

October 2008

Low carbon existing homes



This report is a compilation of key messages and feedback from a wide range of expert stakeholders. It is designed to inform the development of Government's Low Carbon Homes strategy.

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Introduction

National context

The UK is introducing a long term legally binding framework to tackle carbon dioxide emissions through the Climate Change Bill. The Committee on Climate Change has recently advised the Government that the UK should be aiming to reduce greenhouse gas emissions by at least 80 per cent below 1990 levels by 2050.

On December 1 2008, the Committee on Climate Change will also set out what reductions should be achieved in the first three five-year carbon budgets, up to 2022, including making recommendations on where the greatest opportunities for reductions are to be made. Government will respond to this in spring 2009, setting out the high-level policies that will ensure the first three carbon budgets are met.

The household sector represents 27 per cent of total emissions in the UK, and the challenge is set to increase as the number of households rises due to increasing population and falling household size. Furthermore, at least 80 per cent of the homes that will be standing in 2050 have already been built. Our existing homes therefore have a significant role to play in ensuring the climate change targets are met.

Overview of the existing housing stock

The energy efficiency of the UK's building stock varies enormously from solid walled properties with electric heating and little insulation through to highly energy efficient homes with their own energy generation. Likewise the market for energy efficiency is complex and highly fragmented. Current funding schemes are dominated by a small number of large players (e.g. energy supply companies), while the delivery of products and services is provided by a very large number of SMEs. Furthermore, the market for energy efficiency and low carbon improvements is also extremely diverse, ranging from DIY products through to major upgrade project management services.

The existing homes 'space' is therefore hugely fragmented, with a plethora of industry sectors and other stakeholders, different groups of actors and decision-makers and various inter-related policies. Arguably this has made implementing a coherent plan - whether from government or industry - difficult to achieve.

Circumstances are now changing. The legal requirements set out in the Climate Change Bill clearly provide impetus to renewed action on carbon emissions in existing homes. Rises in domestic energy bills provide a further political and social imperative - particularly as one in four households is now at risk of fuel poverty by the end of 2009¹.

¹ NHF, Energy Prices and Debt, 2008

There is also an argument that the current housing market slump means homeowners will stay in their current home for longer. This means they may be more likely to think about energy efficiency improvements to both reduce their own bills in the long-term and to potentially increase the re-sale value of the property.

Upgrading the majority of the UK housing stock by 2050, about 25 million homes in total, is a major challenge, but will create significant business opportunities and potentially tens of thousands of new jobs². The importance of this should not be underestimated in the current economic climate, not least given the stagnation of the new build market. The low carbon retrofit business is estimated to be worth around £3.5bn - £6.5bn per year on top of the £24bn already spent on repair, maintenance and improvement work.

Progress is being made. The Carbon Emission Reduction Target (CERT) is delivering cavity wall, loft insulation and low energy lighting at a significant rate. These particular measures will be delivered to the majority of homes that need them by around 2014-16.

However, it is important to recognise that aside from the delivery of measures secured through government intervention, fundamentally there is a market failure. Many of the measures needed to improve the energy efficiency of the existing stock (such as loft insulation) are already cost effective. Yet, for reasons discussed later in the paper, a mainstream market demand for energy efficiency work does not yet exist, even though there are overall financial and comfort benefits to the householder. This suggests that government intervention is required to correct the market failure.

This market failure urgently needs addressing, particularly as the types of measures likely to be needed for greater carbon reductions (i.e. beyond those currently delivered by CERT) are quite different; they are likely to be higher cost and to have a longer payback. There is a Government commitment to deliver carbon savings at the same rate as CERT to 2020, through an obligation on suppliers. However there remains an issue about how to deliver and fund measures once the 'low hanging fruit' of cavity wall and loft insulation, and low energy lighting have been addressed. Currently there is only a niche market for higher cost measures and this is unlikely to change without major policy intervention.

Background to the project

Earlier this year, the Energy Efficiency Partnership for Homes (EEPH) proposed a piece of work which would set out how emissions could be reduced by 80 per cent in the existing housing stock by 2050. Following discussions with Government, it was agreed that the UK Green Building Council (UK-GBC) would lead and direct a project that sought to fulfil EEPH's original objectives, and which would seek to assist Government in the development of its Low Carbon Homes strategy. The Sustainable Development Commission (SDC) and the Technology Strategy Board (TSB) also became contributing partners.

² This is based on a rough calculation that the construction sector is worth around £107bn per year and employs approximately 1.2 million people which equals one job for every £89,000 spent. If the low-carbon refurbishment agenda represents growth of £3.5 - £6.5 bn per year (Killip, 2008, http://www.fmb.org.uk/ea/pdf_ea/FMBBuildingAGreenerBritain.pdf), it could provide between 39,000 - 73,000 jobs.

The Low Carbon Homes strategy, announced in the draft Renewable Energy Strategy of June 2008, is a key element of Government's response to the setting of the carbon budgets and is due in spring 2009. It will be informed by a public consultation on energy efficiency (and heat), to be launched in November 2008, which the Office of Climate Change (OCC) are preparing, working across government departments.

OCC have supported the UK-GBC and partners' work and have contributed funding to it. Central to this project was a major process of stakeholder engagement to help ensure a strong consensus around the kind of questions the upcoming government consultation on energy efficiency needs to ask and the possible solutions to be further explored.

This report therefore, is a compilation of key messages and feedback from a wide range of stakeholders from across the industry, and other experts. For a full list of stakeholders consulted please see Appendix 1.

Our intention is to present a range of proposals to Government, which are commensurate with the scale of the challenge and the level of ambition needed, but which are also grounded in reality. We have also identified where there are gaps in current knowledge or experience and where there is a need for further work.

This report is a summary of proposals which have broad stakeholder consensus, backed up with a wealth of detailed information gathered throughout the process which can be found in the appendices.

The stakeholder engagement process - summer 2008

Since the start of July 2008, the UK-GBC has consulted around 1000 organisations and individuals on this issue.

1. Literature review and issues papers

Given the large amount of previous work in this area and the nature of this project, no new modelling was carried out. The first phase of the consultation was an extensive literature review (see Appendix 2 for full bibliography) aimed at identifying the current state of progress, the likely outcome of continued current activity, what barriers exist to further progress and a range of potential solutions.

With the help of experts from across the sector, four short 'issues papers' (see Appendix 3) were drawn up around the following themes:

- Technology and innovation
- Markets/service offerings
- Behaviour change and awareness
- Policy

The papers were distributed to UK-GBC members, EEPH members, the Existing Homes Alliance network and a large number of other stakeholders. They were freely available for

comment online for two weeks and promoted via the Building Sustainability website. The UK-GBC received over 60 submissions, some from individuals and many from organisations representing the views of a much wider membership, such as the EEPH expert working groups. The responses can be found in Appendix 4.

2. Webinar

Following the online consultation, the UK-GBC held a 'webinar' - an online seminar - which attracted around 100 participants. An expert panel led the debate and participants emailed their questions and comments directly to the panel. During the hour long session, around 40 questions and comments were received from the participants. The majority of comments focused on:

- the need for a strong role for Energy Performance Certificates (EPCs) in promoting energy efficiency
- the costs of refurbishment work and the payback for homeowners
- incentivising private landlords and individuals
- the role of government regulation and local authorities
- the fragmentation of the supply chain
- skills
- EU regulation and commitments

(Online poll results can be found in Appendix 5)

3. Workshop

The final stage of the consultation process was a workshop for around 90 stakeholders. The full report of the workshop can be found in Appendix 6 which includes a full transcript of workshop sessions.

Drawing on the key messages that emerged from the literature review, and the feedback from the online consultation, the UK-GBC developed a 'problem tree' and an 'objectives tree'³ (see overleaf) to map the overarching barriers and proposed objectives for low carbon homes. The diagrams were presented and discussed at the workshop.

Some participants at the workshop felt that there was a danger that the problem tree oversimplified the complexity of this issue. However, this methodology was used in order to attempt to break down a complex problem to its root causes, and also to facilitate a holistic consideration of the barriers across the different areas - policy, supply chain and consumers. The two diagrams offer a summary of the main barriers to action and the potential objectives needed to overcome them. To complement these diagrams, detailed lists of barriers and objectives that were identified during the consultation were available at the workshop and can be found in Appendix 7.

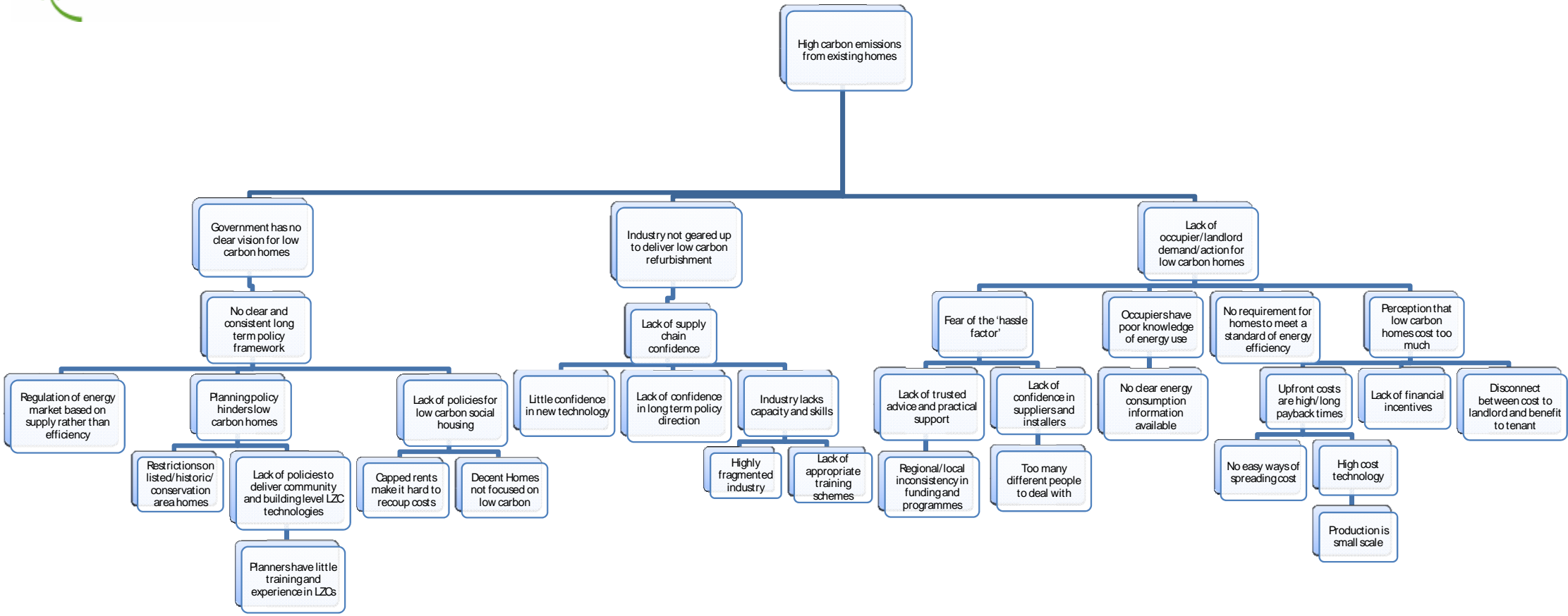
³ N/B this diagram was developed for the consultation process and was originally described as a 'solutions tree'. Participants at the workshop suggested that a more accurate description is a set of objectives, hence the change in name.

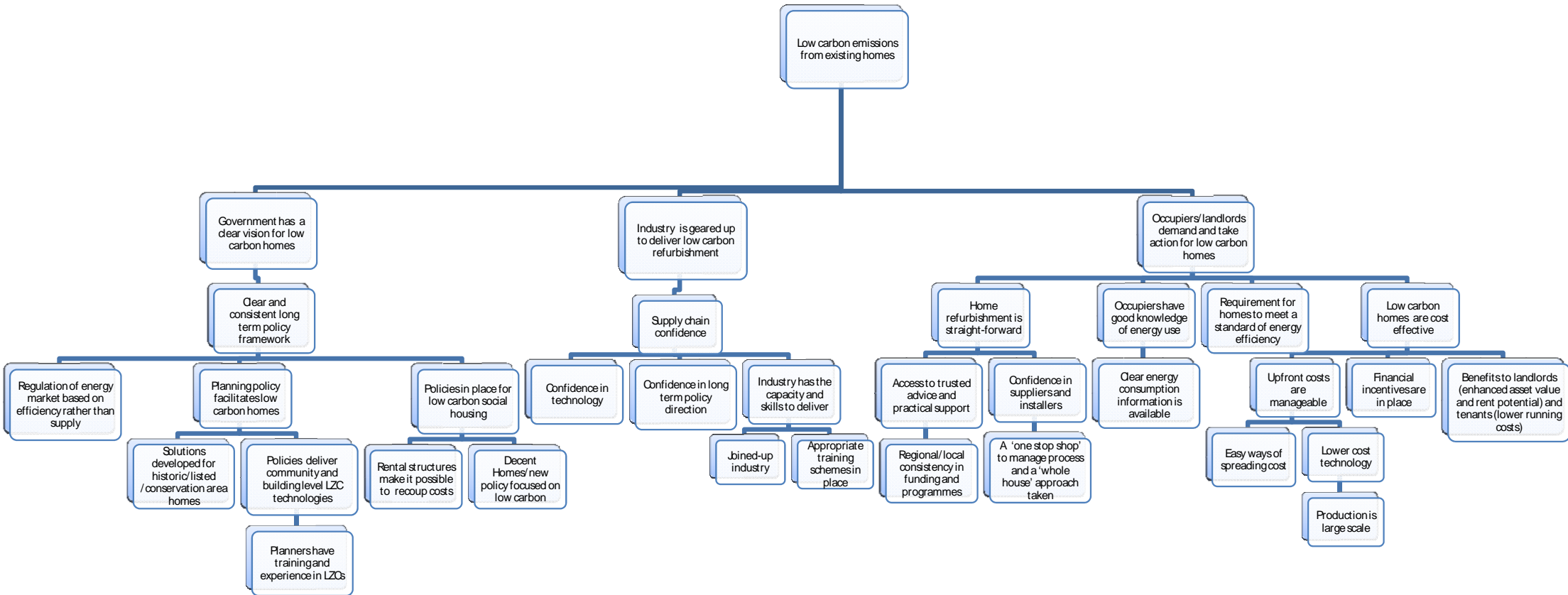
While many participants had suggestions for how the diagrams could be developed and/or edited (see Appendix 6), the consensus was that stakeholders broadly agreed with the UK-GBC's appraisal of the problem. The key barriers, either real or perceived, to action on low carbon existing homes are:

- government has no clear vision for low carbon homes;
- the industry is not geared up to deliver low carbon refurbishment;
- there is a lack of occupier/tenant demand or action for low carbon homes.

Delegates were then asked to develop specific proposals or interventions for government and the industry, and to look for linkages across the three areas that need to be tackled, i.e. policy, supply-chain and consumers.

Proposed interventions were also assessed by delegates for their financial and social impacts, as well as their political and industry feasibility. Time was available for delegates to discuss their colleagues' ideas and draw out areas of consensus. The full list of proposed interventions can be found in the workshop report in Appendix 6.





Proposed Solutions

Using the headings from the objectives tree as a framework, the following section outlines the proposals from stakeholders which had the broadest buy in throughout the consultation process, and those which were felt to be a priority.

A recommended timetable for implementation, developed since the workshop by the project partners, can be found in Appendix 8.

Many of these proposals require further consideration, refinement and testing through Government's forthcoming energy efficiency consultation.

1 Objective 1 - Government has a clear vision and establishes a robust long term framework for low carbon homes

We recommend Government should consider:

- 1.1 Setting a long term carbon reduction target for the household sector of at least 80 per cent by 2050, with interim targets every five years;
- 1.2 Mandatory requirements, phased over time, to upgrade the energy performance of existing homes;
- 1.3 Financial incentives to support low carbon existing homes;
- 1.4 A review of the roles and scope of existing delivery bodies;
- 1.5 The feasibility of developing targeted 'low carbon zones', supporting improvements through a district or area based application of a whole house approach to refurbishment.

1.1 Setting long term carbon reduction targets for the household sector of at least 80 per cent by 2050, with interim targets every five years.

It was felt by stakeholders that a long term target for carbon reductions from existing homes, with interim targets along the way, is essential to galvanise action within the industry, at the political level and amongst householders and landlords.

A precedent has been set in new homes policy where a target that all new homes will be zero carbon by 2016, implemented through a series of changes to the Building Regulations, has been set. Evidence from the new build housing industry suggests that this bold target and the clear statement of future requirements has been critical in terms of providing industry with greater certainty in investment decisions, and galvanising action to ensure they can deliver⁴.

It will be necessary to consult with industry about how national targets for existing homes will be achieved, and what is feasible by when.

⁴ To assist the industry in delivery of the target, a 'Zero Carbon Hub' has been created. The Hub is working with the government and industry to build an overall delivery program based on a range of focused work groups. For more information see: <http://www.zerocarbonhub.org/>

However, feedback suggests that many people are currently confused by the gap between Government rhetoric and action on climate change, i.e. if it really is such a huge problem, why isn't the Government doing more to address it through tougher regulation and stronger incentives? This suggests that industry and public opinion could get behind a bold target, providing, of course, they are given adequate warning, and it is backed up by support to enable delivery.

Alongside a target for emissions reductions from homes, it was felt that Government should develop a national strategy for delivery, to provide clarity around roles and responsibilities, including what is expected of local authorities, individuals, communities and the supply chain. Some stakeholders asserted that a national strategy may need a separate delivery body outside of political pressures and decisions made to political cycles.

Others suggested that there also needs to be a clear channel of Ministerial accountability for reducing carbon emissions from existing housing. The recent creation of a new climate change and energy department is a positive development, which should go some way to solving this - although clearly this policy area still stretches across several departments including Communities and Local Government (CLG), Business Enterprise and Regulatory Reform (BERR), Department for Innovation, University and Skills (DIUS) and the Treasury.

1.2 Mandatory requirements, phased over time, to upgrade the energy performance of existing homes.

As well as a long term emissions reduction target, it will be important to translate this into meaningful interim targets which resonate in the public arena. This could be done, for example, by requiring mandatory minimum EPC grades for properties, phased over time. This would also raise the profile of EPCs amongst homebuyers and potential tenants.

Alongside mandatory requirements, stakeholders felt that a range of incentives for early action should be put into place to stimulate demand at the householder end and encourage an 'early adopter' approach, and ensure delivery by the supply chain. Stakeholders also felt that mandatory refurbishment requirements will need a long lead-in time, careful planning and explanation so that householders and landlords appreciate both the costs and the benefits.

The Government should also consult on where the regulatory intervention points should be (e.g. using building regulations, sale, change of occupancy, etc). Using existing 'trigger points' to require improvements in energy efficiency, such as when other building work is happening in the house, or when people carry out improvements to a home they have just moved into, could help remove some of the 'hassle' associated with the work and reduce costs.

Requiring 'consequential improvements'⁵ through the Building Regulations could be one such trigger. It will also be necessary to ensure enforcement of, and compliance with, the minimum requirements.

Previous examples of market transformation do of course exist: industry and consumers are familiar with product policy based around information (labelling) and incentives underpinned by regulation. Stakeholders felt that if we could extend this model of market transformation to the housing stock then we can achieve the desired outcome.

1.3 Introducing financial incentives to support low carbon existing homes.

See section 3 for a discussion of financial incentives

1.4 A review of the roles and scope of existing delivery bodies

As highlighted earlier, one of the key barriers to action in this area is the fragmentation of the existing homes arena. Defra (before the change in the department's role) was reviewing its delivery bodies and was due to report by the end of 2008⁶. This review process should be linked to the forthcoming energy efficiency and heat consultation and the subsequent development of the Low Carbon Homes strategy. The review could help to establish how best to support industry and consumers in delivering the targets, and whether there is a need for one body to be given overall responsibility for delivery.

1.5 The feasibility of developing targeted 'low carbon zones', supporting improvements through a district or area based application of a whole house approach to refurbishment.

Area based approaches allow rapid change and lower costs per property through bulk buying and the mobilisation of one contractor for a whole street. The creation of low carbon zones would build on the experience of Warm Zones⁷, and could initially cover areas where there is a concentration of fuel-poor households and then spread to the rest of the housing stock. In this way, the twin objectives of carbon emissions reduction and fuel poverty alleviation could be met. This approach would also build on the experience of the Green Neighbourhoods initiative.⁸

There could be a strong role for local authorities and/or existing community networks, such as the Transition Towns⁹, and landlords (social and private) in co-ordinating a low carbon

⁵ A requirement for energy efficiency improvements to the rest of the dwelling to be undertaken when a major alteration that requires Building Regulations approval takes place.

⁶ Defra, 2008, *Progress Report on Sustainable Products and Materials*

⁷ Warm Zones aim to identify all households that need help (in particular the vulnerable and fuel poor) in a given area and give them all available help in a concentrated, cost-effective way. Much of the work involves installing measures - thermal insulation, draught-proofing and heating to improve comfort in the home. At the same time, sound advice on energy efficiency and benefits entitlement can help to reduce the amount spent on energy and maximise household income. For households who do not qualify for free measures, Warm Zones can offer significant discounts on insulation measures. So, all households in a Warm Zone can benefit. <http://www.warmzones.co.uk/>

⁸ The Green Neighbourhoods initiative will give a green makeover to up to 100 neighbourhoods in England with an aim to reduce their carbon footprints by more than 60 per cent. This initiative will be delivered by the Energy Saving Trust and backed by potentially more than £10 million over the next three years from the Government's domestic Environmental Transformation Fund. <http://www.defra.gov.uk/news/latest/2008/climate-0402.htm>

zone approach, with a support package and incentives provided by central government. National Indicator 186 sets targets for local authorities for per-capita carbon reductions in an area. Encouraging a low carbon zone approach could offer an opportunity for local authority leadership in this area and could potentially be facilitated partly through the new powers granted in the *Sustainable Communities Act 2007*.

2 Objective 2 - Industry is geared up to deliver low carbon refurbishment

We recommend Government should consider:

2.1 How to ensure that the industry has the knowledge, skills and capacity and technology to deliver low carbon refurbishment (assuming that a long term policy target is in place)

Government policy interventions are seen by industry as necessary to set a level playing field, and provide a framework which enables sufficient confidence for medium and long term investment in delivery capacity.

Further work is needed to assess the impacts on the industry of long term policy targets, how quickly the industry could realistically respond, and what kind of support the different sectors require, particularly in relation to the development of skills and training.

One major challenge highlighted by stakeholders is how to take energy efficiency into the mainstream market and ensure that all installers (from bathroom and kitchen installers, through to electricians and plumbers) become purveyors of good quality, reliable and consistent energy efficiency advice. This will require education, training, and hands-on experience gained from demonstration homes.

It will also be necessary to consider whether new technologies and products will be needed in order to meet ambitious targets in all homes, including those which are currently hard or expensive to treat, and those which have restrictions placed on them (e.g. listed buildings).

Feedback from the workshop suggested that the mainstream energy efficiency industry knows that they only have a limited time left with their present products, so they are starting to look to their next offering. There was demand for a clear steer as to where the market is going so that they can evolve. Industry needs as much long term certainty as possible so that investment risk is minimised. Stakeholders asserted that industry is generally in favour of regulation which provides common standards to which all participants adhere, and as such visible monitoring of compliance is necessary.

Stakeholders also suggested that the policy framework should seek to create the conditions for innovation and entrepreneurship and policymakers should be engaging with those

⁹ 'Transition Towns' is a network of communities, working to "significantly increase resilience (to mitigate the effects of Peak Oil) and drastically reduce carbon emissions (to mitigate the effects of Climate Change)" from their communities. <http://transitiontowns.org/TransitionNetwork/TransitionInitiative>

companies who are already offering new types of service delivery, not just with industry incumbents.

Activities proposed by stakeholders include:

- A full review of sustainable building skills in the UK
- Using existing structures for skills and training to disseminate information and deliver low carbon refurbishment training courses.
- Developing regional/national centre(s) of excellence in energy efficiency to improve the skills of builders and product installers
- Developing a national competency standard for low carbon refurbishment
- Establishing independent quality assurance and skills accreditation to build consumer confidence in supply chain

3 Objective 3 - Occupiers/landlords demand and take action for low carbon homes

We recommend the Government should consider:

- 3.1 How best to enable the costs of low carbon refurbishment to be met;
- 3.2 How best to provide trusted information and advice to householders and landlords;
- 3.3 Changing consumer attitudes to ensure that low carbon homes become desirable and aspirational.

3.1 How best to enable the costs of low carbon refurbishment to be met

Not surprisingly, the issue of financing low carbon refurbishment was a recurring theme throughout the consultation. There were many suggestions from stakeholders for how financial barriers could be overcome (e.g. 'soft' loans, grants, subsidies, reduced VAT, tax rebates, schemes which spread costs).

There are several different examples from the continent and from within the UK of innovative financing schemes. The key elements for successful finance mechanisms seem to be that they:

- Help to spread the cost of refurbishment to ensure that customers save more money than they spend each month (i.e. on energy bills and loan repayments)
- Enable 100 per cent of upfront costs to be met (if needed by occupier/landlord)
- Allow/encourage third parties to be involved in offering financing
- Allow flexibility between houses and energy suppliers - e.g. enable finance to be attached to the property rather than the householder.
- Are simple to access and easy to understand
- Offer extra incentives for early adopters

There are several financial mechanisms that have featured prominently in stakeholder feedback. It seems likely that a variety of different and complementary financial mechanisms will be required in order to persuade as many people as possible to take action

voluntarily, and ensure that financial benefits are applicable to the full range of household tenure types.

Potential mechanisms include:

- 1) A long term loan scheme where occupiers and private landlords are able to access funds to cover upfront costs of low carbon refurbishment, which is linked to the property rather than the individual. In this case cost would be covered by a third party and repaid via a charge on the property, either through local taxes, the energy bill, mortgage, or a second charge (secured loan) on the property. These loans could be publicly or privately financed (e.g. by Treasury, financial institutions, Distribution Network Operators, energy suppliers). It was suggested that such loans should be linked to a 'whole house approach' whereby as many measures are taken in the house as possible, to reduce costs and hassle, and offer the greatest carbon and energy bill savings¹⁰.
- 2) Extension and better co-ordination of current Government grant schemes to help subsidise the cost of refurbishment with an emphasis on rewarding early adopters.
- 3) The introduction of a 'Renewable Energy Tariff' to provide a more favourable pay back on the cost of installing microgeneration technologies. This would also provide incentives to upgrade the efficiency of the property, since the less energy the home uses, the more can be sold back to the grid.
- 4) The introduction of fiscal incentives such as council tax/income tax/stamp duty rebates linked to improvements in EPCs to incentivise householders.
- 5) The reduction of VAT on refurbishment.
- 6) Provision of an innovation fund to enable exemplar refurbishment schemes to be developed (perhaps using a low carbon zone approach), which can then be used to spread best practice throughout the industry.
- 7) A review of rental caps to enable social housing providers to invest in low carbon homes, whilst also immediately providing reductions in energy bills and improved comfort for tenants.

3.2 How best to provide trusted information, advice and support to householders and landlords

Stakeholders suggested that the key barriers to consumers taking action for low carbon homes are a lack of information about energy use, a lack of knowledge about what can be done to upgrade a home, and confusion about where to find reliable advice, installers and information.

¹⁰ See Appendix 9 for more information

A strong consensus emerged on the need for clear labelling of homes to enable occupiers and landlords to understand the energy efficiency of their property. Whilst fully supporting the concept of EPCs, many felt in their current format EPCs are not fulfilling their potential to act as a key driver for consumer action, and that therefore they should be reviewed in order to maximise their benefits.

EPCs could be improved by, for example:

- Reviewing SAP
- Improving accuracy
- Providing information on in-use performance in line with Domestic Energy Certificates for commercial buildings
- Offering more detailed advice on measures to householders
- Linking financial incentives to upgrades in EPC performance

It was also felt that EPC A-G bands should be reviewed and updated as our knowledge, technology and skills to deliver low carbon homes improves.

It is imperative to identify the trigger points at which energy efficiency improvements and products can be encouraged or required, and using the EPC as a trigger for improvements on the sale (and/or potentially re-let) of a property is logical and desirable.

Stakeholders felt that if change towards making a home low carbon was built into the life-cycle of a property, and it became part of the normal process of buying/selling/letting a property, much of the inertia currently associated with the perceived 'hassle factor' of taking action could be overcome.

Once consumers better understand their energy use, through a combination of improved EPCs, the use of smart meters with clearly visible energy use information and improved billing in the home, they then need to understand what they can do to upgrade their home to the highest possible standards, and where they can access support and finance to help do this.

Building on the existing network of EST advice centres, a series of 'one stop shops' could offer a comprehensive and, crucially, seamless service of advice and practical help. The service could help householders to develop a 'Whole Home Energy Plan', which could incorporate:

- A visit to the property and a full survey of what can be done to upgrade it
- Information and help with accessing finance (public and private)
- Access to accredited installers, who also offer consistent and good quality energy efficiency advice
- Co-ordination of visits to the house to minimise disruption and hassle
- An updated EPC to reflect improvements
- Ongoing advice on running the low carbon home
- Assistance with any problems with newly installed technologies.

It was also suggested that there should be an exemplar low carbon show home in every area.

3.3 Changing consumer attitudes to ensure that low carbon homes become desirable and aspirational

Stakeholders felt that understanding what motivates different sectors of the public will be crucial to engaging them and galvanising action. They felt that there is a need to focus on what appeals to customers, in order to make living in a low carbon home an aspirational goal, rather than telling them what they 'should' do in their home. It is also important to recognise of course that what works for homeowners will not necessarily work in the private or social rented sectors.

Conclusion

In order to meet Government's carbon reduction targets for the UK as a whole we must address our inefficient housing stock. The scale of the challenge, to refurbish around 25 million existing homes and achieve at least an 80 per cent cut in carbon emissions by 2050, is somewhat daunting, and yet, the consensus was that it can be done. However stakeholders also agreed that it will not be delivered by a business as usual approach.

As noted earlier, it seems there is a significant market failure when it comes to delivering low carbon existing homes, and that addressing this will require a suite of regulatory and fiscal measures from Government, together with measures designed to address consumer behaviour and support industry, as part of a comprehensive policy package.

The main message from stakeholders was that a clear statement of vision from Government, coupled with targets for the household sector and a long term delivery strategy, are seen as essential requirements for the investment and scaling up required by industry to deliver low carbon homes. The lack of a coherent, long-term plan has frustrated investors in the industry up to now.

The industry needs as much long term certainty as possible so the timetable for policy targets and funding schemes needs to be as clear, consistent and as stable as possible. Government should focus on creating a strong policy framework for driving mainstream demand, within which the supply chain can gain the confidence to invest and deliver. The industry, in effect, will respond to Government's strong lead.

Low carbon refurbishment presents a potentially enormous business opportunity, with an estimated worth of around £3.5-£6.5bn a year, and the creation of tens of thousands of new 'green collar' jobs at a time when jobs in the construction sector and elsewhere are increasingly under pressure.

Virtually all participants agreed that addressing skills and capacity in the industry is essential, and it will be necessary to consult further with the industry to understand what kind of support it will need, and ensure that capacity and skills are in place in time to deliver an ambitious carbon and energy reduction agenda.



There must also be a focus on creating market demand for low carbon homes by making the proposition attractive for the occupier or landlord. Trusted advice, information, practical support, a seamless service and cost-effective solutions need to be easily available for all households.

In compiling this report, the UK-GBC aims to represent the views of a wide range of individuals and organisations from across the sector. Some messages are coming out very strongly and we hope that this report will provide the Government with a clear steer on the kinds of questions and issues it needs to consider in the forthcoming consultation on energy efficiency, in order to inform its Low Carbon Homes Strategy.

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