Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Local Authority Zero Carbon Barriers Research Project

The Wales Planning Policy Development Programme

The Wales Planning Policy Development Programme

This research project has been commissioned and undertaken as part of the Welsh Assembly Government's Wales Planning Policy Development Programme. The programme, originally established in 2000 under the title the Wales Planning Research Programme, is intended to meet the need for evidence based land use planning policy development within the context of the Welsh Assembly Government's principles and priorities.

The Assembly Government's Planning Division is responsible for administering the Wales Planning Policy Development Programme and ensuring that any research or policy implementation work meets the needs of the Welsh Assembly Government.

Research is carried out predominantly by external commission, although some projects are undertaken collaboratively with other organisations

Local Authority Zero Carbon Barriers Research Project

Key Objectives

- To focus on distinctive Welsh issues
- To support the development of planning policy
- To provide management information for land use planning policy development
- To develop best practice guidance.

In 2005 a quinquennial review of the research programme was carried out. This identified a number of recommendations including the renaming of the programme to enable not only the funding of planning research but the implementation of policy developed from it.

Further information on the Wales Planning Policy Development Programme can be accessed at:
www.wales.gov.uk/planning

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Local Authority Zero Carbon Barriers Research Project

Final Report

Welsh Assembly Government

May 2009

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Executive Summary

Background

On 13th February 2007 the Welsh Assembly Government stated its aspiration that all buildings built from 2011 onwards will be zero carbon. In moving towards this aspiration, the Assembly Government has put in place a number of actions including the *One Wales* aim to achieve annual carbon reduction-equivalent emission reductions of 3% per year by 2011 in areas of devolved competence. The Assembly Government has also proposed changes to the national planning policy to further the response to climate change through the planning system.

This document is the final report for a research project (contract number 238/2008) for the Welsh Assembly Government to identify barriers and issues for local authorities in Wales in implementing and facilitating low and zero carbon new developments.

The research was carried out during the period August 2008 and March 2009. The team was led by Faber Maunsell with Baker Associates, planning consultants, providing specialist input on Welsh planning policy. Support was provided by the project steering group consisting of the Welsh Assembly Government, Welsh Local Government Association and the Design Commission for Wales. Valuable input was also received from the Energy Saving Trust.

Research Objectives

The specific objectives of the research were:

1. To explore and understand the practical implications for local authorities of implementing and facilitating low and zero carbon developments through the planning system.
2. To use the findings and outcomes of the study to assist the Assembly Government in enabling local authorities, developers and other stakeholders to play an effective role in achieving the Assembly Government aspiration of zero carbon development by 2011 through private development by:
    - Understanding LA needs and constraints, and opportunities in implementing low and zero carbon development through the planning system; and
    - Ensuring that emerging Assembly Government planning policy guidance on low and zero carbon development that is related to land use, is clear and simple to implement and realistic.

Stakeholder Engagement

The primary source of information for the research was from local authority planning officers, as well as other key stakeholders. A number of different methods of stakeholder engagement were used, in a phased manner, to identify and explore key issues and test recommendations. Phase 1 involved a policy review and a questionnaire survey sent to all local authorities in Wales. At the end of Phase 1, two local authorities were selected as pilots to take part

in more detailed analysis in phase 2. These pilots were Cardiff and Denbighshire Councils. Phase 2 involved in-depth interviews with key officers in the pilot authorities, a stakeholder workshop and a peer review workshop to test key findings and draft recommendations.

Key Issues and Barriers Identified By the Research
These were identified as:

- Lack of clear national policy guidance;
- Competing priorities (e.g. affordable housing);
- Knowledge and expertise within local authorities;
- Local authority staff resources and budgets;
- Knowledge and expertise within the wider construction industry;
- The separation of development management and building control functions.

Key Recommendations
The report presents, in total, 16 recommendations. These are based on our analysis of the issues, barriers and opportunities that were identified by us and stakeholders during the research and they are designed to overcome some of those barriers and build on specific opportunities. Of these 16 recommendations, we feel that five of them are of the highest priority. These are summarised below, in no particular order of priority.

Assessing Compliance

- Recommendation 4 - We recommend that the Assembly Government provide guidance, perhaps as part of technical advice, on the expected role of planning officers in assessing compliance with the policy requirements and the level of scrutiny to be provided at each stage. This could take the form of the table set out in Appendix 1. This should include consideration of the potential use of pre-commencement conditions, as well as the role of Building Control officers (see also recommendation 10).

Training, Tools and Support

- Recommendation 5 - We recommend that the Assembly Government roll out the tools and training indicated in the table in Appendix 1 and develop an ongoing training and capacity building programme for LPAs in relation to this topic. This would consider: how officers will be provided with ongoing support as they put their training into practice (e.g. mentoring and expert panels); how officers will exchange experiences and knowledge (e.g. some form of “knowledge network”) and how officers can distil and share best practice.
- Recommendation 7 - We recommend that the Assembly Government should consider establishing an “Energy Team” (or Teams) to scrutinise strategic developments. As a minimum, this team would support development management officers to assess the energy strategy for sites after a planning application had been submitted and would review information submitted for major applications. Any issues could then be raised and addressed prior to determination. The precise role, balance between local and centralised support, feasibility and costs of such a resource will need to be explored further by the Assembly Government in discussion with key stakeholders.

The Role of Building Control

- Recommendation 10 - We recommend that the Assembly Government provides clear guidance on: the expected role of Building Control (both LABC and AI) in implementing the policy; the mechanism by which building control approval can be linked to the assessment of policy compliance; charging mechanisms; clarification of the type of information that developers should be required to submit to Building Control Bodies and the information that should be returned from those bodies to the developer as proof of compliance with any planning conditions. This will need to be discussed and agreed with key stakeholders in LABC and the AI sectors. This guidance may require discussions with Approved Inspector trade associations to develop a revised standard schedule of services.

Considering Viability

- Recommendation 14 - We recommend that the Assembly Government should consider commissioning the development and roll-out of a development appraisal toolkit, which can include costs for sustainability requirements, to be used by LPAs in Wales. It may be that such a toolkit could be largely based on existing tools. This could inform both target-setting for strategic sites, but also pre-application negotiations and discussions with developers for any site. It will also enable an LPA to see how sustainability targets and affordable housing and other section 106 requirements may need to be traded against each other for a given target residual land value.

1 Introduction

On 13th February 2007 the Welsh Assembly Government (the "Assembly Government") stated its aspiration that all buildings built from 2011 onwards will be zero carbon. In moving towards this aspiration the Assembly Government has put in place a number of actions including the *One Wales* aim to achieve annual carbon reduction-equivalent emission reductions of 3% per year by 2011 in areas of devolved competence. The Assembly Government has also proposed changes to national planning policy to further the response to climate change through the planning system.

To deliver this aspiration the Assembly Government recognised that it needed to better understand the barriers to, resources and skills required (technical and financial), and opportunities arising for facilitating zero carbon developments at the local authority level, including the role of the planning system.

The Assembly Government therefore commissioned research on the barriers to zero carbon development at the local authority level in 2008.

1.1 Background and Research Aims

1.1.1 Policy Context

Wales

The Welsh Assembly Government's zero carbon aspiration is part of a wider programme of action to tackle both the causes and consequences of climate change and to promote sustainable development. This programme includes:

- A duty under the Government of Wales Act 2006 to have a Scheme that explains how it intends to promote sustainable development. This is contained in the *Sustainable Development Scheme*;
- A commitment in *One Wales* (the Welsh Assembly Government's programme for government) to reduce greenhouse gas emissions in Wales, including how it will deliver its fair share towards UK targets contained in the UK Climate Change Act. The aim is to achieve annual carbon reduction-equivalent emission reductions of 3% per year by 2011 in areas of devolved competence;
- A commitment to contributing to the UK Government goals of achieving a 12.5% reduction in its emissions of greenhouse gases by 2008-2012, a 20% reduction in CO_2 emissions below 1990 levels by 2010 and a commitment to the UK Climate Change Act long term target to reduce greenhouse gas emissions by at least 80% by 2050;
- Renewable energy targets, as set out in Technical Advice Note (TAN) 8 for 4TWh by 2010 and 7TWh by 2020;
- Requirements on all new buildings promoted or supported by the Assembly Government to meet Level 3 of the Code for Sustainable Homes for residential developments, and for non-domestic developments to meet BREEAM Excellent, and for all developments to include a minimum of 10%

by value of recycled material to be used in the construction of all new buildings;

- A '*Climate Change Strategy – High Level Policy Statement'* (January , 2009) which sets out the Assembly Government's policy intentions in relation to climate change which expands on commitments set out in One Wales;
- A draft *National Energy Efficiency and Savings Plan* (March, 2009) that proposes a number of practical, short-term actions to reduce energy use and greenhouse gas emissions in Wales;
- A public consultation on a *Renewable Energy Route Map for Wales* (February, 2008) which sets out proposals for moving Wales towards self-sufficiency in renewable electricity in a generation whilst at the same time moving towards more energy efficiency;
- Establishing and supporting a Zero Carbon Hub to champion action in this area;
- Developing a sustainable building portal (which will bring together existing Assembly Government online resources, as well as link to external resources) , and
- Seeking devolution of the Building Regulations.

These documents can be found on the Welsh Assembly Government website, www.wales.gov.uk .

UK

At a UK level the UK Government has announced an aspiration for new dwellings to be zero carbon from 2016. For non-residential buildings, the UK Government has also stated an aspiration to have zero carbon schools from 2016, public buildings from 2018, and all other non-domestic buildings from 2019.

Definition of Zero Carbon

Currently, there is no UK-wide definition for what constitutes a Zero Carbon development. It is generally understand that a zero carbon home is one that will have net zero carbon emissions over the course of a year, after taking account of:

- The carbon emissions from space heating, ventilation, hot water and fixed internal lighting;
- Expected emissions from the energy use from appliances and cooking, and
- Exports and imports of energy from the development (and directly connected energy installations) to and from centralised energy networks.

In December 2008 the UK Government consulted on a definition of zero carbon homes and non-domestic buildings[1].That consultation proposes an approach to zero carbon homes that will

- Achieve large reductions in carbon emissions from all new homes compared to current Building Regulations (of either 44%, 70% or 100%); and
- Allow a range of solutions for dealing with the remaining carbon emissions.

[1] *Definition of Zero Carbon Homes and Non-domestic Buildings, Consultation, December, 2008*

There is, as yet, no agreed definition of zero carbon for non-residential buildings and the UK Government has stated that it will consult on this in 2009.

The Welsh Assembly Government has supported the consultation on a UK wide definition for Zero Carbon.

Planning

Planning Policy Wales (2002) sets out the land use planning policies of the Welsh Assembly Government. It is supplemented by a series of Technical Advice Notes (TANs) and updated through Ministerial Interim Planning Policy Statement (MIPPS).

In December, 2006, the Assembly Government consulted on a draft *Planning for Climate Change Ministerial Interim Planning Policy Statement* (MIPPS) which proposed amendments to Planning Policy Wales to further the emphasis given to climate change in the planning system. In July 2008, a further consultation paper on these amendments was published which proposed the introduction of sustainability standards for certain developments. This was set at Level 3 of the Code for Sustainable Homes for residential proposals, BREEAM 'Very Good' for non-domestic development proposals, in addition to a proportion of on/near-site renewable or low carbon energy generation.

Within this consultation, the Assembly Government also committed to the preparation of a new Technical Advice Note to support the proposed policies.

At the time of publication, the final *Planning for Climate Change MIPPS* or draft Technical Advice Note has not been published.

In addition to this, the Planning and Energy Act 2008 (November, 2008) enables local planning authorities in England and Wales to adopt policies in a development plan that impose reasonable requirements for a proportion of energy used in development in their area to be from renewable and / or low carbon sources in the locality of the development and / or to comply with energy efficiency standards that exceed the requirements of the Building Regulations. The Act requires that development plan policies must not be inconsistent with relevant national policies.

1.1.2 Research Objectives

Faber Maunsell and Baker Associates were appointed to undertake the "Local Authority Zero Carbon Barriers Research Project", a project funded by the Welsh Assembly Government.

Although the title refers to "Zero Carbon", for the purposes of the research this should also be taken to cover Low and Zero Carbon Development (LCD). This recognises that in order to move towards zero carbon development, developments with significantly lower carbon emissions are needed, and understanding the barriers faced by these developments may be similar to those experienced in achieving zero carbon developments. It is not the purpose of this report to define zero carbon development.

The objectives for this research were:

1. To explore and understand the practical implications for local authorities (LA) of implementing and facilitating low and zero carbon developments (LCD) through the planning system.

2. To use the findings and outcomes of the study to assist the Assembly Government in enabling local authorities, developers and other stakeholders to play an effective role in achieving the Assembly Government aspiration of zero carbon development by 2011, through private development by:
    - Understanding LA needs and constraints, and opportunities in implementing low and zero carbon development through the planning system; and
    - Ensuring that emerging Assembly Government planning policy guidance on low and zero carbon development that is related to land use, is clear and simple to implement and realistic.

The project team, particularly through the survey and peer review process, aimed to involve all local authorities in Wales, with detailed work being undertaken with two local authorities: Cardiff Council and Denbighshire County Council.

1.2 Research Team

The team was led by Faber Maunsell with Baker Associates, planning consultants, providing specialist input on Welsh planning policy. Support was provided by the project steering group consisting of the Welsh Assembly Government, Welsh Local Government Association and the Design Commission for Wales. Valuable input was also received from the Energy Saving Trust.

We also acknowledge the valuable input provided by all those local authority officers and members who participated in this research.

1.3 Report Structure

Chapter two of this report sets out the methodology used to conduct the research and describes the stakeholder engagement that was carried out. Chapter three sets out the key findings of the research in terms of what the study team found to be the issues, barriers and opportunities for low and zero carbon development in Wales. Chapter four sets out the conclusions and recommendations.

There are two separately published annexes that accompany this report. The first is the policy review that was carried out by Baker Associates. The second is a report on the results of the survey of local authorities carried out as part of this research. Both of these supporting annexes can be downloaded from http://wales.gov.uk/topics/planning/planningresearch/

1.4 Definitions and Abbreviations

The *draft Planning for Climate Change* MIPPS (December 2006), and the *Further Consultation on Planning for Climate Change* (July 2008), are referred to throughout this report as the “draft national planning policy”.

The Code for Sustainable Homes is referred to as “the Code”.

The abbreviation LCD is used in place of Low and Zero Carbon Development. This acronym has been used to avoid confusion with LZC, which stands for Low and Zero Carbon, referring to energy technologies or supply. The latter is an established acronym used in Part L of the Building Regulations.

There is no official definition of what constitutes a “low carbon” development. For the purposes of this report, we intend it to cover any development that achieves carbon emission reductions significantly in excess of those required by current Building Regulations. For example, this could cover schemes that met the Code for Sustainable Homes levels 3 or 4, or had met a “Merton style” planning requirement for reducing carbon emissions by 10% or 20% through the use of on and near site LZC energy technologies.

It is expected that low and zero carbon development will incorporate a mixture of energy efficiency measures and LZC energy technologies such as:

- Solar hot water
- Photovoltaics
- Wind turbines
- Biomass boilers
- Community heating schemes
- Combined Heat and Power (CHP)
- Heat pumps
- Fuel cells

List of Abbreviations

ACAI	Association of Consultant Approved Inspectors
AI	Approved Inspectors
BC	Building Control
BREEAM	Building Research Establishment Environmental Assessment Method
CAT	Centre for Alternative Technology
CHP	Combined Heat & Power
CIC	Construction Industry Council
Code	Code for Sustainable Homes
CT	Carbon Trust
(D)CLG	Department for Communities & Local Government
DCW	Design Commission for Wales
DH	District Heating
DSM	Dynamic Simulation Model
ECA	Enhanced Capital Allowance
EEAC	Energy Efficiency Advice Centre
EIA	Environmental Impact Assessment
EPC	Energy Performance Certificate
ESCO	Energy Services Company

EST	The Energy Saving Trust
GLA	Greater London Authority
LA	Local Authority
LABC	Local Authority Building Control
LDP	Local Development Plan
(W)LGA	Welsh Local Government Association
LPA	Local Planning Authority
LZC	Low and Zero Carbon
LCBP	Low Carbon Buildings Programme
LCD	Low and Zero Carbon Development
MIPPS	Ministerial Interim Planning Policy Statement
Part L	The 2006 edition of Part L of the Building Regulations 2000, relating to Conservation of Fuel and Power.
PCR	Post Construction Review
PPW	Planning Policy Wales
RTPI	Royal Town Planning Institute
SAP	Standard Assessment Procedure
SBEM	Simplified Building Energy Model
SDF	Sustainable Development Fund
SPG	Supplementary Planning Guidance
TAN	Technical Advice Note
TCPA	Town & Country Planning Association
UDP	Unitary Development Plan

2 Methodology and Stakeholder Engagement

2.1 Introduction

The approach to the research involved two main phases of stakeholder engagement, as follows:

Phase 1:

- Policy review
- Survey of local authorities in Wales
- Selection of two pilot LPAs for more detailed research

Phase 2:

- In-depth interviews with pilot LPAs
- Stakeholder workshop with each pilot LPA
- Peer review workshop

The aim was that as the research progressed, specific issues and barriers could be explored in more detail with specific groups of stakeholders. Each of these stages is discussed in more detail below.

2.2 Policy Review

2.2.1 Method

A detailed review of relevant national planning policy was carried out by Baker Associates and is provided as a separate report which can be viewed at http://wales.gov.uk/topics/planning/planningresearch/. Later in the research project, following completion of a selection process, a review of the relevant local policy of the two pilot authorities was also undertaken by Bakers and these reports can also be viewed at the above web address.

2.2.2 Outcome

The key outcome of the national policy review was to draw together current and emerging policy in relation to low and zero carbon development. It was noted that national mandatory renewable energy, carbon reduction and sustainability targets specifically linked to new development were proposed in the *Further Consultation on Climate Change* (July, 2008)

2.2.3 Contribution to Research

The national policy review fed into the development of the survey questionnaire, identifying:

- Current local sustainability and carbon reduction policy requirements and any targets;
- At what stage each local authority was in the LDP development process;
- The approach of each local authority to the development of new LCD or sustainability policy and experience with implementing any requirements;

- Views on the barriers and opportunities to facilitating low and zero carbon developments.

2.3 Survey

The first element of the project sought to introduce the project to stakeholders and to understand the different needs and circumstances of local planning authorities. Local authorities were provided with written explanations of the reasons for undertaking the research, the aims of the project and a request for information for which a questionnaire was provided.

2.3.1 Method

In total 115 questionnaires were posted and/or e-mailed to 25 local authorities. These were sent to the respective heads of planning policy and development management. They were also circulated to "sustainability" contacts within LPAs known to the Assembly Government. Follow up phone calls were made to contacts to ask if the questionnaire had been received and whether the respondent had any questions about the survey or research. A feedback report summarising the responses was structured directly from the questionnaire with key themes and sections for the outcomes of each question. A copy of the survey feedback report including the questionnaire survey can be viewed at http://wales.gov.uk/topics/planning/planningresearch/

2.3.2 Outcome

In total, 17 out of the 22 LPAs in Wales responded to the survey. Those that did respond chose to give a joint response, rather than different departments from the same authority giving individual responses.

Some key early findings from the survey process included:

- LPAs felt that the main barriers to implementing LCD were a lack of a national policy and a lack of awareness and knowledge about how to implement such policies.
- There was uncertainty within local authorities regarding the definition of LCD and few examples of LCDs were cited.
- The majority of LAs had no policy for securing specific carbon reduction or sustainability targets in relation to areas and strategic development sites.

2.3.3 Contribution to Research

The survey responses provided a basis for selecting two pilot LPAs for more detailed research. The responses were also used as the basis for questions for more in-depth interviews that were held with the pilots, once they had been selected.

2.4 Selection of Pilot Local Authorities

2.4.1 Method

A selection process was developed in order to identify two authorities who would maximise the potential to deliver the objectives of the research.

2.4.2 Outcome

The two pilot authorities that were chosen were Cardiff Council and Denbighshire County Council. The selection of the two pilot local authorities was based on the following criteria:

- Willingness and resources to participate in further detailed study, including participation of senior officers;
- The number of major applications decided based on housing completion statistics;
- Levels of current assessment and enforcement experience;
- Level of insight and quality of issues raised in relation to the low and zero carbon agenda;
- Potential for the research to influence their LDP process.

2.4.3 Contribution to Research

The identification of two pilot local authorities enabled the team to undertake further detailed research with the LAs concerned.

2.5 In-depth Interviews

2.5.1 Method

Building on the policy review and the key findings from the survey (as set out above), in depth, face-to-face interviews were carried out with officers in each of the pilot local authorities, using a semi-structured questionnaire.

2.5.2 Outcome

The main points which emerged from the interview process were:

- Nervousness about setting local targets without national policy/ targets in place – concern over developer "flight", impact on development viability and on other Section 106 priorities;
- Confusion between targets for carbon reduction and those for broader sustainability standards, e.g. in terms of the Code and BREEAM;
- A lack of knowledge about the implications for setting higher targets (e.g. for strategic sites), but a recognition of the fact that there would need to be a good evidence base to do this;
- A desire for a greater understanding of how to write and enforce policies on LCD;
- Some experience, particularly with Cardiff, in using pre-application discussions to implement sustainability requirements (using leverage from public sector funding);
- Concerns about the time and skills available for planning officers, BC and officers from other departments to assess compliance with policies;
- A (pragmatic) recognition of the fact that sustainability requirements at present form only one item on a long list of LA 106 requirements and therefore tend to get watered down in the later stages of negotiation in favour of higher priorities, such as affordable housing.

2.5.3 Contribution to Research

The further identification of issues and detail added through the interview process was used to:

- Develop the stakeholder workshop presentations and activities;
- Clarify issues raised during the survey process;

- Identify key LA stakeholders.

2.6 Stakeholder Workshops

2.6.1 Method

A facilitated stakeholder workshop involving key officers from planning policy, development and building control, other relevant officers (e.g. energy or estate managers, sustainability officers, and so on) and elected members was held in Denbighshire on 18th December 2008 at Technium OpTIC, St. Asaph Business Park.

The workshop was attended by 15 delegates from Gwynedd Council, Denbighshire County Council, Wrexham County Borough Council and Flintshire County Council. The workshop was attended by council officers and a County Councillor, chair of the planning committee. A list of the attendees is given in appendix 2.

During the workshop, participants considered a case study for a strategic site and were asked to consider what tools, guidance and support they would like to see to assist them in preparing an evidence base for LCD targets.

It was not possible to arrange a stakeholder workshop with Cardiff Council due to the relatively short timescales involved and the absence of key personnel. The peer review (see below) was therefore used to fulfil this role in part.

2.6.2 Outcome

The main outputs of the workshop included:

- A ranked list of key barriers for developing and enforcing policies for low carbon development;
- Lists of guidance, tools and support that stakeholders would like to see.

2.6.3 Contribution to Research

The outputs from the stakeholder workshop were fed into the peer review report.

2.7 Peer Review Meeting

2.7.1 Method

Following in-depth engagement with each of the pilot LPAs, the research team produced a peer review report summarising the key findings and initial recommendations from the engagement process, covering the survey, in-depth interviews and stakeholder workshop.

Key officers were invited to attend a half day peer review meeting hosted by the Assembly Government at the National Museum in Cardiff, on 13th February, 2009. Thirteen local authority officers and one planning committee chairman attended, representing nine separate LPAs. In addition to local authorities, the peer review was also attended by representatives from the Design Commission for Wales, EST Wales and WLGA. The list of participants is given in appendix 3.

2.7.2 Outcome

In terms of key barriers and opportunities, some key points raised were:

- The issue of skills and knowledge applies to the wider development sector and not just to LAs;
- The separation of the development management and building control functions within LAs and the further division between LABC and Approved Inspectors should be seen as an additional barrier;
- The potential additional capital costs of sustainability requirements can be minimised through early consideration and design;
- The role for planning officers to take a strategic role in facilitating district heating and CHP networks should be highlighted;
- The opportunity to link with up the new requirement for Design and Access Statements and broader considerations of sustainability and good design should be highlighted.

In terms of recommendations, some of the key points made by the group were:

- There was general support about the idea of “Energy Teams” to provide expert support to LAs, but considerable debate about whether such a resource should be located centrally, regionally or locally;
- There was a need to clarify how the policy will be monitored and evaluated;
- There was a need for guidance to make clearer the extent to which LPAs can seek to apply the final national planning policy before they have finalised their LDP’s.

2.7.3 Contribution to Research

As part of the peer review, the participants worked in groups to review the draft findings and recommendations. As a result, a number of amendments were suggested and these have been incorporated into this final research report.

3 Key Findings

3.1 The Current Situation – Survey Results

The responses to the survey gave the research team an overview of the extent to which LAs were currently implementing requirements for low and zero carbon development. This provided a useful baseline for the subsequent research and analysis. The picture that emerged from the survey is described below.

3.1.1 Policies for Low Carbon Development (LCD)

- *Adopted LCD Policies*

Of the 25 local planning authorities (LPAs) surveyed, 17 responded. Of these 17, seven had adopted Unitary Development Plans (UDPs) containing policy referring to low carbon developments (meant in a broad sense, i.e. referring to the need to ***consider*** energy efficiency or the use of renewable energy, for example). Three respondents (in emerging guidance and in Supplementary Planning Guidance (SPG)) stipulated specific requirements in relation to low carbon or renewable energy technologies. None of the currently adopted policies made reference to BREEAM, Code or EcoHomes targets.

- *Emerging LCD Policies*

Ten of the 17 LPA respondents were in the process of developing a Local Development Plan, many in relatively early stages. Three of these provided copies of their relevant draft LZC energy options or sustainability policies. All three of these LPAs had based their draft Local Development Plan (LDP) policies on either Technical Advice Note 8: Planning for Renewable Energy or the draft Ministerial Interim Planning Policy Statement (MIPPS) on Planning for Climate Change. One of these made reference to the Code/ BREEAM targets but with no energy target, whilst another had the latter but not the former. Three LPAs stated that they are awaiting guidance from new national policy which will be used as a benchmark and for the basis of UDP or LDP and SPG.

3.1.2 Implementing Policies for LCD

Design statements are the most widely used method to secure low carbon development whereby developers are expected to provide evidence of how LZC energy options and energy efficiency can be achieved within a proposed development. Checklists are also employed by LPAs to assess how a new development will implement sustainability policy or supplementary planning guidance.

Aside from assessing whether headline issues were addressed via development proposals, survey findings show that no formal calculation method is used to measure performance, in terms of energy or sustainability, against pre-defined standards.

The majority of LAs stated they had no formal method for checking the implementation of sustainability policy with ten out of the 17 LPAs having no specific process or guidance. Also, the majority of LAs did not identify a particular department, section or officer that is responsible for confirming that

policies are complied with. In most instances, case officers from the planning policy team assess strategic sites for sustainability performance whereas development management officers are more often involved with assessing renewable energy technology installation proposals. Very few checks are made post design stage.

3.2 Issues and Barriers

3.2.1 Introduction

The list of barriers and opportunities set out below are drawn from a synthesis of the findings from the survey, interviews, stakeholder workshop and, finally, peer review as well as our own experience and perceptions. Our understanding of the issues was refined at each stage and then tested with stakeholders at the peer review.

3.2.2 Description of Issues and Barriers

The numbering of the barriers below is for ease of reference only and is not meant to signify relative importance. The latter is considered at the end of this section.

B1. Lack of Clear National Policy Guidance

This was identified as the most common barrier in the survey responses, with 14 local authorities citing it as an issue. LPAs appear unwilling to include any "hard" LCD requirements in policy without, in effect, being given a mandate to do so by a corresponding national policy. Based on the interviews and stakeholder workshop, there appear to be several reasons for this, namely:

- LPAs are concerned that they would be open to legal challenge from a developer if they unilaterally set such a policy;
- They are concerned about "developer flight", i.e. if they set a unilateral policy requirement, developers may simply choose to build in neighbouring authority areas. Therefore, a national policy was suggested to create a "level playing field", to avoid such flight;
- They don't wish to precede national policy and hence are waiting to include any such policies in their LDP's until the requirements in the draft national planning policy have been finalised.

Clearly, once the final national planning policy is published, these issues may be addressed. However, concerns may remain over developer flight if one LPA chooses to apply the policy less vigorously than a neighbour. This barrier is viewed as key both for setting local authority-wide targets for new development and also for strategic sites.

Related to this, there also appears to be a lack of clarity or awareness over:

- The respective roles that different departments should play in assessing compliance with policies – e.g. should it be planning policy, development management or building control officers?
- The broader role that officers can (and perhaps should) play in helping to shape low and zero carbon development. For example, by requiring developers on large sites to have a common energy strategy in order to facilitate site wide district heating solutions.

B2. Competing Priorities

LA's recognise that for some developments it may not be economically viable for all of their section 106 requirements or planning conditions to be met. Inevitably, with developments of any significant size, negotiation takes places between the LPA and a developer around the extent to which a developer feels that they are able to meet the policy requirements. If they feel they are unable to meet a particular requirement the onus is on the developer to demonstrate why this is the case.

Naturally, there will be a limit to the extent of additional costs that a development site can bear before it becomes unviable. A key concern of LPAs in this study was that carbon reduction requirements could compete with other planning priorities, in particular affordable housing. There appear to be a number of underlying barriers which relate to this, namely uncertainty over:

- The costs and benefits of meeting different carbon reduction requirements;
- The relative priority of different planning policy requirements;
- The actual economics of any particular scheme and hence ability to absorb additional costs (with a recognition that this is challenge when seeking to apply any policy requirements).

B3. Knowledge and Expertise Within Local Authorities

In terms of developing policy requirements, there appear to be several aspects where a lack of relevant expertise and knowledge was felt to be a constraint. Survey responses showed that, although planners have broad sustainability skills, there are very few specialist sustainability staff working within the planning functions of LPAs and it is common for planning functions not to have in-house access to such specialists. Another factor contributing to this is that, as suggested by the survey responses, LPAs only have very limited experience with new developments that incorporate either LZC energy technologies or meet higher sustainability standards. The specific areas that were identified where a need for greater knowledge was required, were as follows:

Policy Development

- For strategic sites, how to set and word targets/ policy, and prepare a robust supporting evidence base.

Policy Implementation and Compliance

- How to implement requirements at a pre-application stage – e.g. through design briefs, checklists, etc;
- How to evaluate proposals effectively to assess compliance;
- Information and case studies as to what has been achieved elsewhere and the costs and benefits involved.

B4. LA Staff Resources and Budgets

From discussions, planning officers felt that the necessary expertise may be present within a Council as a whole to assist in the implementation and enforcement of policy, e.g. energy managers. However, it was felt that the necessary personnel would be unlikely to be able to provide that support due to current commitments, and lack of resources.

Planners felt that they could be up-skilled in this area but it would be unrealistic for them to become experts in this field in addition to the many other agendas they have to address and their current level of work.

There was felt to be a lack of resources available to conduct the necessary research to develop the evidence base for policy and set targets. Similarly, there is currently no resource to implement and assess compliance with LCD targets. Local authorities also considered that there is no identified resource for the training that would be required, for either LA officers or for other stakeholders.

B5. Knowledge and Expertise Within the Wider Construction Industry

Although it was recognised that LPAs can take a lead in setting out and explaining the new sustainability requirements to developers, it was felt that there is also a lack of skills and expertise within the construction industry as a whole. This would cover all players in the process, including developers, agents, designers, engineers, contractors and builders. As well as skills, there may also be issues in relation to the ability of the supply chain, in terms of local installers and equipment suppliers, to respond to the new energy requirements.

B6. The Separation of Development Management and Building Control Functions

This issue was brought into sharper focus at the peer review meeting. There are two main issues here. The first relates to the situation where compliance with Building Regulations is assessed by the Local Authority Building Control (LABC). There was a general view that where planning consents had "technical" conditions attached (e.g. in relation to the use of low and zero carbon energy technologies) LABC would be best placed to assess compliance with these. However, there was concern that because the planning and BC functions often sit in different departments, with different budgets and charging regimes, achieving cross-departmental working on this could be difficult. This is a reflection of the fact that, as self-funding trading arms of LAs, LABCs function in a different way to the planning policy and development management departments.

The second issue relates to the situation where private sector Approved Inspectors (AI) act as the Building Control Body rather than LABC. In this situation it was *felt* that the separation between the development management team in an LPA and a private sector AI would be an even greater barrier to joint working to assess compliance with new sustainability requirements.

We note that concerns about the interface between building control and development management functions are not limited to considerations around zero carbon and have been raised as part of the UK Government's ongoing review into the future of Building Control[2].

[2] *See* *http://www.communities.gov.uk/documents/planningandbuilding/pdf/futurebuildingcontrolrespon.pdf*

3.2.3 *Prioritisation – Output from Stakeholder Workshop*

At the stakeholder workshop, participants were asked to vote on what they felt were the top three barriers to implementing policies for LCD. The list of barriers was drawn up by the team based on the outcomes from the survey and the in-depth interviews. The results of the voting are shown below.

Barrier	No. of Votes
1. Lack of knowledge on how to implement and enforce targets and policy for low and zero carbon developments	10
2. Concern that could compromise other 106 priorities – e.g. affordable housing	8
3. Lack of resources to implement and enforce targets and policy for low and zero carbon developments	8
4. No level playing field – concern that unilateral targets will cause developers to go elsewhere	6
5. Concern about legality of requiring carbon reduction targets because there is no national requirement – open to challenge	3
6. Lack of knowledge of how to set targets/ policy, with a robust supporting evidence base	3
7. Lack of resources to set targets/ policy, and develop robust supporting evidence base	2
8. Concern that targets may push developers to greenfield rather than brownfield sites because there is more potential for decentralised energy	1
9. Land and property sales and rental values in Wales (in the medium to long term) insufficient to support higher sustainability requirements	0

This clearly showed that the most important barriers were seen to be about the knowledge, skills and resource of planning officers, competing priorities and concern about the impact of setting unilateral targets. Points four and five we subsequently covered under B1, as we felt that these issues would be dealt with by having a national policy.

3.2.4 *Prioritisation – Output from Peer Review Meeting*

At the peer review workshop, participants were asked to vote on which of the four barriers (B1 to B4) they felt was the most significant (B5 and B6 emerged as separate barriers during the peer review discussions). The results of the voting exercise are presented below and they show that the knowledge and skills issue was felt to be the most important barrier. The results broadly mirror those from the stakeholder workshop, although the latter placed a greater importance on staff resources as well as skills or knowledge.

The table below also shows how the recommendations set out in this report seek to address these barriers.

Barrier	No. of Votes	Relevant Recommendations
B1. Lack of Clear National Policy Guidance	6	R1, R2
B2. Competing Priorities	5	R13, R14
B3. Knowledge and Expertise Within Local Authorities	9	R4, R5, R6, R7, R8, R10, R11
B5. LA Staff Resources and Budgets	2	R7, R11
B5. Knowledge and Expertise Within the Wider Construction Industry	n/a	R12
B6. The Separation of Development Management and Building Control Functions	n/a	R10, R11

3.3 Existing Opportunities

As with the barriers, our understanding of the opportunities was refined at each stage and then tested with stakeholders at the peer review. The numbering of the opportunities below is for ease of reference only and is not meant to signify relative importance.

O1. Fee Charging

Several of the participants raised the opportunity of being able to fund up-skilling in this area by charging fees for pre-application advice or building control approval in relation to compliance with sustainability targets.

O2. Public Sector Procurement Sustainability Drivers

There are already some strong drivers in place for LCD where developments are in receipt of public funding or where local authorities or the Assembly Government are landowners. Examples of projects that have achieved BREEAM Excellent include: Pembrokeshire College; University of Wales, Newport, City Centre Campus; Kymin View Primary School; Llanfoist Primary School.

On the residential side, a key example is the 178 home Glasdir development in Ruthin. This achieved a BREEAM EcoHomes rating of Excellent and won the BREEAM 2008 Award for Wales.

Examples of LCD that incorporate LZC energy technologies include: Pembroke Dock Technium; Portfield Special School; Prendergast Community School; Narbeth Community School; Haverfordwest Sports Centre; and Spittal Community School. These developments are already providing valuable exemplars and case studies that can be used to raise the level of knowledge and awareness in this area.

O3. Existing Advice Providers

There are already several organisations in Wales acting as valuable and effective sources of advice and support to LAs in relation to LCD. These include: the Energy Saving Trust, various Energy Agencies and the Centre for Alternative Technology (CAT); the Carbon Trust (CT); the Design Commission for Wales (DCW); Royal Town Planning Institute Cymru and the Town & Country Planning Association (TCPA); Welsh Local Government Association (WLGA) as well, of course, as the Welsh Assembly Government itself and the Guidance and TANs it produces. These organisations provide a valuable network by which training and information can be disseminated to LA officers.

O4. Existing Sources of Capital Grants, Funding and Tax Incentives for Low and Zero Carbon Energy Systems

These include: Enhanced Capital Allowances (ECA), the Low Carbon Buildings Programme (LCBP), Sustainable Development Funds (SDFs) in National Parks, and Energy Services Companies (ESCOs).

O5. Development Appraisal

There is already in Wales existing experience of the use of development appraisal tools, such as the Three Dragons financial model for affordable housing. These could potentially be adapted to include costs and benefits for LCD.

O6. Joint Working

There is existing experience and forums for cross boundary working and sharing of experiences between LAs in Wales, such as the Planning Officers Society, Wales Spatial Plan area groups and regional planning groups.

O7. Design and Access Statements

The proposed introduction of both the requirement for Design (and Access) statements and the final national planning policy on the same date enables the sustainability and design agendas to be firmly linked together, as they should be, during the roll-out of the new requirements.

O8. Increased Support for District Heating Networks

There is currently a general move from Government to support district heating (DH) and Combined Heat & Power (CHP) networks, for both new and existing buildings and to facilitate the role of Energy Services Companies (ESCos). Recent initiatives include the UK Government's Renewable Heat and Energy Saving Strategy consultation, released in February 2009, which looks to support renewable heat and district heating networks and the proposals for a Renewable Heat Incentive. The (Wales) National Energy Efficiency Savings Plan consultation (March, 2009) also highlights the potential role for ESCos and follows recent consultation on a Renewable Energy Route Map for Wales.

This means that in the future, setting up such networks will become more attractive, which in turn will facilitate the reduction in carbon emissions for new as well as existing developments and reduce the burden on developers, both financially and administratively.

O9. Strategic Role for Development Management

There is an opportunity for local planning policy and development management officers to play a broader, more strategic role in facilitating the delivery of low carbon development on larger and strategic sites. For example, on sites with several developers, the case officer could work with the developers to develop a joint energy strategy. Or, as another example, officers could help broker a potential tie between district heating/ CHP networks for new developments and the supply of energy to new or existing public buildings. This strategic role was emphasised by stakeholders at the peer review workshop.

4 Conclusions and Recommendations

4.1 Introduction

This section presents, in total, 16 recommendations. These are based on our analysis of the issues, barriers and opportunities that were identified during the research and they have been designed to overcome some of those barriers and build on specific opportunities. These recommendations were tested with stakeholders during a peer review workshop that took place in Cardiff on 13th February, 2009 and were refined as a result of the feedback from that workshop. Therefore, we feel confident that the recommendations we put forward below address the key issues for local authority planning officers in implementing low and zero carbon developments, and that they are also workable in the current local authority context.

Of these 16 recommendations, we feel that five of them are of the highest priority. These are summarised below, in no particular order of priority. These were identified as priorities by stakeholders at the peer review workshop and we agree with their assessment. They are then restated in the full list of recommendations that follows in the order that they occur along with the other conclusions and recommendations. The numbering of the remaining recommendations is for ease of referencing only and is not meant to signify their relative priority.

4.2 Summary of Priority Recommendations

4.2.1 Assessing Compliance

(R4) We recommend that the Assembly Government provide guidance, perhaps as part of the proposed Technical Advice Note, on the expected role of planning officers in assessing compliance with the policy requirements and the level of scrutiny to be provided at each stage. This could take the form of the table set out in Appendix 1. This should include consideration of the potential use of pre-commencement conditions, as well as the role of Building Control officers (see also recommendation 10).

4.2.2 Training, Tools and Support

(R5) We recommend that the Assembly Government roll out the type of tools and training indicated in the table in Appendix 1 and develop an ongoing training and capacity building programme for LPAs on LCD. This would consider: how officers will be provided with ongoing support as they put their training into practice (e.g. mentoring and expert panels); how officers will exchange experiences and knowledge (e.g. some form of “knowledge network”) and how officers can distil and share best practice.

(R7) We recommend that the Assembly Government should consider establishing an “Energy Team” (or Teams) to scrutinise strategic developments. As a minimum, this team would support development management officers to assess the energy strategy for sites after a planning application had been submitted and would review information submitted for major applications. Any

issues could then be raised and addressed prior to determination. The precise role, balance between local and centralised support, feasibility and costs of such a resource will need to be explored further by the Assembly Government in discussion with key stakeholders.

4.2.3 The Role of Building Control

(R10) We recommend that the Assembly Government should provide clear guidance on: the expected role of Building Control (both LABC and AI) in implementing the policy; the mechanism by which building control approval can be linked to the assessment of policy compliance; charging mechanisms; clarification of the type of information that developers should be required to submit to Building Control Bodies and the information that should be returned from those bodies to the developer as proof of compliance with any planning conditions. This will need to be discussed and agreed with key stakeholders in LABC and the AI sectors. This guidance may require discussions with Approved Inspector trade associations to develop a revised standard schedule of services.

4.2.4 Considering Viability

(R14) We recommend that Assembly Government should consider commissioning the development and roll-out of a development appraisal toolkit, which can include costs for sustainability requirements, to be used by LPAs in Wales. It may be that such a toolkit could be largely based on existing tools. This could inform both target-setting for strategic sites, but also pre-application negotiations and discussions with developers for any site. It will also enable an LPA to see how sustainability targets and affordable housing and other section 106 requirements may need to be traded against each other for a given target residual land value.

4.3 Full Conclusions and Recommendations

4.3.1 National Planning Policy Requirements and Guidance

1. The survey results showed that planning officers felt that a lack of clear national policy or regulation and guidance was the most significant barrier to low carbon development. The forthcoming publication of the final national planning policy on planning for climate change is likely to address many of the issues that were raised in relation to this barrier. The Planning and Energy Act 2008 has provided a legal basis for local planning authorities to set in development plans targets for the incorporation of LZC energy technologies. The final national planning policy will provide clarity for LAs to require such standards as a material consideration and it will also clarify the wording and approach to be used.
2. In our view, it is helpful that the proposed policy will make use of the Code and BREEAM standards as well as use of the Part L approach to assessing the contribution that should come from LZC energy technologies. This means that new assessment methodologies will not need to be created, unlike the case with the Merton rule in London[3].

[3] *The key issue with the Merton rule is that, in London, it is measured as a % reduction of total rather than regulated carbon emissions from new build. This means that it works on a different basis to Part L of the Building Regulations.*

3. However, the research suggests that it will be important for any technical advice[4], or any other related guidance, to address the following issues:
    - What evidence should be submitted as part of a planning application to demonstrate compliance. For example, this could include an energy statement (and what this should contain), Code/ BREEAM pre-assessments, sustainability checklists or statements
    - The costs and benefits and options for achieving the target levels, to aid officers in discussions with developers. A lot of information is already becoming available in this area, from other UK research and guidance (e.g. for Department for Communities & Local Government (DCLG)) and so in many cases it will only require signposting to other sources of information.
4. The interviews identified that some officers saw the time lag between the final national planning policy being put in place and the finalisation of their own LDP's as a barrier to low carbon development. During the peer review workshop, it became clear that there was an uncertainty among LPAs about the extent to which they could seek to apply the requirements in the final national planning policy, if they were not also incorporated into their LDP's, or if they were only in the early stage of LDP preparation.

R1 We recommend that Assembly Government make clear in technical guidance, or the final national planning policy itself, that the policy is a material consideration when determining planning applications, regardless of whether a local authority has adopted its LDP. Furthermore, the Assembly Government should make clear that in developing their LDP's, LPAs do not need to restate the final national planning policy. LDP's should, instead, identify local factors that would build on the final national planning policy. This could include, for example, identifying specific requirements for strategic sites.

4.3.2 Setting Higher Targets for Strategic Sites

5. The research identified that some LPAs are aware of the opportunities that strategic sites present for setting higher sustainability targets but are uncertain of how to approach this. This came out strongly from the interviews, and the stakeholder workshop. We recognise that the Assembly Government has commissioned research to develop a framework for LPAs to develop an evidence base and set targets for strategic sites (Local Authority Renewable Energy Toolkit 11/2008). This should address some of the issues identified. An anticipated outcome of that research is that it will pilot a methodology for carrying out such an exercise and disseminate to other LPAs in Wales. Notwithstanding this, there is a risk that as the LDP preparation process proceeds apace, opportunities for setting targets for strategic sites may be missed.

[4] The Assembly Government committed as part of the "Further consultation on Planning for Climate Change" (July, 2008) to preparing a new Technical Advice Note to supplement the final policy.

R2 We recommend that the Assembly Government should consider using technical advice and other guidance as an opportunity to stress the importance of setting higher targets for strategic sites where this can be supported by a robust evidence base[5].

R3 Furthermore, we recommend that the Assembly Government consider how they can facilitate closer linkages between the waste development planning process and the issue of strategic sites for new development. The move towards greater use of energy recovery from waste, in all its forms, creates opportunities for locating such facilities with areas for new development, to create opportunities for CHP.

6. This recommendation has not come from local authority stakeholders, but is based on our experience from working on developing energy targets and strategies for strategic sites in the UK and work relating to the regional spatial strategy for the South West of England.

7. Further to the recommendation above, we recognise also that it is important for local authorities to consider other forms of energy (such as wind power, waste heat, biomass) when identifying strategic sites and setting targets. This is being covered as part of the Assembly Government research on a methodology for strategic sites, mentioned above.

4.3.3 Assessing Compliance and Implications for LA Skills and Resources

8. The discussions with stakeholders, in particular from the stakeholder workshop, highlighted there is some uncertainty among planning and building control officers around their roles and division of responsibilities in assessing compliance and enforcing the proposed targets. In particular, there is concern about the level of resources and expertise that may be required to do this and a recognition that effective implementation of existing policies is already a challenge without considering additional policies. This message came through at all stages of the research.

9. We feel that the key issue here is the need to be realistic about the level of skills and expertise and time that planning officers will be able to provide when seeking to implement and assess compliance with the new policy. We recognise that assessing compliance is greatly helped by the fact that the policy uses the Code for Sustainable Homes or BREEAM and Part L as these have established methodologies for assessment. In the case of the Code and BREEAM there is also an external Quality Assurance (QA) and accreditation process which can be relied upon.

10. In the table in appendix 1, as a starting point for discussion, we have set out an overview of the potential role that planning officers could play in assessing compliance with the targets at different stages in the planning

[5] The Planning Inspectorate Wales Guide to the Examination of Local Development Plans sets out four tests for the "coherence and effectiveness" of policies and allocations. One of these, test CE2, is that "the strategy, policies and allocations are realistic and appropriate having considered the relevant alternatives and are founded on a robust and credible evidence base". What this would mean in practice, for sustainability targets for strategic sites, is the subject of another research project by the Assembly Government and is referred to above.

process. We have attempted to separate out what we feel is a distinction between a basic or minimum level of scrutiny and a more advanced or rigorous level of scrutiny. The idea is that the latter could perhaps be carried by specialists either within an LA or external to it.

11. In our view, effective pre-application discussions, particularly for larger sites, are crucial to ensure that requirements will be met and in a way that helps provide the greatest synergy with other planning objectives. This provides clarity on requirements to developers and design teams early in the design process so that they can incorporate the requirements into designs from the outset. This will also enable developers to factor in any costs to their financial models.

12. From the survey, local authorities cited a lack of awareness and suitable training as the second most significant barrier to them facilitating or implementing requirements for low and zero carbon development. Participants at the stakeholder workshop identified that a lack of knowledge of how to implement and enforce targets and policies in this area was the most significant barrier. They also felt that any training and support should focus in particular on pre-application discussions as well as how to assess the quality of information submitted with planning applications.

R4 We recommend that the Assembly Government provide guidance, perhaps as part of technical advice, on the expected role of officers in assessing compliance with the policy requirements and the level of scrutiny to be provided at each stage. This could take the form of the table set out in Appendix 1. This should include consideration of the potential use of pre-commencement conditions[6], as well as the role of Building Control officers (see also recommendation 10).

R5 We recommend that the Assembly Government roll out the tools and training indicated in the table in appendix 1, and develop an ongoing training and capacity building programme for LPAs on LCD. This would consider: how officers will be provided with ongoing support as they put their training into practice (e.g. mentoring and expert panels); how officers will exchange experiences and knowledge (e.g. some form of "knowledge network") and how officers can distil and share best practice.

R6 We recommend that the Assembly Government suggest to LAs that evidence of compliance with the final national planning policy is included in the list of requirements for a valid application. This recommendation was supported at the peer review.

13. We acknowledge that the Assembly Government has provided a grant to RTPI Cymru to roll out training to support the new policy. We welcome the fact that it is proposed that this support will combine both the training around

[6] i.e. conditions that require information and evidence to be submitted to the case officer before work on site can begin. These are quite commonly used by local authorities for things such as landscaping details and materials samples, but can be extended to cover other issues. The use of a pre-commencement condition for a Code for Sustainable Homes target of level 3 has recently been used in England, for example, by Basingstoke and Deane Borough Council.

the final national planning policy as well as Design and Access statements, and what is "good design", as clearly the two are closely related.

14. Based on an idea that came out of the stakeholder workshop, we introduced at the peer review the idea of a central "Energy Team" that would assist in assessing compliance with the final national planning policy for strategic developments. This was based on an approach used by the Greater London Authority (GLA). We felt that such a team would help address some of the issues of time and skills constraints within individual local authorities in relation to implementing the policy, at least in the short term.

15. Potentially, this resource could be integrated with the role of the Design Commission, or sit within the Assembly Government, or Energy Saving Trust Wales, or be devolved to different Energy Agencies or to specialists within a local authority. If the role for this team was kept limited, then this may favour a more centralised approach. However, another option is that the Team could play a broader role, also providing pre-application advice, which may favour a more decentralised approach, as a LPA would want to be able to involve and work with them throughout the process. This broader role would enable greater scope for influencing a design such that it could meet the targets.

16. This would ensure that the key opportunities for LCD were maximised. It would also provide a mechanism whereby officers from individual authorities could perhaps be seconded to this team to develop their expertise as well as providing a focal point from which to disseminate best practice. This team could also play a support role for smaller developments where case officers in individual LPAs would take the lead in assessing compliance.

17. The idea of the Energy Team was strongly supported at the peer review, but there was considerable debate as to whether such a team (s) should be located centrally, regionally or locally. The general view of stakeholders was that this support should preferably be more local. However, there was a recognition that, in terms of financing such support, it may need to be more regional rather than local, at least in the first instance.

R7 We recommend that the Assembly Government should consider establishing an "Energy Team" (or Teams) to scrutinise strategic developments. As a minimum, this team would support development management officers to assess the energy strategy for sites after a planning application had been submitted and would review information submitted for major applications. Any issues could then be raised and addressed prior to determination. The precise role, balance between local and centralised support, feasibility and costs of such a resource will need to be explored further by the Assembly Government in discussion with key stakeholders.

18. The issue of what would happen if, after construction, a Code or BREEAM post construction review identified that a dwelling had not met the planning requirement (and presumably associated planning condition) was raised by stakeholders at both the stakeholder workshop and the peer review. It was evident that planning officers were unclear as to what the implications would be. In our view, it is important to have more clarity on this for two reasons. Firstly, because it is likely to be a common question raised by planning officers, developers and others in relation to the policy. Secondly, if the

Assembly Government and the Planning Inspectorate Wales make clear from the outset what the implications might be, this would send a strong signal to the development community about the weight being attached to the final national planning policy requirements.

R8 We recommend that the Assembly Government and the Planning Inspectorate Wales provide guidance to planning officers and developers, through relevant technical advice or other guidance, on the implications of any failure to discharge planning conditions relating to the final national planning policy.

4.3.4 Linkages to Broader Considerations of Good Quality and Sustainable Design

19. The proposed policy relates specifically to the Code or BREEAM standards and energy or CO_2 emissions. Although these are useful labels and benchmarks for the environmental sustainability of schemes, there are many aspects of sustainability and quality design that they do not cover. An example of this is the fact that the Code has very little coverage of transport issues, due to the need to make the assessment method less sensitive to geographical location. There are existing tools that do address these broader issues such as the WLGA sustainability checklist and toolkit.

20. Although this was not identified as an issue by local authority officers early in the process, in our view, the draft national planning policy may present two potential risks to quality design of new development, namely:

    - That the design of new developments will become driven solely by the targets, at the expense of design quality. Ideally, of course, quality design (e.g. as defined by TANs) should shape new developments with delivery of the draft national planning policy targets considered as part of this, amongst other factors;
    - That developers (and perhaps officers) may feel that delivery of the draft national planning policy targets means that all of the sustainability "boxes are ticked" and therefore some other important aspects of sustainability may receive less attention.

21. The importance of linking up to the wider sustainability agenda and the use of Design and Access statements to demonstrate good design was highlighted by stakeholders at the peer review workshop. This was also raised by stakeholders at other stages in the research.

R9 To address this, we recommend that in any guidance or technical advice issued by the Assembly Government in relation to the final national planning policy, the importance of other aspects of good design covered by TAN 12 are re-emphasised. The Assembly Government may also wish to highlight those elements of good design and sustainability that fall within the remit of the Code or BREEAM and those that don't.

4.3.5 The Role of Building Control

22. The stakeholder interviews identified that planning officers felt that building control officers were best placed to assess compliance with carbon reduction targets for new build and to verify proposed carbon savings from LZC energy technologies. We agree with this and feel that there is a lot of merit in trying to involve Building Control Bodies as part of the process of

assessing compliance with the policies. We also recognise, as was emphasised by stakeholders at the peer review, the potential complexities in trying to do this, due to the private sector nature of building control services.

23. The assessment of compliance with Building Regulations, i.e. Building Control, is either carried out by Local Authority Building Control (LABC) officers, or private sector Approved Inspectors (AI). Both could have a key role in ensuring that the energy component of the draft national planning policy is met. This key role is likely to be when full plans are lodged with them for approval after planning consent has been granted but before work starts on site. Strictly speaking, they are only required to assess whether the proposed buildings are compliant with the current Part L of the Building Regulations. However, clearly they would also be best placed to assess whether the plans and as-designed Part L compliance reports were also compliant with any policy requirements for reductions in regulated carbon emissions below current Part L requirements.

24. In order for this approach to be successful, given the proposed draft national planning policy wording, it will require two things:

    - Developers will need to submit to LABC or AI not only evidence of part L compliance (in the form of an output from SAP for homes or SBEM/DSM for non-dwellings), but also an output from a part L model to show the savings in regulated emissions achieved from energy efficiency measures alone, and a further output from the model to demonstrate the additional savings achieved from the use of LZC energy technologies[7]. The latter is to prove that the 10% reduction in regulated carbon emissions from LZC energy systems has been achieved.
    - There will need to be a mechanism that prevents a developer from starting work on site if LABC or AI is not able to verify that the requirement has been met. One option is that this could take the form of a pre-commencement condition placed on the planning consent, to submit information prior to commencement as set out in point 10 above.

25. We recognise that where the building control function is being carried out by LABC, there may be an issue over how LABC would charge for their time, as this would fall outside the scope of fees they would normally charge applicants. This raises the question of whether they could cross-charge to the development management team or pass the charge on to the applicant. We recognise that LABC are in competition with AI to provide building control approval services to applicants, therefore any proposed increase in charges would need to be sensitive to this. There would also need to be

[7] *To be very specific, the regulation referred to is the 2006 edition of Part L1A and L2A of the Building Regulations, which regulates the conservation of fuel and power in new buildings. Criterion one of this requires that for new dwellings the modelled Dwelling Emission Rate, or DER (in kg CO_2/m^2 per annum) does not exceed the Target Emission Rate, or TER, calculated for that dwelling. The Code for Sustainable Homes level 3 has a mandatory requirement that the dwelling must achieve a DER of at least 25% below the TER, but does not distinguish between savings from energy efficiency or from LZC energy technologies.*

effective communication between LABC and development management to ensure that any non-compliance was flagged up in a timely manner.

26. Where building control approval is being carried out by Approved Inspectors, then, contractually the situation may be more straightforward. This is because the AI could offer a slightly expanded schedule of services to clients to enable them to discharge any pre-commencement or other planning conditions in relation to energy requirements. It may also be that this model could be used for LABC, i.e. the assessment of compliance is a service the LABC provides to a developer and provides them with an appropriate compliance certificate. The developer would then submit the certificate to development management in order to discharge any planning conditions. If the same schedule of services is required from both LABC and AIs, then this should avoid any issues of making LABC appear uncompetitive.

R10 We recommend that the Assembly Government should provide clear guidance on: the expected role of Building Control (both LABC and AI) in implementing the policy; the mechanism by which building control approval can be linked to the assessment of policy compliance; charging mechanisms; clarification of the type of information that developers should be required to submit to Building Control Bodies and the information that should be returned from those bodies to the developer as proof of compliance with any planning conditions. This will need to be discussed and agreed with key stakeholders in LABC and the AI sectors. This guidance may require discussions with Approved Inspector trade associations to develop a revised standard schedule of services.

27. We recognise that there may be a skills and training issue for LABC officers in this regard, as some may still be getting to grips with the 2006 edition of part L, let alone considering carbon reductions beyond this. However, the UK Government has made it clear that there will be a revision to Part L in 2010 which is likely to require, for dwellings at least, a further reduction of about 25% in regulated emissions, which is likely to lead to greater use of LZC energy technologies in new dwellings. If the Building Regulations are devolved to the Assembly Government, then the timescale and size of carbon reductions required in Wales may differ to those set out above.

R11 We further recommend that the Assembly Government should discuss with local authorities the likely training requirements for LABC officers if they are to play this role and consider the fast-tracking of any training planned in relation to the 2010 part L revisions (or other relevant revisions if Building Regulations are devolved to the Assembly Government) to facilitate the rollout of the final national planning policy. The Assembly Government should also hold similar discussions with representatives for Approved Inspectors (such as the Construction Industry Council (CIC) and the Association of Consultant Approved Inspectors ACAI)) to identify training needs, should AIs take on this role.

4.3.6 *Knowledge and Skills of Broader Development Sector*

28. Whilst LA officers may be able to take a lead in articulating to developers and design teams what the requirements are, clearly there will be a need to

address skills and awareness of these players as well. The training needs of the wider sector were highlighted by stakeholders as a key issue during the peer review workshop. Whilst larger companies may be familiar with dealing with some of these requirements in some authorities in England, those companies that only operate in Wales are unlikely to be. Therefore, although the focus of this research has been on local authority officers, clearly and other key stakeholders will need to develop a package of training and tools to support the industry in understanding and complying with the new requirements. Related to this is the issue of the skills base and supply chain in relation to the installation of micro-renewables and energy efficiency measures.

R12 We recommend that the Assembly Government should work with the relevant institutes and trade associations to help facilitate the delivery of appropriate training and awareness raising about the final national planning policy to construction professionals, developers and contractors.

4.3.7 *Assessing Economic Viability*

29. As the final national planning policy expectations for carbon reduction do not currently form part of Building Regulations, this introduces the potential that developers may wish to negotiate over the requirements if they feel it makes certain sites unviable. The onus is on a developer to demonstrate that such a requirement would be unviable. Therefore, there may need to be a negotiation where a developer presents their views on the viability of a requirement and the LPA has to be in a position to assess whether that view is accurate or to have their own assessment of viability as a reference. An important point is that a sustainability requirement on its own may not make a scheme unviable, but the aggregate impact of that requirement in combination with others, such as affordable housing, provision of community facilities and so on might.

30. The reality is that in such a situation a negotiation may take place between a developer and the LPA where different requirements are traded off, to (hopefully) reach a position that both sides can accept. In this situation, LPAs will have to have not only their own assessment of viability but also an understanding of the relative priority of different policy requirements in relation to that site. Concern over potential conflict with affordable housing and other section 106 requirements came out as a key issue from interviews and was ranked as the second most significant barrier in the stakeholder workshop. At the stakeholder workshop, participants indicated that some guidance from the Assembly Government on the relative priority of policy requirements may be helpful.

R13 We recommend that the Assembly Government should consider issuing LAs with guidance as to how they should prioritise different planning requirements for different sites and situations. Ultimately this prioritisation is likely to remain the preserve of local elected members and officers but it will at least provide LAs with some direction on where the sustainability targets should be placed in the hierarchy.

31. To deal comprehensively with the issue of assessing viability, in our view a potential approach is the use of development appraisal tools that are already used by LAs and this approach was also put forward by participants

in the stakeholder workshop. These are often used in relation to affordable housing requirements, but seldom seem to have been used, to date, in relation to sustainability policies. One example of such a development appraisal tool is the Three Dragons model which was used for the Affordable Housing Development Control Toolkit for the GLA in London[8]. It is known that several local authorities in Wales already use the Three Dragons model for their affordable housing assessments. It is notable that the GLA tool has recently been adapted to enable the costs of meeting Code for Sustainable Homes levels 3, 4 or 5 to be entered in the model as "Exceptional Development Costs". This, however, does require a ballpark cost for this to be known for the site in question.

R14 We recommend that the Assembly Government should consider commissioning the development and roll-out of a development appraisal toolkit, which can include costs for sustainability requirements, to be used by LPAs in Wales. It may be that such a toolkit could be largely based on existing tools. This could inform both target-setting for strategic sites, but also pre-application negotiations and discussions with developers for any site. It will also enable an LPA to see how sustainability targets and affordable housing and other section 106 requirements may need to be traded against each other for a given target residual land value.

32. It should be said that the use of development appraisal can also be a double-edged sword in that it may highlight for some sites, early on, that a preferred (i.e. as stated in policy) combination of affordable housing and sustainability performance may not be viable. The point was raised by some stakeholders at the peer review workshop that in such cases, perhaps development should not be allowed to proceed. However, a LA would need to balance that option against the need for an appropriate level of new housing or non-residential buildings supply for their local area.

33. The point was also made at the peer review workshop that any potential additional capital costs for meeting sustainability requirements can be significantly reduced if they are considered at the earliest stages of the design of a new development and the optimum technology choices are made for a particular site[9]. They are also likely to fall over time due to technology learning and innovation. Therefore, any assumptions about additional costs and economic viability should consider these two factors.

4.3.8 Monitoring and Evaluation

34. At the peer review workshop, stakeholders raised as an issue the question of how the implementation and impact of the final national planning policy would be monitored. One suggestion was that this could link in to the current review of Sustainable Development indicators for Wales.

[8] *see http://www.london.gov.uk/mayor/planning/aff-housing/index.jsp*

[9] *They may also provide benefits for occupiers and tenants in terms of reduced running costs. However, this is a case of a "split incentive" in that a developer is, generally, likely to be most concerned about capital costs and may not see any benefit from lower running costs.*

R15 Any effective policy needs to be measurable in terms of its impact and outcomes. We recommend that the Assembly Government should set out which indicators it intends to use to assess the impact of the policy and how those indicators will be collected and analysed.

R16 We recommend that within 12 months of the rollout of the policy, there should be a review of how the policies are being implemented through the development management process. We recognise that few developments subject to the new policy will have been built in this timeframe. However, we believe that there will be valuable information and learning emerging from the pre-application and application stages of the development process that a review could focus on.

35. The aim of the review would be to identify areas where clarification or improved guidance may be required, to identify and disseminate best practice and to feed into the training strategy for LPA officers and the broader construction industry. This could form an extension of the relationship that has been built up with stakeholders as part of this research project and could include elements of a survey, focus group discussions, preparation of case studies and a stakeholder workshop to disseminate findings.

Appendix 1

Appendix 1: Potential Role of Planning Officers in Assessing Compliance with Policy

Stage of Development Management	*Key Compliance Gateways*[10]	*Role of LA Officers*	*Skills/ Tools/ Guidance required*
1. **Pre-application – briefing phase**	This could cover: ▪ Pre-application checklist ▪ Scoping opinion (if Environmental Impact Assessment (EIA) required) ▪ Initial meeting with developer	**Basic:** Brief developer on: ▪ policy requirements for site and basic explanation of what these mean ▪ assessments and reports to show evidence of compliance that will need to be submitted with planning application ▪ sign posting to case studies and relevant sources of information on Code/ BREEAM, energy efficient design, etc. ▪ information on other existing or proposed district heating/ CHP schemes and/or other developments/ developers on adjacent sites **Advanced:** Conduct development appraisal to assess viability of requirements for site (for larger sites)	**Basic:** Basic understanding of Code/ BREEAM standards and process and energy targets Standard briefing sheet on meaning of targets and documents required with submission Standard briefing sheet on case studies and key sources of information
2. **Pre-application – detailed discussions and negotiations**	This could cover: ▪ Raising issues in relation to built design of development to facilitate delivery of sustainability targets, use of LZC energy technologies, etc. ▪ Detailed discussions over: viability of targets; trade off with other section 106 requirements; proposed approaches	**Basic:** Signpost developers to guidance on sustainability in design Discuss and agree on section 106 requirements that may be required for delivery of Code/ BREEAM targets (e.g. commuted sums for adoption of SUDS, habitat management, etc)[11] **Advanced:** Provide more specific guidance on how sustainability and LZC energy technologies can be incorporated into the design of developments Use development appraisal to agree targets for site (if different from national requirements) and trade off with other requirements	Understanding of which Code/ BREEAM requirements may relate to section 106 agreements

[10] Stages 5 and 6 would only apply to a full or reserved matters application (RMA). Stages 1 to 4 may apply to either outline, full, or RMA, although the level of detail available for the former would be less and it may not be possible to identify specific 106 requirements in relation to the application at that stage.

[11] Some of these may be required in any case to meet regulatory requirements, although some may be established solely to meet Code/ BREEAM requirements

Stage of Development Management	*Key Compliance Gateways*[10]	*Role of LA Officers*	*Skills/ Tools/ Guidance required*
3. **Application stage but pre-determination**	This could cover: ▪ Validation ▪ Review of energy statement ▪ Review of Code/ BREEAM pre-assessment ▪ Review of design and access statement This could also cover discussions over 106 requirements, as set out under stage 2.	**Basic:** Use checklist to assess whether required information has been submitted with statement that requirements will be met Request supplementary information if required and in case of non-compliance alert developer to risk of refusal **Advanced:** Detailed assessment of proposals to assess whether credible and deliverable	**Basic:** Understanding of what energy statement and pre-assessment should contain Standard checklist **Advanced:** Detailed understanding of carbon base-lining, different energy options and feasibility at the site in question
4. **Determination (assume consented)**	Issue of draft decision notice (with planning conditions) and draft section 106 legal agreement Issue of final decision notice and legal agreement	**Basic:** To draft effective (and necessary) conditions for sustainability aspects **Advanced:** To assess whether section 106 agreements will meet requirements of targeted Code/ BREEAM credits	**Basic:** Guidance on wording of conditions **Advanced:** Guidance on which 106 agreements may be required in relation to BREEAM/ Code aspects
5. **Post-consent but before start on site**	Completion of Code/ BREEAM design and procurement assessment Completion of SAP/ SBEM/ Energy Performance Certificate (EPC) calculations for Code/ BREEAM assessment Part L submission to Building Control (BC)	**Basic:** (role for development management officers) To check whether required Code/ BREEAM rating has been achieved at design stage and to take action if required To assess whether relevant pre-commencement conditions have been discharged **Advanced:** BC officer(or Approved Inspector) to assess whether SAP/ EPC calculations and reports comply with Code and energy targets	**Basic:** Understanding of format and process of interim rating certificate for Code/ BREEAM **Advanced:** Knowledge of how to interpret Part L compliance report and distinction between savings from energy efficiency and from LZC energy options
6. **Post-construction**	Post Construction Review for Code/ BREEAM As-built Part L submission to Building Control	**Basic** Case officer to assess whether required Code/ BREEAM rating has been achieved post-construction and to discharge conditions as required – or take action if necessary	Understanding of format and process of Post Construction Review (PCR) for Code/ BREEAM

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Appendix 2

Appendix 2: Denbighshire Stakeholder Workshop – Attendees

Attendee	***Position***	***Local Authority***
Graham Boase	Head of Planning & Public Protection	Denbighshire County Council
Paul Mead	Development Control Manager	Denbighshire County Council
Lara Griffiths	Senior Planning Policy Officer	Denbighshire County Council
Catrin E Williams	Planning Policy Officer	Denbighshire County Council
Claire MacFarlane	Planning Policy Officer	Denbighshire County Council
Ewan McWilliams	Corporate Policy Officer	Denbighshire County Council
Andrew Dailey	Design & Development Manager	Denbighshire County Council
Clive Nicholas	Planning Policy Manager	Wrexham County Borough Council
Eleanor Carpenter	Senior Planner Policy Officer	Flintshire County Council
Andy Roberts	Head of Planning Policy	Flintshire County Council
Vicky Weale	Senior Planning Officer	Flintshire County Council
Phil McLean	Planning Officer	Flintshire County Council
Nia Haf Davies	Policy & Performance Manager	Gwynedd Council
Gruffydd Wyn Morris	Planning Group Manager	Gwynedd Council
Cllr Meirick. Ll. Davies	Chair of Planning Committee	Denbighshire County Council
Cllr Eryl Williams	Lead Member of the Environment	Denbighshire County Council

Appendix 3

Appendix 3: Peer Review Workshop – Attendees

Attendee	***Position***	***Local Authority / Organisation***
Brian Swain	Planning Policy Officer	Blaenau Gwent CBC
Samuel Souter	Strategy and Policy Team Leader	Brecon Beacons NPA
Michael Dalahunty	Planner	Cardiff County Council
Liz Lambert	Sustainable Development Co-ordinator	Cardiff County Council
Shaun Reville	Operational Manager	Cardiff County Council
Matthew Williams	Planner	Cardiff County Council
Cllr. Meirick Davies	Chair of Planning Committee	Denbighshire County Council
Paul Mead	Development Control Manager	Denbighshire County Council
Catrin E. Williams	Planning Policy Officer	Denbighshire County Council
Cindy Harris	Head of Design Review	Design Commission for Wales
Mark Tebboth	Local Authority and Housing Officer	Energy Saving Trust
Martin Eaglestone	Planning Policy Manager	Isle of Anglesey County Council
Justin Waite	Planning Policy Officer	Merthyr Tydfil CBC
Carl Touhig	Sustainability Manager	Newport City Council
Aled Sturkey	Director of Planning and Cultural Heritage	Snowdonia NPA
Bryan Graham	Head of Planning Services	City & County of Swansea
Craig Mitchell	Policy Officer	Welsh Local Government Association