

## **RIBA Response to Zero Carbon for New Non-domestic Buildings: Consultation on Policy Options**

February 2010

The RIBA is one of the most influential architectural institutions in the world, and has been promoting architecture and architects since being awarded its Royal Charter in 1837. The 40,000-strong professional institute is committed to serving the public interest through good design. It also represents 85% of registered architects in the UK through its regional structure as well as a significant number of international members. Our mission statement is simple – to advance architecture by demonstrating benefit to society and promoting excellence in the profession.

### **General comments**

In preparing our response to this consultation we have consulted with our members, as well as being informed through our and our members' discussions with other partner organisations, including the UKGBC, the British Property Federation and the Chartered Institution of Building Services Engineers, as well as their involvement in the workshops supporting the consultation. Some of our response re-emphasises those discussions and reflects the views we share with those organisations.

We would also like to make the following overarching comments relating to the principles we believe should underpin the Government's approach to achieving low/zero carbon buildings, in addition to responding to some of the more specific questions set out in the consultation document.

### **The relationship between planning and building control**

Paragraph 7.4 in Chapter 7 of the consultation document suggests that the main mechanism for delivery of a zero carbon policy will be the Building Regulations. Building regulations are an appropriate and effective way of tackling carbon emissions through building design. However, in recent years the planning system has also been used to address climate change. The reality is that often local planning authorities produce their own interpretations of standards, with lengthy lists of environmental issues for new developments to consider in order to obtain planning permission. Renewable energy targets were developed at Merton Council but many local authorities have sought to imitate their approach with subtle permutations. This has led to bespoke negotiations and requirements on an authority-by-authority basis, resulting in a lack of consistency and strategic vision.

We believe that energy performance of buildings should be left to building control, while the planning system should be used to drive a strategic local framework guided by national policy. Such a local planning framework setting out a local trajectory and framework to achieve low carbon communities should be based on integrated solutions, linking infrastructure, services, heat and energy networks. Such a local planning framework for achieving low carbon communities would provide a much needed link between national, local and development energy targets.

Local authorities have in a few cases shown that it is possible to show vision and leadership in knowledge sharing with developers. The London Development Agency should be seen as an exemplar in this arena, via initiatives such as the Decentralised Energy Centre of Excellence within the London Development Agency. This scheme provided expertise and support to boroughs including detailed heat mapping and 'energy master planning' offered to all boroughs to identify their potential opportunities for

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decentralised energy generation and providing ongoing support on procurement, legal and financial considerations to delivery the projects. The LDA has committed £3m to help boroughs to identify opportunities as part of this initiative; London Councils are contributing £210k towards the heat mapping for boroughs.

*The RIBA is developing proposals for local planning frameworks able to deliver low carbon communities. We would welcome the involvement of the CLG and an early discussion as to how our work may impact on future thinking in this area.*

## **What should be legislated through building regulations?**

Improved energy efficiency of our building fabric is essential and should be the first priority towards achieving a significant carbon reduction. We support an approach that reports and measures building performance in energy terms alongside carbon reduction. We need to understand and measure building performance and not displace results with renewable energy sources that may not be the right long term sustainable solution.

Beyond this point, we need to reevaluate what is controlled through planning legislation & what is controlled through Building Regulations. PPG 22 has led to bespoke negotiations with the local authority, removing the opportunity for economies of scale. This variance in requirements by local authorities is compounded by a significant lack of necessary expertise and local planning authorities are not best placed to make decisions on sustainable technologies. These are better left to building control bodies.

We believe that technologies that require high grade fuel (electricity) to operate such as heat pump & CHP technology should be reclassified and not reported as renewable. We therefore propose that these technologies are implemented to improve energy efficiency and reduce carbon emissions but should be regulated, assessed and controlled by Building Regulations and not the planning authority.

## **What should be legislated by planning authorities?**

By separating true renewable energy sources from other fuel efficient sources currently described as renewable, this would simplify the planning process and allow building control to regulate energy efficiency.

With a revised PPG22 planning will still has a valuable role to play. It is essential that all developments are future-proofed and do what is possible to mitigate climate change - we must design buildings to facilitate building integrated renewables. We must ensure that buildings we design today do not become obsolete and technologies such PV, that may not prove financially viable from day one can be easily retrofitted. The planning process will also ensure that easy wins such as solar thermal for homes are implemented day one.

## **Enforcement**

Under-performance of buildings is a significant problem that has not been adequately addressed. This will play a big part in ensuring that future changes to building regulations result in the required improvements to energy efficiency. Currently we do not have a powerful deterrent for non-compliance of Building Regulations and the enforcement understandably focuses life safety. We would like to see an Enforcement Fund established to ensure Building Regulations are met. This fund would allow spot checks on building envelope performance & energy efficiency. This fund could then enable some high profile prosecutions to act as a deterrent for non-compliance.

## **Tackling the existing building stock**

We believe there needs to be a clear and comprehensive strategy for dealing with existing stock. The existing commercial property stock in particular presents a significant challenge. Over 90% of the stock was built before 1990 when requirements for better thermal performance standards began to be introduced. Even much of the stock built since that date is relatively poor by today's standards. With annual replacement rates of only 1 – 1.5% tackling the existing stock (60% of which will still be here in 2050) is central to any credible strategy for cutting harmful emissions. However we believe that to-date, not enough emphasis has been put into the issue of how to address existing stock. In terms of creating a low carbon built environment this is the greatest single challenge. Therefore we encourage the Government to prioritise this vital programme of action.

There needs to be a consideration of significant mechanisms to address energy efficiency of our existing non domestic buildings, with a co-ordinated approach between building regulations, planning, fiscal incentives/funding opportunities and information to owners and occupiers of buildings. We continue to work with a number of departments in addressing this need, and would welcome discussion as to the role of building regulations in achieving significant energy efficiency improvements to the existing building stock.

### **Challenging the presumption in favour of decentralised energy generation**

We challenge the blanket assumption that decentralised energy is the right solution for all projects. When decentralised plant is used this should be mapped strategically by the local authority so that district heat can be used where it has the greatest benefit. This might be buildings in a conservations area, or 'hard to treat' listed buildings which cannot be upgraded to the same thermal performance as new build. A locally co-ordinated framework would be able to ensure that opportunities are maximised, by linking buildings generating electricity through CHP to new build and able to supply heat for buildings of architectural heritage or cultural importance.

### **Assessing the potential and appropriate use of on-site renewables**

We would challenge some of the assumptions underpinning the Government's support for on-site renewables. Whilst in many cases on-site renewables may play an important role, both now and in the future, they are not a panacea, nor is their potential application unlimited.

The opportunities offered by each individual site should be assessed when considering on-site renewables potential. It is flawed to suggest that on-site renewables potential is related to a percentage of on-site energy use or construction cost. A simple site assessment methodology should be utilised.

We believe that the unregulated energy proportion of national energy generation is unrealistic at the 10 or 20% (of regulated) currently suggested by the Government. The DEC database should be used for establishing this as a national average fixed percentage (or kWh/m<sup>2</sup>) by building type (historical measured data can be used where there is currently insufficient DEC data). BIS defined 'process loads' should be excluded from this calculation.

The cost information currently provides inadequate information for businesses/occupiers to accurately establish acceptability of the potential costs of various solutions. Accurate and up-to-date information is vital for appropriate take-up of the solutions available to developers. The suggested 'Allowable Solutions' cost seems particularly fragile and in

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reality the cost of buying sufficient off-site renewable generating capacity is probably significantly more.

### **Skills**

We believe that there is a clear need for long term investment in skills and competence in local authority planning departments to be able to properly respond to the complexities of zero carbon development.

We would urge the Government to take account of this in its review of the Climate Change PPS. If an off-site-focused zero carbon scenario is to be viable, local planning authorities will need to play a strategic role in facilitating & strategically coordinating decentralised energy, as the Government acknowledges in Paragraph 7.9 of the consultation.

### **Display Energy Certificates**

The RIBA supports the application of Display Energy Certificates to private sector non-domestic buildings and will be responding to the relevant Government consultation in due course.

## **Responses to specific consultation questions**

### **Question 1: Do consultees agree that we should establish challenging energy efficiency standards for non-domestic buildings covering space heating and cooling, and measured on a kwh/m2/year basis? If not, why not, and what approach to setting energy efficiency standards would you prefer?**

Whilst we support a standard measurement KWH/m2 we question why this should be limited to 'Space Heating & Cooling'. This excludes significant regulated energy uses such as lighting which can account to 40% of the carbon footprint in some non-domestic buildings.

### **Question 4: Do you agree that we should adopt the same measures and approaches for allowable solutions for non-domestic buildings as for homes?**

We support replicating the Roadmap & Allowable Solutions proposals deployed for homes but some key differences need to be considered. Heating & Cooling requirements vary massively between building typologies & we need to be mindful of the diverse range of energy loads. Therefore using a Heat Loss Parameter may not be transferable as an appropriate measurement tool.

### **Question 12: What roles do you think local government can play in contributing to public sector leadership on zero carbon buildings?**

The RIBA supports policies designed to deliver a more sustainable built environment. Buildings alone generate almost half of all CO2 emissions in the UK - 27% from the 26 million residential dwellings and 17% from the 2 million non-domestic buildings<sup>1</sup>.

Debate on this issue has largely focused upon the residential sector, as witnessed by the recent joint Communities and Local Government/Department for Energy and Climate

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<sup>1</sup> All Party Urban Development Group, Greening UK Cities' Buildings, 2008

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Change consultation on the existing stock. Less attention has been paid to efficiency initiatives within the non-domestic sector despite the fact that it includes many large buildings with high levels of energy consumption.