Direction to the UK Energy Research Centre to develop research activities in the area of local and regional initiatives to tackle climate change in order to establish some academic underpinning for future analysis.

8.2 Recommended next steps to 'prepare the ground'

The Matrix approach is still in the early stages of development and currently has been considered only in terms of opportunities for action by local and regional bodies in England. While it has been warmly welcomed by stakeholders consulted during the course of this study, it needs both refinement and additional effort to secure 'buy-in' from relevant national bodies. Its relevance to the devolved administrations should also be examined.

This process, together with a number of other steps outlined below, could be initiated immediately to help prepare the ground for the new policy interventions recommended above.

The recommended next steps for DEFRA/CCP Review Team are to:

- Refine the Matrix through more detailed stakeholder consultation and dialogue, particularly with LGA, ODPM and Audit Commission to ensure 'best fit' with CPA and 'buy in'.
- Assess the relevance of the Matrix approach to the devolved administrations and adjust the Matrix and its associated input to their performance assessment frameworks.
- Develop guidance to accompany the Matrix and identify the full range of existing guidance from central government which should reflect new carbon management priorities.
- Map out the guidance and training programmes needed to address the management and organisation of delivery at local and regional level on a cross-cutting issue like carbon management.
- Undertake a more detailed study of the distribution of EEC savings by local authority to test anecdotal evidence that better performing local authorities have residents who are more responsive to energy suppliers' EEC offers.
- Draw up a standard methodology and data framework for consistent monitoring and evaluation of future local and regional initiatives.

APPENDIX A – STAKEHOLDERS INVOLVED IN THE STUDY

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Paul Whittlesea	ODPM
Catriona Reeby	Energy Saving Trust
Zoltan Zavody	Energy Saving Trust
Francis Rottenburg	Carbon Trust
Vanessa Tilling	GOSE

Interviewees

Local Authorities	Officer name	Job title
Bristol City Council	Dave Cowley Lorraine Hudson	Home Energy Conservation Officer Climate Change Strategy Officer
Cornwall Sustainable Energy Partnership	Tim German	LASP Coordinator
Leicester City Council	Don Lack	Head of Services
London Borough of Havering	Mark Lowers	Energy Manager
Nottinghamshire County Council	Alan Allsopp	Principal Energy Management Officer
London Borough of Merton	Adrian Hewitt	Principal Environment Officer
Newark and Sherwood District Council	David Pickles	Energy Agency Director
Kirklees Metropolitan Council	Bill Edrich	Environment Programme Manager
Breckland Council	Gordon Partridge	Principal EHO (Public Health)
Buckinghamshire County Council	Garrett Emmerson	Chair of Transport Planning Forum Member of Commission for Integrated Transport
London Borough of Southwark	Matthew Trott	Fleet Manager

Regional Bodies	Officer name	Job Title
East Midlands Regional Assembly	Helen Chadwick	
West Midlands Energy Strategy Group	Nick Baldwin	Chair
Government Office of the East of England	Jo Hefford	Head of Sustainability
North East Energy Partnership	Jon Bird	Chair
North East Region Energy Saving Trust (and English Regions Network)	Steve Calvert	Regional co-ordinator
North West RDA	Joe Flanagan	Head of Energy
Government Office for the South West	Mike Twomey	Head of Sustainability and Environmental Technologies
Regen SW	Matthew Spencer	Chief Executive
Yorkshire & Humberside Regional Assembly	Andrew Cooper	Regional Energy Policy Manager
Greater London Authority	Harry Mayers	London Energy Partnership Development Manager
Transport for London	Catherine Jones	Policy Officer

National Stakeholders

Town & Country Planning Association	Rob Shaw	Policy Officer
Local Government Association	Sarah Hendel-Blackford	Energy Policy Advisor
Audit Commission	Andrew Walford	CPA Environment Manager
IDeA	Steve Waller	Principal Consultant - Sustainable Communities
Highways Agency	Simon Price/Ian Smith	Environment Manager
Freight Transport Association	Malcolm Bingham	Policy Officer

Energy Suppliers

Scottish Power	Walter French	EEC Manager
EDF Energy	Steve Fuller	EEC Manager
Powergen	Mike Newell	EEC Manager

Expert Stakeholder Workshop participants (25 April 2005)

Andrew Cooper	Energy Policy Manager,	Yorkshire and Humber Assembly,
Don Lack	Director Leicester Energy Agency,	Leicester City Council
Mark Lowers	Energy Management Officer	London Borough of Havering
Jo Hefford		Government Office East of England
Francis Rottenburg	Manager, Regions	The Carbon Trust
Sarah Hendel-Blackford	Senior Project Officer - Sustainable Energy and Climate Change	Local Government Association
Matthew Trott	Business Unit Manager	Fleet Services
Alan Allsopp	Environment	Nottinghamshire County Council
Bruce Pittingale	Energy Manager / Chair	Fenland DC / Home Energy Conservation Association
Graham Tubb	Head of Sustainability	SEEDA
Rob Pilling	Policy Officer	NSCA
Malcolm Bingham	Manager Highways Traffic and Urban Access	Freight Transport Association
Tyrone Homes	Public Sector Team, Sustainable Energy Policy	DEFRA - Department for Environment, Food and Rural Affairs
John Harrison	Energy Manager	Shropshire County Council
Zoltan Zavody	Policy Manager	Energy Saving Trust
Ben Coakley	Transport Policy Manager	Chiltern District Council
Rebecca Evernden	Local Government & Regions Division	DEFRA - Department for Environment, Food and Rural Affairs

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