PUBLIC CONSULTATION ON THE ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE

UK Green Building Council Response

The UK Green Building Council (UK-GBC) is an independent, membership-based, not-for-profit organisation committed to radically improving the sustainability of the built environment by transforming the way it is planned, designed, constructed, maintained and operated.

UK-GBC campaigns for buildings which benefit people and the environment. Energy efficiency in buildings is vital for reducing energy demand and cutting the UK’s carbon emissions. But buildings can also play a key role in improving the health and wellbeing of people who live and work in them, and UK-GBC is part of an international campaign, Better Places for People\(^1\), which aims to highlight this link.

Section A: Overall Assessment

The Energy Performance of Building Directive has made and continues to make a positive contribution to the reduction of energy use in buildings, in particular in providing the framework for measurement and benchmarking of buildings. The Directive has enabled and shifted industry debate and has had some impact on the market.

In particular, the EPC regime, which provides a consistent methodology for building energy performance measurement and a transaction-linked label of performance, has enabled informed debate and policy (and to a lesser extent industry) interventions based on comparable data. Furthermore, the harmonized approach to the setting of minimum energy performance standards for new buildings, through the cost-optimality calculation, has provided an effective backstop for Member States’ ambitions.

However, the specific requirements within the EPBD alone have had limited direct impact and this is in part due to poor implementation across a number of key areas. Compliance and enforcement of the EPC regime, renovation rates, development of effective finance offerings and the delivery of nearly zero energy building (NZEBs) are all areas in which implementation is well below effective levels. For example:

EPC ratings have not impacted the purchase or rental prices, or the market demand, for more efficient buildings in the UK. The quality of EPCs, particularly in the domestic market, has been poor. Data presented is of insufficient accuracy to influence decision making. Enforcement has also been poor, with failure to disclose or display the relevant EPC information at the correct stage in the transaction and a failure to prepare and display the rating in many public buildings. The poor implementation and enforcement regime has led to the downgrading of the certificate and has prevented it from influencing the market. The lack of market relevance of EPC ratings means that the label has not effectively prioritised energy in design briefs.

The UK’s first building renovation strategy published in April 2014 failed to provide the long term certainty to investors which was intended under the Energy Efficiency Directive. Although the strategy provided a comprehensive analysis of the current state of the building stock and an overview of current policies, it failed to provide guidance on what the energy efficiency market may look like in the future. Indeed some of the policies set out in the strategy have since been

\(^1\) [http://betterplacesforpeople.org/](http://betterplacesforpeople.org/)
removed, most notably the Green Deal. The updated strategy in 2017 will need to provide long term renovation targets if it to prove effective in helping to drive investment decisions.

The lack of convergence over the definition of a nearly zero energy building (NZEB) is hindering progress towards delivering against this requirement of the Directive. The lack of clarity over what constitutes a NZEB is currently hindering industry progress in designing and delivering this next generation of buildings. It is essential that clarity is provided on how Member States test the compliance of their NZEB standards. In its current form the Directive relies on compliance with the spirit of the NZEB new buildings targets.

These examples illustrate that the Directive could have much greater impact in line with its stated goals if focus was given to effective implementation, backed up by strong enforcement from Member State Governments and the Commission. Without effective implementation the Directive does not provide the long-term market signals needed to drive investment in energy efficiency in buildings and move the market to value low energy buildings.

Section B: Facilitating enforcement and compliance

Compliance with the EPBD is at best variable, which hugely impacts the Directive’s ability to have impact.

The harmonized approach to the setting of minimum energy performance standards for new buildings, through the cost-optimality calculation, has provided a relatively transparent and therefore effective backstop for Member States’ ambitions.

In recent UK experience, this backstop has proven effective to prevent a complete backsliding in ambition. In July this year the UK government announced its intention not to continue and deliver its zero carbon new buildings policies which had, since 2006, provided the trajectory of building energy performance improvements on the pathway to ‘zero carbon’ homes by 2016 and non-domestic buildings by 2019.

With the removal of this national trajectory, the cost-optimality review of minimum energy standards (every 5 years) provides an otherwise absent incentive to revise building energy standards upwards in line with reductions in costs, ensuring that standards do not fall too far behind the development of the market for energy efficiency products and techniques.

In contrast to the harmonized cost-optimal approach to minimum energy performance standards, there is no common definition or guidance on nearly zero energy buildings and as such Member States must interpret this in their own ways.

In the UK, the Government has been silent on how it expects to deliver against the NZEB requirements in the absence of the ‘zero carbon’ policy. This absence of clarity is hugely damaging to the UK industry’s ability to deliver NZEBs. Furthermore, without any further definition to the nearly zero energy standard, the delivery of cost-optimal minimum energy performance standards may be interpreted as compliance with the requirement to deliver nearly zero energy buildings. In practice this means that the buildings being delivered today will not look significantly different to those being built in 2021.

Some convergence of the nearly zero energy standard with a clear methodology for checking Member States’ national NZEB standards against the European ambition is essential. This convergence would also enable the market for energy efficient building products and systems to develop efficiently and costs to reduce more effectively.
Section C: Energy Performance Certificates and stimulating energy efficient renovation of the building stock.

The first national renovation strategy published by the UK Government provided a comprehensive overview of current state of building stock and a summary of the policies in place at the time. But the strategy failed to provide a future outlook for investors because it did not provide long term delivery targets for renovation and some of the policies outlined have since been scrapped. As a result there is considerable uncertainty about the direction of energy efficiency policy over the next few years and a degree of instability which is discouraging investment in the market.

Long term targets or at the very least an indication of robust national ambition, are of particular importance in establishing a sustainable market for energy efficiency. Without an understanding of future delivery rates or the type of renovations that are likely, the energy efficiency industry has been driven by inconsistent and short term policies which have undermined the development of appropriate skills in the supply chain. This has also led to a focus on single measures rather than deep renovation, and an increased a risk that currently installed measures may need to be removed or replaced during future improvement works.

There is little evidence of a direct impact of the Energy Performance Certificate regime on the market in sale/rental prices for domestic or non-domestic buildings, or on demand for energy performance retrofits in the UK. However, the presence of the EPC regime, which provides a consistent methodology for building energy performance measurement and a transactional linked label of performance, has enormous potential as an enabler for policy and industry initiatives that have the potential to create direct impact.

The recent introduction of the Minimum Energy Efficiency Standards (MEES) in the UK is a good example. Underpinned by the Energy Act 2011 and delivered through regulations introduced earlier this year, MEES will make it illegal for landlords to let any domestic or non-domestic building in the private rental market that is rated below an EPC of E. There is already anecdotal evidence in the non-domestic sector that, even with three years to go before the regulations bite, they are impacting on investors’ due diligence and, in some cases, resulting discounts being applied to F&G buildings. Similarly, many large portfolio owners within and beyond the UK-GBC membership are already well underway with developing their compliance strategies.

Furthermore, minimum EPC ratings are used to define energy performance eligibility criteria for the take up of Feed in Tariff and renewable heat incentive payments. For both schemes require an EPC to be carried out and either use EPC rating as a pre-requisite or require measures to be in place before an applicant can take advantage. In a recent consultation on changes to the Feed in Tariff the Department for Energy and Climate Change has proposed a tightening of the requirements for applicant buildings from an EPC D (UK average) to a C.

Work by the UK-GBC and University College London has also illustrated the potential for EPCs and related energy/property data to be used by home mortgage providers in their affordability checks for loans as a means of reducing risk. The research has been well received by industry and Government and - if adopted into lender practice - could result in efficient homes attracting more finance than their inefficient peers, potentially resulting in a value differential between the two. This would then be expected to create a significant driver of demand for home retrofit. [In order for this process to be effective, we would ideally want to see improvements made to the quality of EPCs and perhaps the methodology itself.]

2 http://www.legislation.gov.uk/ukdsi/2015/978011128350/contents

3 Subject to number of exemptions related to issues such as cost, impact in property value, consents etc.
Perhaps less successful in the UK has been the impact of the UK performance rating - Display Energy Certificate (DEC) Regime. Despite the potential for operational performance ratings to support efficiency improvements, the DEC regime, which only applies to public buildings, has been poorly implemented by affected bodies and sparsely enforced by regulators. There is evidence to suggest that DECs have spurred improvements in buildings where they have been actively applied (including the Department of Energy and Climate Change’s own headquarters), but overall the lack of attention and support to the regime has led to this part of the UK’s EPBD implementation significantly under-delivering against its potential.

This is all the more frustrating in the context of the regular calls that have been made in recent years for DECs to be extended to commercial buildings on a mandatory basis. The lack of political will to apply them properly in those buildings in scope of EPBD has significantly undermined the chances of, including diminishing the evidence for, them being rolled out more widely. However, there is some evidence of DECs playing a role in inspiring business action, including some organisations commissioning DECs on a voluntary basis, and one large landlord developing its own variant on the DEC tool that can be applied to common parts of multi-let buildings.

The EPC, as an asset rating, has proved to be ineffective at effectively informing investors or occupiers of future building carbon or running costs. A significant ‘gap’ between the predicted energy use of the building and the actual energy performance is in evidence. As building designs become more energy efficient, it is more and more evident that buildings do not perform in use as expected. More emphasis on the actual performance of buildings is required to deliver against the objectives of the EPBD. This could be driven by the introduction of a simple performance rating.

Section D: Smart finance for smart buildings: financing energy efficiency and renewable energy in buildings and creation of markets

The Green Deal offered an innovative ‘pay as you save’ mechanism which allowed householders to install energy efficiency measures at no upfront cost and pay for them through the savings made on their energy bills. This was particularly appealing to a portion of the population who would otherwise not have been able to access the upfront finance for energy efficiency – specifically those below average income but not classed as in fuel poverty.

The scheme was cancelled by the Government this year in part because it did not appeal outside of this limited customer base and was unable to achieve the scale of take-up required to be self-funding. A number is issues contributed to this outcome. The interest rate for the finance was set at a relatively high rate over a very long - 25 year - lifetime of the loan, making it more expensive than other finance offers. The programme was intended as a mass market finance mechanism and it was reliant therefore on volume but in practice it was relevant only for the smaller part of the market on modest incomes but not in fuel poverty which hugely reducing the growth potential. The finance offers also took time to set up given that those offering the finance packages were very often contractors intending to carry out the works, and these organisations are not well used to setting up financial offerings. Finally it is clear that finance on its own will not create demand for energy efficiency retrofits and in insufficient additional incentives were put in place to create demand.

Nevertheless, the interest generated among these households on modest incomes demonstrated that innovative finance solutions can be useful in addressing specific parts of market.

With the removal of the Green Deal, the most significant opportunity to bring innovative finance into the UK market will be by strengthening the link between energy efficiency and property prices. If this can be demonstrated then financial institutions would then have more of an incentive to get involved in the market and provide bespoke financing solutions to householders.
UK-GBC has looked at strengthening the link between energy performance and value in a number of ways. For homes we have developed a model to adjust Stamp Duty Land Tax - paid at the point of sale - according to the energy efficiency of the property, with more efficient properties receiving a discount and less efficient properties paying slightly more. We have also undertaken work with UCL on the use of EPCs and other information in estimating energy bills for use in mortgage affordability calculations, which could potentially allow more finance to be lent for more efficient properties.

One much hoped-for outcome from the implementation of the energy efficiency directive in the UK is that it might provide a boost for Energy Performance Contracting. To this point, the use of energy performance contracts has confined mostly to the public sector. One often-cited reason for this is that, rather than there being an absence of finance, there is instead no readily available pipeline of fundable projects. The new Energy Savings Opportunity Scheme (the UK’s response to Article 8 of the EED), should lead organisations to identify costed energy saving projects as part of the audit process, which can then be investigated in more depth and put into action by energy performance contracting companies. If this happens, it would provide a long-overdue boost to a finance mechanism that has so far lacked penetration in commercial buildings.

E. Energy poverty and affordability of housing

It is estimated that 2.35m households were in fuel poverty in England in 2013 under the low income, high costs definition. The UK has among the highest levels of fuel poverty in Western Europe which is in large part due to the poor state of our housing stock. Approximately 95 per cent of fuel poor households live in properties rated as EPC band D or lower.

The relationship between fuel poverty and energy efficiency has been recognised by the Government in their recent fuel poverty strategy, which sets a target to get as many fuel poor homes as reasonably possible up to EPC band C by 2030. Similarly, fuel poverty was also a key justification for the introduction of Minimum Energy Efficiency Standards for private rented homes because this sector has the highest incidence of fuel poverty.

There is also growing evidence of the link between energy efficiency, fuel poverty and the health and wellbeing of residents. Approximately 18,200 excess winter deaths occurred in England and Wales in 2013/14, and the World Health Organisation estimates that around 30 per cent of these were due to cold homes. The charity Age UK also estimates that illnesses related to cold homes cost the National Health Service £1.36bn a year. This link has been reflected in the establishment of so-called boiler on prescription schemes which seek to address persistent ill health among local residents by installing energy efficiency measures.

The above illustrates from the experience in the UK that improving the energy efficiency of the housing stock is the most reliable and cost effective strategy for tackling fuel poverty. Evidence from the UK is also beginning to show that very energy efficient homes, and even energy positive homes, can be built affordably.

Just this year, the Welsh School of Architecture revealed Solcer House its affordable, energy positive homes which is capable of exporting more energy than it uses. The house can be built for £1000 per m2 which is within the design price boundaries for affordable housing in the UK.

A market review of prices performed in 2014 illustrated that the additional cost of building to the proposed ‘zero carbon’ standard had halved in 3 years. The additional cost for a ‘zero carbon’ 3 bedroomed semi-detached house it found could be less than £5,000 at today’s prices, expected to fall further to £3,600 by 2020 when the NZEB requirements come into force.
F. Ensuring new highly efficient buildings using a higher share of renewable energy

G. Links between the EPBD and district and city levels, smart cities, and heating and cooling networks

H. Awareness, information and building data

I. Sustainability, competitiveness and skills in the construction sector

J. Buildings systems requirements

K. Operational management and maintenance

As set out in Section C above, operational measurement and rating has so far failed to spread far across the UK’s non-domestic building stock. While some bigger/more sophisticated organisations measure operational performance across their own property portfolios, this data is rarely shared and certainly does not tend to result in buildings being rated in a way that is visible to other property owners, investors and would-be occupiers.

As a result, there is little potential for differentiation in the market, and for actors to make informed decision about the properties that they invest in, buy or rent, and understanding of buildings’ operational performance remains poor. Experience in other countries (especially under the NABERS scheme in Australia) shows that effective operational rating of buildings can help create a vibrant market for efficient buildings (both in terms of design and operation). This cannot be achieved by asset ratings alone, which tend to be a poor predictor of operational performance.

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