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PUBLIC CONSULTATION ON THE EVALUATION OF THE ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE

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Chartered Institution of Building Services Engineers
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Sections of the Consultation

A. Overall Assessment

B. Facilitating enforcement and compliance

C. Energy Performance Certificates and stimulating energy efficient renovation of the building stock.
Currently, about 35% of the EU’s buildings are above 50 years old. Buildings are responsible for 40% of energy consumption and 36% of CO2 emissions in the EU, and consume, on average, about 25 litres of heating oil per square metre per year. Some buildings even require up to 60 litres.

The Energy Performance of Buildings Directive (EPBD) aims to:

1. improve the energy performance of buildings in the EU, taking into account outdoor climatic and local conditions, as well as indoor environment requirements and cost-effectiveness.
2. require Member States to set energy performance standards for buildings,
3. require Member States to issue buildings with energy performance certificates, and
4. require Member States to ensure that, by the end of 2020, all new buildings are ‘nearly zero energy’ buildings

It sets out concrete ways of achieving the great untapped potential for energy savings in buildings and reducing the large differences in results that exist in energy saving outcomes between Member States.
1. How successful has the EPBD been in achieving its goals?

1.1 The Energy Performance of Buildings Directive (EPBD) has been successful in reinforcing building energy policies in the UK. It has raised the profile of energy management in buildings, emphasising the importance of monitoring and measurement to catalyse improving performance. The UK has been setting energy performance standards for buildings since at least 1990 and reinforcement of this through the EPBD has been welcome.

1.2 The EPBD has successfully introduced a regime for the production of energy certificates. Display Energy Certificates (DECs) in public buildings have been very effective in making transparent the use or waste of energy based on measured energy consumption in public buildings.

1.3 The requirement to have Energy Performance Certificates (EPCs) on sale or rent has also created greater awareness of building energy performance, but it is not clear that this has yet had the transformational effect on the market that the original authors of the EPBD anticipated in 2000/2001. However, given the size and significance of the property sector, this is not a major surprise. It is essential that the regime of certification and disclosure is maintained, as awareness grows and corporate concern about energy grows with it. In the UK it took 30 years to achieve the universal wearing of car seat belts, and it has taken decades to move from smoking being commonplace in offices and public areas to now being very constrained. It is to be expected that the transformation in attitudes towards energy use in buildings will be time consuming and take many years to achieve. It is therefore essential that the gains of the EPBD are reinforced and confirmed, and the areas where progress is still to be made are given greater attention.

1.4 CIBSE has run the Building Performance Awards for the past 9 years. This is an annual awards programme based on measured energy performance, with a number of categories covering new and refurbished building projects. Whilst we have seen a steady improvement over the past 9 years, there is still a limited number of building owners and operators who truly understand and value the highest levels of building performance. We have seen significant improvement at the leading edge of building design over the past nine years, which demonstrates some progress towards the delivery of nearly zero energy buildings, but as noted in the previous answer, this is a long journey and it is vital to maintain momentum.
2. Has it helped to improve energy efficiency in buildings?

2500 character(s) maximum

2.1 It is very difficult to ascribe improvements in building energy efficiency to any one cause. However, it is very clear to many active in this policy area over the past 15 years that the EPBD has had a significant impact in encouraging greater ambition amongst those who were already supportive of energy efficiency, and it has had a constraining effect on those who would otherwise have done even more to eliminate policy measures which support energy efficiency. One very experienced long serving commentator in the UK has remarked that the EPBD is the only thing that has kept at least England and Wales honest on energy efficiency in recent years, and there are good reasons to support this view.

2.2 It is also important to note that the EPBD and the EED at least demonstrate clear synergies in the approaches they take to improving energy efficiency in the business and public sector. However, whilst they both require the provision of information about how to improve energy performance in a cost effective manner, they do not require anyone to act on that information. Such is the scale of the market failure in this area that even faced with clear evidence of waste or inefficiency in the use of energy, businesses do not take the available actions to reduce waste or improve efficiency. The Directive is therefore a key enabler, but cannot on its own lead to improved energy efficiency in buildings.

3. Has it helped to increase renovation (more than 25% of the surface of the building envelope) rates?

2500 character(s) maximum

3.1 We are not aware of robust data to support such a conclusion. But taking the answers to Q1 & 2 further, it provides tools to support policies to increase renovation. The Energy Efficiency Regulations in England and Wales, which will require cost effective renovation of F & G rated properties offered for let from April 2018 are using the EPBD to support a renovation driving policy.
4. In your view, has the EPBD sufficiently contributed to accelerating investment in improving the energy performance of the EU’s building stock? Why/Why not?

2500 character(s) maximum

4.1 Given that the EPBD came into operation at the same time as the worst global recession in living memory, it was always going to be a challenge to accelerate any investment until recently. The market just could not deliver such an acceleration under any circumstances over the past few years.

5. Overall, do you think that the EPBD is contributing to cost-effective improvements in energy performance? Why/Why not?

2500 character(s) maximum

5.1 It is likely that implementation of the EPBD e.g. through Display Energy Certificates (DECs), which are energy performance certificates based on actual measured energy consumption, have been a significant factor in starting many buildings on their energy management journey, which may well not have occurred in their absence.

5.2 For example, analysis of DECs by University College London shows that the 8,500 buildings which have a consistent DEC over three years and are larger than 1,000m2 collectively achieved 3% annual energy savings in 2011 compared to 2009. In our estimation, this is roughly equivalent to £18m in savings. If all 42,000 large buildings with DECs achieved the same saving, the total would be £89m. If the total cost of the DECs regime is £7.8m, that amounts to one eleventh of these savings. However, given a 60% compliance rate, which is inferred from the lodgement data, then the true cost of the current regime at £140/DEC is more likely to be of the order of £4.25m for the 30,000 DECs currently being obtained.

5.3 In other cases the EPBD has not been contributing to cost-effective improvements of energy performance due to poor compliance from. For example, Energy Performance Certificates (EPCs) have a poor reputation amongst developers, property managers and letting agents as they do not address all energy end-uses and are not based on in-use energy consumption. This means that the incentive and knowledge to enable cost-effective improvements are not available.
6. Do you think that the aim of ensuring the same level of ambition across the EU in setting minimum energy performance requirements within the EPBD has been met? Why/Why not?

2500 character(s) maximum

7. Has the EPBD effectively addressed the challenges of existing buildings’ energy performance?

2500 character(s) maximum

7.1 The EPBD has helped to stimulate greater policy focus on this issue. There is now a greater interest in the performance of existing buildings, and an awareness that there is a need to improve this over the next 30 years. See also answers to Q2, 3 and 4 for reasons why this is only a start. Whatever happens, we need the EPBD to help maintain momentum. In England and Wales in particular there is also a need to apply greater focus to delivering the requirements of the existing Directive effectively.

8. Has the EPBD set effective energy performance standards for new buildings?

2500 character(s) maximum

8.1 The UK set minimum energy efficiency standards long before the EPBD, so the Directive has reinforced that provision. However, the EPBD has helped to drive the process of tightening the standards. Given the current deregulatory stance in England, it is likely that the current requirements for cost optimal review, and five yearly revision of minimum energy standards, together with the nearly zero requirements, will be the primary driver of any further changes in the standards over the life of this parliament through to 2020. See also the comment at the end of paragraph 2.1 above.
9. Will the ‘nearly zero-energy buildings’ targets be met? Why/Why not??

2500 character(s) maximum

9.1 Almost certainly not in the way that the authors might have intended. In the UK we will not have clarity over the standards for “nearly zero energy buildings” until the next review of the standards in 2018. That will only give a short time before the requirement for nearly zero energy buildings comes into effect.

9.2 But the reality is that we probably cannot move any faster anyway, and so the key thing now in the UK is to ensure that the cost optimal review is done well and that stakeholders are fully engaged, so that the cost data is robust and recognised by the industry, and that there is a full understanding of the process and how the report is arrived at. This may be a challenge to achieve, although through CIBSE the industry has already offered the support of the Industry Advisory Group on non-domestic building energy efficiency standards for this process.

9.3 It is therefore essential that the process of cost optimal review in 2017 and review of minimum standards following on from that is maintained and undertaken effectively.
10. How successful has the inclusion of Energy Performance Certificates in the EPBD been? Have the certificates contributed to improvements in energy performance of buildings

2500 character(s) maximum

NOTE: the UK has two types of Energy Performance Certificates – EPCs, based on calculated asset ratings for sale or let of a building, and DECs, based on measured energy use in public buildings.

10.1 Energy performance certificates have been a key component of the EPBD, making energy consumption very visible whilst compelling building owners to really focus on energy management. The Display Energy Certificate regime was adopted to ensure that the public sector attempted to meet the objective of the EPBD of setting an example. Also, being an annual certificate, they were intended to keep up the pressure on the public sector to use taxpayers/citizens money wisely on energy and to manage energy use in public buildings well.

10.2 In the UK, DECs for existing buildings have - despite being seriously neglected in terms of their enforcement and on-going development and support - been shown to have a positive effective on energy performance.

10.3 The system adopted used an energy monitoring and benchmarking approach that was in place for 10-15 years prior to the EPBD through the Energy Efficiency Best Practice Programme, which had developed benchmarks for energy use in a wide range of building types, and which covered the overall building energy use, but also benchmarked energy used for heating, hot water, lighting, ventilation, air conditioning, pumps and fans and small power for appliances.

10.4 When DECs were introduced, those experts who argued for this approach, which was already well established, to be continued in the DEC methodology, were overruled by those responsible for EPBD implementation in the UK at that time. Instead of producing a full set of benchmark figures for each building by energy end use, we only have the overall building energy use. This was a serious missed opportunity, but the information and knowledge to implement it is still there, and it could be introduced rapidly given a political will to do so.

10.5 EPCs for Asset Ratings have had some impact. However, the inability of government in England and Wales to even identify compliance rates or provide any data on the level of enforcement action has seriously undermined the exercise, and there is widespread distrust of the EPC regime. In the non domestic market the leading property owners and investors now understand the system and the need for quality energy assessments, with energy efficiency being used as a selling point. For homes EPCs are seen as a burden and cost.
11. What has worked well in the EPBD? What needs to be improved?

2500 character(s) maximum

11.1 A focus on measuring and publicising energy consumption has been a key success of the EPBD. It has helped to keep the UK government on track when national legislation around carbon and energy has been withdrawn.

11.2 The implementation of the EPBD in the UK has also had positive knock-on effects on our energy security and our ability to meet our legally binding climate change commitments.

11.3 There is significant scope to improve the current UK implementation of the EPBD, for it to be strengthened and to help ensure that it delivers greater benefits to participants. It would also benefit from a clear focus on identifying energy savings and driving change and improvement in a wider range of buildings, to help support and encourage public sector leadership on energy efficiency.

11.4 Industry concerns about lack of compliance with the EPBD in the UK have been articulated many times. But there has been no attempt to tackle the problems that either CIBSE, or our assessors, or any of the other energy assessor schemes, or many other property professionals are aware of. The response from officials to appeals for action on EPBD compliance is that the government does not want to increase burdens on small businesses, and that enforcement is the duty of Trading Standards. But action to improve compliance with the EPBR is not burdening business. It may require those breaking the law to comply and pay the costs, but that is only asking them to pay their fair share just like everyone else. NOT enforcing the regulations quite clearly burdens every law abiding business that complies with the EPBD and has to compete with a competitor who has not.

11.5 Lack of compliance is frustrating the well-intentioned efforts of many businesses to reduce the energy consumption of UK buildings. The widespread avoidance and deliberate non-compliance by a significant number of building owners with the existing regulations imposes an unfair burden on those responsible businesses that, in effect, volunteer to conform. This is not right, nor is it helping to achieve the policy objectives.

11.6 Art 27 requires that “Member States shall lay down the rules on penalties .... and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive.” Penalties are not adequate and rarely applied. Our final answer explains how little enforcement is even monitored.
12. Is the EPBD helping to contribute to the goals of EU climate and energy policy (Reduce greenhouse gas emissions by at least 40%; increasing the share of renewable energy to at least 27%; increasing energy efficiency by at least 27%; reform of the EU emission trading system)?

**2500 character(s) maximum**

12.1 There is limited rigorous evidence to show that it is helping, but equally there is no known evidence that it is leading to increased emissions. It provides tools which are helping to measure and manage emissions from buildings and is assisting in identifying measures to improve the stock. With greater application to compliance by some member states it could make a greater contribution.

13. Is it in line with subsidiarity? What should continue to be tackled at EU level and what could be achieved better at national level?

**2500 character(s) maximum**

13.1 We believe that the EPBD is entirely consistent with the principles of subsidiarity. It is within an area of clear competence for the Union, and there is a clear case for this to be tackled at an EU level and not left to member states.

14. Are the objectives of the EPBD delivered efficiently?

**2500 character(s) maximum**
15. Has the EPBD created any unnecessary administrative burdens? If so, please provide examples

2500 character(s) maximum

15.1 The EPBD has not created unnecessary administrative burdens but the lack of enforcement in the UK has created an uneven playing field. There appears to be a misconception that enforcing legislation is in some way burdensome. Failure to enforce legislation is a burden, as those who are responsible and law abiding bear the costs, whilst those who flout the law and escape the cost of compliance and any penalties. They gain unfair competitive advantage at the expense of the law abiding. That is not good for growth of the law abiding compliant businesses, and it gives the message that evading legal responsibilities is fine, (in the UK it is seen as fine as long as it’s not evasion of personal tax liabilities). That is not an appropriate message and needs to be challenged.

15.2 It is sometimes argued that the Directive places burdens on the public sector. The recent consultation on "streamlining" the DEC regime questioned the requirement for annual DECs for public buildings. Our response noted that this annual requirement was intended to enable improved energy efficiency in public buildings in order to reduce spending on energy and release money for the delivery of frontline services. However, the recent DCLG consultation document argued for the reverse: reducing the frequency of DECs to release money for frontline services. This is quite at odds with the experience of the DCLG Regional offices in Birmingham, which suggest otherwise. Here the DEC is estimated by those familiar with the building to have saved taxpayers £800,000 over six years, and shows that DECs are a highly cost effective means of identifying energy waste and eliminating it. Between 2010 and 2011 the central government estate reduced its energy use by over 10% saving over £13m in energy bills, which was in large measure due to the improved focus on actual energy use which DECs provide.

15.3 Far from creating unnecessary administrative burdens the EPBD draws attention to unnecessary waste of resources and money.
16. Has the EPBD created any unnecessary regulatory burdens? If so, please provide examples

2500 character(s) maximum

16.1 CIBSE is not aware of any requirements under the Directive that we would regard as unnecessary. However, this is a very subjective matter, and some view the very idea of measuring energy performance as an unnecessary and burdensome task.

We do, however, see opportunity to streamline the regime in England, at least, and probably elsewhere, by aligning the reporting and lodgement requirements for EPCs on sale or rent (but not for public display) with the requirements to register property transactions with the tax authorities for the purposes of Stamp Duty on land transactions. This would considerably improve monitoring of compliance and could potentially make it almost impossible to conduct a transaction without an EPC.

16.2 There are other examples of possible improvements to the arrangements, but we do not believe that the Directive can be considered burdensome unless there is a view that good energy management itself is burdensome.

B. Facilitating enforcement and compliance

Compliance is recognised as being of critical importance in achieving the full energy efficiency and carbon savings potential of buildings. Strong local and regional verification of compliance with national building codes is required in order to reassure consumers of the quality of buildings.

The 2010 recast EPBD introduced targets for Near Zero-Energy Buildings (NZEBs) and more ambitious minimum energy performance requirements for new buildings. The EPBD defines NZEBs as a building that has a very high energy performance as determined in accordance to Annex I of the directive. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby. The EPBD sets the target for Member States to ensure that by 31 December 2020, all new buildings are nearly zero-energy buildings, and after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings.
The EPBD also considerably reinforced the provisions for existing buildings, broadening the scope to all existing buildings (removing the 1000 m² threshold). It set and applied minimum energy performance requirements for the renovation of parts of the building envelope (roof, walls, etc.) with a view to achieving cost-optimal levels. It also set and applied minimum energy performance requirements for technical building systems (large ventilation systems, air conditioning, heating, domestic hot water system or combination of these) whenever they are installed, replaced or upgraded. It applied minimum energy performance requirements to all types of building works. The EPBD introduced a benchmarking system (the ‘cost-optimal methodology’ which calculates the energy performance level which leads to the lowest cost during the estimates economic lifecycle) to improve the level of ambition of the energy efficiency requirements contained in national or regional building codes while ensuring that these obtain the best value for money and that they are regularly reviewed.

A key aspect to be examined as part of the EPBD evaluation is how proper enforcement of the energy efficiency requirements in regional and national building codes is ensured.
17. Is compliance with the provisions of the EPBD adequate?

CIBSE believes that compliance could significantly be improved. The UK Government had to make a payment of £5.7m to Landmark Information Group in September 2013 to cover the shortfall in certificate lodgements over the previous several years. This shortfall arose in part due to non-compliance in England and Wales with the requirement to lodge EPCs, DECs and air conditioning inspection reports. CIBSE Journal, November 2013, page 25 carries a full analysis http://www.cibsejournal.com/archive/PDFs/CIBSE-Journal-2013-11.pdf

Ever since the EPB regime was introduced there have been problems with enforcement and compliance in England and Wales. These are clearly documented in written answers and data which is on the public record, largely via the House of Commons. Since January 2011 any air conditioning system over 12kW effective rated output must be inspected. There is considerable uncertainty about the number of systems in existence, but 300,000 is generally agreed to be a reasonable but conservative figure. This implies 60,000 inspections are required each year, on average, or 5,000 a month. Lodgement data shows around 1,000 a month, or 20% of what it should be. In addition Trading Standards Officers (TSOs) are not empowered to enforce the regulations, if a building owner or operator claims that they do not need a report, the TSO is legally powerless to challenge them.

The Department of Communities and Local Government (DCLG) is responsible for the EPBD. It has admitted several times that it has no idea how many of the buildings that should have energy certificates have actually got them (See Appendix A). Industry concerns about lack of compliance have been articulated many times to DCLG in private. But there has been no attempt to tackle the problems that either CIBSE, or our assessors, or any of the other energy assessor schemes, or many other property professionals are aware of. The response to appeals for action on EPBD compliance is that government does not want to increase burdens on small businesses, and that enforcement is the duty of Trading Standards. But action to improve compliance with the EPBD is not burdening business. It requires those breaking the law to comply and pay the costs, just like everyone else. The EPB regulations exist to inform businesses about the energy efficiency of their buildings, and enable them to choose buildings that can save them money on energy bills.

Please see also our answers to Q11 and Q15.
18. Is the definition of NZEBs in the EPBD sufficiently clear?

2500 character(s) maximum

18.1 Following the recent announcement that the UK will not pursue its own “zero carbon” building approach, there has been considerable comment about the NZEB definition in the UK. The UK government is on the record stating during the approval of the recast EPBD that the word “should” in the definition is aspirational, and the Commission has confirmed this. That is not widely understood, and will cause confusion. However, it is also important that in defining nZEBs, the need to minimise energy demand in the building through a combination of good building fabric or envelope standards and the use of efficient technical building systems is considered first, before giving any thought to the use of renewable energy sources. There is no point or need to use renewable energy if the energy demand being met can be avoided in the first place. There needs to be a very clear focus on energy efficiency and reducing demand.

18.2 In addition, focusing on design, fabric standards and energy efficiency of individual products, such as boilers, pumps and heat emitters, does not deliver energy efficient buildings. Unless the systems which the products make up operate efficiently, which means that they must be commissioned properly and then operated effectively, then all the evidence shows that so-called low energy buildings do not perform as they are expected to do.

18.3 The need to focus on actual metered energy use of buildings, and not just on design aspirations, is an important one, and is one reason for having energy certificates based on metered energy use (DECs) for public buildings in the UK. This focuses on how the building is being managed in practice and how much energy it really is using, rather than what it ought to use based on the design. This is an important distinction. Unless nZEBs are built to the standards to which they are designed, and the energy using systems are commissioned and set to work correctly and efficiently, then however good the definition of an nZEB, the goal of reducing energy use in new buildings will be missed. There has to be a greater focus on measured energy outcomes and not on design calculation, predictions or forecasts.
19. Is the NZEB target in the EPBD sufficiently clear to be met?

**2500 character(s) maximum**

19.1        Please see the previous answer. Unless “nZEB”s are actually built to the standards then the goal will not be met. This means that there needs to be greater emphasis on compliance of completed buildings or renovated buildings with the standards. There clearly need to be safeguards for the privacy of building owners and individual citizens, but in the long run the use of “big data” and “open data” principles to identify, create and then implement opportunities to improve the EU building stock is essential. This will significantly assist with the goal of meeting minimum energy efficiency standards.

19.2        One way to improve the performance of nZEBs would be to require the EPCs for all buildings to be placed in a publicly accessible database that can be searched at no charge to the searcher. At present, the database for England and Wales is so constrained that it is virtually impossible to carry out any reasonable analysis of the data being collected. (See answer to Q17 and Appendix A).

Our answer to Q16 proposes a requirement to provide details of the EPC for sale or rent along with the Stamp Duty registration of a transaction, which would almost eliminate sales of property without an EPC, since the transaction would not be legally registered without a valid EPC associated with it.

20. If not, what, in your view, are the missing factors that would ensure compliance with:
a. Minimum energy performance requirements in new buildings?

2500 character(s) maximum

20.1 As noted above, compliance requires not just a product based approach. Minimum standards can be set for individual elements of the building, such as roofs, walls, windows, floors, or for installed systems such as boilers, pumps, heat emitters and controls. But unless the whole system functions effectively then it does not matter how good the individual components are. There is insufficient focus on installation and commissioning of the systems, the overall performance of the building envelope and the effectiveness of the building as a whole as a low energy system. At present the focus is on low energy inputs, but what is really needed is low energy outcomes.

20.2 This requires a greater understanding and awareness of the day to day performance of the building and an ability to benchmark the building as a whole and the individual systems against itself, so is this week better or worse than last week, for example, and against other similar systems and buildings. The effectiveness of this approach has been demonstrated, for example, by the EACI funded iServCMB project.

20.3 CIBSE has proposed a number of times that a suitably qualified and competent person be required to sign a certificate on completion of the building that the building was designed to the standards, and that it has been built, commissioned and handed over in such a way as to meet those standards. This is not a significant additional task in England and Wales if the current regulations are being fully met, and cannot therefore be described as burdensome.

b. Minimum energy performance in major renovations of existing buildings?

2500 character(s) maximum

20.3 Similar observations apply to question a. However, in this case there is the added challenge of incorporating new fabric and systems into an existing building, which adds to the complexity. However, the overall need for a systems approach, a focus on delivered outcomes and not just designed inputs is just as relevant. In existing buildings it is even more important that the systems installed are commissioned effectively.
c. Minimum energy performance for the replacing/retrofitting parts of the building envelope (roof, wall, window, etc.) and replacing/upgrading/installing technical building systems (heating, hot water, cooling, etc.)?

2500 character(s) maximum

20.4 As noted above, the standards for the individual parts and systems are well addressed already. It is the overall energy performance of the resulting building that matters, and there is not enough focus on this outcome. In particular, for technical building systems, it is essential that they are correctly designed, that efficient components are used in the system, that the components are correctly installed, and that they are then commissioned, set to work and tested as a fully functioning system. It is also essential that effective controls are installed. Again, just adding in some controls alone will not deliver low energy buildings - the controls must be properly installed as part of the technical building system, and commissioned correctly.

20.5 In the UK there is ample guidance on how to do this. The difficulty is that on many projects the construction and installation phases of the work generally overrun, and so the period set aside for the commissioning of the technical systems is squeezed, and pressure applied to the commissioning personnel not to delay completion and handover, for which there are usually severe financial penalties. Unless there are penalties for not completing the commissioning and delivering effective systems, this will continue to be the case.

d. Minimum renewable energy requirements to meet the NZEB target by 2020?

2500 character(s) maximum

20.6 Please see the answer to Q17. Setting renewables targets without first setting targets for reduced energy demand in buildings may not be effective. In the UK we already see demands for developments to include a certain level of renewables, even where there are more cost optimal ways to deliver low energy demand without recourse to renewables. This is not in line with the cost optimality aspects of the Directive.
20.7 In the UK energy certificates, be they EPCs based on calculation or Display Energy Certificates based on actual measured energy use, are not yet seen as a valuable tool to improve energy performance and to drive added value in buildings. As noted in response to Q17. in England and Wales there is no policy of collecting data on energy certification or on enforcement. There are no known cases of any significant penalties for non compliance with the certification requirements.

20.8 There are currently few “tailor made recommendations” – the reports produced alongside EPCs and DECs are highly formalised, use standard templates and checklists and are widely dismissed as a “bureaucratic tickbox exercise”. There is also no requirement to even read the report, let alone act on any aspect of it. There is no central use of the information that these reports collect to identify opportunities to improve the existing building stock or to identify common problems that could be addressed at a stock level or through changes to minimum standards.

20.9 One solution to improving the compliance of buildings with the EPBD requirements for certification would be to require Member States to hold an open database of the EPC rating of every property sold or rented out. In the UK there is already a system called the Land Registry, on which the vast majority of property transactions have to be registered for tax purposes. If the registration was not legally complete, and therefore the transaction not legally valid, without the Unique identification number of the EPC along with the rating for the property being added to that database, then the problem of EPC compliance would immediately be solved. It would be almost impossible to transact a property without an EPC in this scenario.

20.10 This would not be an additional regulatory burden as the return already has to be made for tax purposes, and the EPC is already a legal requirement, so any additional cost is a cost already supposed to be borne by those transacting the property.
f. Regular inspections of heating and air conditioning systems?

2500 character(s) maximum

20.11 As noted above, compliance with air conditioning inspections in the UK is very low. There is also a need to explore the potential opportunities of adopting continuous monitoring and benchmarking as demonstrated by the Harmonac and iServCMB projects over recent years.

20.12 The issue in both e) and f) is that there is no real interest in real building performance and too much attention to checking regulatory boxes.

20.13 As noted in our answer to Q17 we have clear figures to demonstrate that the air conditioning inspection requirements are being widely disregarded in England and Wales, with an optimistic view that 20% of required inspections are undertaken, and a pessimistic argument that fewer than 10% are actually carried out.

20.14 Enforcement is hindered by the very limited powers afforded to Trading Standards Officers to question those who claim not have systems which require inspection. Art 27 is clearly not fully implemented with respect to air conditioning inspections.

21. Do you think the cost-optimum methodology gives sufficient evidence regarding the actual cost of renovating buildings on top of the additional cost for Near Zero-Energy Buildings?

2500 character(s) maximum

22. Are there any cost-effective measures for ensuring compliance at local and regional level that could be replicated and used to improve compliance on a larger scale?

2500 character(s) maximum
23. What do you think of the various ways of calculating building energy performance at national/regional level? Please include examples.

2500 character(s) maximum

23.1 It is questionable whether anyone can really calculate building energy performance. Ultimately, the only measure of real performance is actual energy use as measured by the meters. It is well known that there are clear differences between calculated and predicted energy use in a building and actual, real, measured and achieved energy use. Calculated energy use at the design stage uses model assumptions, not real life real user experience. The two are very different for buildings, as they are for cars. So the real question is what can be done to improve the focus on actual measured energy use.

23.2 That is why the UK has adopted Display Energy Certificates (DECs). They are a cost beneficial alternative form of energy certificate, as defined in the original Directive, to provide ratings for buildings in use based on real measured energy use.

23.3 The argument put forward for the development of the two alternative approaches, Asset Ratings based on an assessment of the building fabric and systems for EPCs for construction, sale or rent, and Operational Ratings based on actual metered energy usage by floor area and building type for Display Energy Certificates, was based on a thorough analysis of the relative costs and benefits of the two approaches, and of the potential benefits which annual rating of public buildings offered to the public purse.

23.4 The original Impact Assessment for England and Wales noted the potential benefit of DECs for the delivery of public services as follows:

• ‘As noted in Recitals 16 of the Directive, the display of energy certificates in public buildings will result in a greater awareness of the importance of energy use and its environmental impact which may have a positive effect on the implementation of the other parts of the Directive as well as on members of the public.
• Money saved as a result of better energy management could be used directly for the public services concerned with corresponding social benefits.’

23.5 It is essential that the EPBD retains the provision for measured ratings based on actual energy use.
24. What measures are missing that could simplify the implementation of building regulations to make sure that buildings meet the required high energy performance levels?

2500 character(s) maximum

24.1 One possible option for increasing the focus on compliance with the regulations in England and Wales would be to require, as part of the EPC process, for a suitably competent person to certify that the minimum energy standards have been fully complied with. In the UK, this should not require any additional activity if the regulations are already being complied with.

C. Energy Performance Certificates (EPCs) and stimulating energy efficient renovation of the building stock

Building energy efficiency has been increasing at 1.4% per year. This relatively low rate is owed largely to low renovation rates. To reap the benefits of energy efficiency and the use of renewables in buildings, the biggest challenge is to accelerate and finance upfront investments and speed up the renovation rate of the existing stock to above 2% annually. The aim of EPCs is to transform the building sector by setting ambitious energy efficiency standards and incentivise investment in renovating buildings to improve their energy efficiency, and facilitate a single market in and the free circulation of highly specialised workers, solutions and technologies and investments in energy efficiency and renewables in buildings. These aims have been identified as drivers for investment in renovation. In addition, the Energy Efficiency Directive (2012/27/EU, ‘the EED’) required Member States to establish, by April 2014, a long-term strategy for mobilising investment in the renovation of the national building stock.

25. Are the available data on the national/regional building stock sufficient to give a clear picture of the energy performance of the EU’s building stock, as well as the market uptake of energy efficiency technologies and the improvement of the energy performance of buildings in the EU?

2500 character(s) maximum

25.1 Comprehensive data collection and analysis of building stock energy performance in the UK is weak and across EU Member States, is variable. In January 2015 the UK Department for Communities and Local Government (DCLG) announced that it is going to publish approximately 723,000 records relating to Energy Performance Certificates (EPCs) and Display Energy Certificates (DECs) for non-domestic properties, unless individual EPC holders opt out. It has been recognised that it is in the public interest to make this information available. Data on the energy performance of buildings to researchers is particularly of value to local authorities and environmental organisations. The information is available through the Open Data website but considerable further analysis is required to obtain a clear picture of the UK building stock and any improvements in energy performance.
26. Are the long-term national renovation strategies adopted sufficient to stimulate the renovation of national building stock? What examples of best practice could be promoted across the EU and how?

2500 character(s) maximum

26.1 There is a history of a disjointed policy landscape when it comes to energy efficiency in the UK which has led to poor outcomes. Previous approaches to energy efficiency have failed to deliver significant results because there has been no consistent approach. Energy efficiency needs to be treated as a national infrastructure priority and a coherent vision, which includes retrofit, should be articulated across commercial and public buildings, non-domestic and domestic buildings. A coherent approach is required to provide appropriate market signals to industry and business, and to provide the public with confidence that the Government is taking a long term view. There is also a need for stability and consistency of policy over a reasonable timeframe, as the commercial property market tends to plan over a timeframe that exceeds the typical electoral cycle. Constant changing of policy every two or three years does nothing to enable businesses to plan appropriate energy efficiency investment.

27. Have EPCs played a role in increasing the rate of renovation, the extent of renovation, or both? For instance, are EPC recommendations being defined as the most effective packages of measures to move the performance of buildings and/or their envelopes to higher energy classes?

2500 character(s) maximum

27.1 There is no robust evidence that this is the case to a significant extent in the UK but it does not mean that EPCs have not played any role in increasing the rate of renovation, just that the research does not exist to assess what the contribution has been.

28. Is setting a minimum renovation target for Member States to undertake (e.g. each year; percentage of building stock) important and requires further attention in the context of meeting the goals of the EPBD?

2500 character(s) maximum

28.1 This approach does not seem to reflect the differing priorities between member states or the competing calls on funding to achieve it. Time shouldn’t be spent calculating and seeking to agree renovation targets, the time should instead be spent on enforcing the existing legislation effectively. Focusing on compliance with the existing provisions is more likely to help meet the goals of the EPBD.
29. Are obligations or binding targets for renovation or any other mandatory measure (e.g. mandatory minimum thermal efficiency standards for rental properties) missing from the EPBD to ensure that the directive meets its goals? If, yes, what kind of obligations and targets?

29.1 Obligations and targets are in place in some member states and this level of specification should be left to member states. There are examples of best practice which could be shared, for example in the UK, the Minimum Energy Efficiency Standards (MEES) will make it unlawful for properties with F or G ratings on Energy Performance Certificates (EPC) to be let without implementing cost effective energy efficiency improvements from April 2018, subject to certain exemptions.

30. Are EPCs designed in a way that makes it easy to compare and harmonise them across EU Member States?

30.1 The benefit of harmonisation would require a full, quantified appraisal. Time and resource would be better spent ensuring that the calculation method is robust in each Member State and using EPCs to catalyse action on energy efficiency. For public sector buildings which are traded far less frequently, the focus should be on operational energy usage as addressed in the UK by the Display Energy Certificate, and should be reasonably frequent to maintain the focus of building operators on their energy performance in practice.

31. Do you think that the 'staged deep renovation' concept is clear enough in the EPBD?

31.1 ‘Major renovation’ rather than ‘staged deep renovation’ is mentioned in the EPBD and whilst it is positive that renovation is mentioned, the concept could be made clearer. Investing in deep retrofit is an opportunity that is starting to gain momentum in the UK but is not yet widespread and could be an excellent way of upgrading existing building stock whilst reducing carbon emissions. At this stage it might be more effective to develop the concept and support exemplary projects rather than adding a further requirement across the EU.
32. Have EPCs raised awareness among building owners and tenants of cost-efficient ways of improving the energy performance of the buildings and, as a consequence, help to increase renovation rates across the EU?

2500 character(s) maximum

32.1 The lack of data and analysis on this topic once again makes it difficult to assess. If used properly, EPCs should raise awareness of cost-effective energy performance improvements. But a lack of enforcement and insufficient positive promotion in the UK along with removal of initiatives such as the Green Deal have hampered progress in this area.

32.2 In addition, as described in our final answer, there is no systematic data collection in the UK, so it is very hard to assess trends in energy ratings, for example.

33. Should EPCs have been made mandatory for all buildings (a roofed construction having walls, for which energy is used to condition the indoor climate), independent of whether they are rented out or sold or not?

2500 character(s) maximum

33.1 Yes, EPCs should be made mandatory for all buildings as outlined here subject to proper appraisal of the concept. There is a serious question about whether it is of value to require EPCs for buildings of significant historical importance which may be on national registers of heritage buildings. These may currently be exempted from the requirements for EPCs and this should probably be retained with a clear and concise definition.

D. Financing energy efficiency and renewable energy in buildings and creation of markets

The EU has been supporting the improvement of the energy performance of buildings for many years with a range of financial support programmes. As almost 90% of building floor space in the EU is privately owned and more than 40% of residential buildings date from before 1960, most financing has to come from private sources. The Energy Efficiency Financial Institution Group (EEFIG), an expert group set up by the European Commission and United Nations Environment Programme Finance Initiative, published their final report in February 2015. The report identified the need to engage with multiple stakeholder groups and scale up the use of several financial instruments as part of a clear and enforced ‘carrot and stick’ legislative framework. The group also made a strong case for combining public funds with private sector investment to address risks and achieve the scale of financing needed.
34. What are the main reasons for the insufficient take-up of the financing available for energy efficiency in buildings?

2500 character(s) maximum

35. What non-financing barriers are there that hinder investments, and how can they be overcome?

2500 character(s) maximum

35.1 There is always a significant barrier in the commercial property market in the division of responsibilities between landlords and tenants which hinders effective energy efficiency measures.

36. What are the best financing tools the EU could offer to help citizens and Member States facilitate deep renovations?

2500 character(s) maximum

37. What role do current national subsidies for fossil fuels have in supporting energy efficient buildings?

2500 character(s) maximum
38. Have energy efficiency and renewable energy projects been combined to maximise their financing? How can the EU help?

2500 character(s) maximum

38.1 In the UK there has been a significant mismatch between incentives for renewables and for energy efficiency. Whilst the current government is now working hard to realign the incentive schemes, unfortunately this is being done by removing incentives for renewables and not by introducing better incentives for energy efficiency. At the same time, proposed nuclear generating facilities are being offered very significant taxpayer funded subsidies which will be long lasting and will introduce significant market distortion.

38.2 The EU may consider it appropriate to review the justification for some UK subsidies which favour certain technologies and discriminate against others.
39. How is investment in high-performing buildings stimulated and what is being undertaken to gradually phase out the worst performing buildings? Is it sufficient?

2500 character(s) maximum

39.1 Investment in buildings which perform better than minimum standards is entirely a matter for market actors, there are very few measures to stimulate them to do so.

39.2 The Minimum Energy Efficiency Standards will require F & G rated buildings to undergo cost effective improvements. “The Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015” cover both domestic and non-domestic private rented sector properties in England and Wales. Such property which has a valid EPC with an F or G rating is defined by the regulations as “sub standard”. An EPC is valid if it has been entered on the register within the past 10 years and has not been superseded by a subsequent EPC. This means that a building without an EPC cannot be sub-standard. A sub-standard property may not be let unless the landlord has made all relevant energy efficiency improvements, or there are no relevant improvements to be made.

39.3 The penalties for non-compliance are potentially substantial, in contrast to the penalties for not having an EPC, with a penalty of 20% of rateable value up to a maximum of £150,000 where non-compliance has lasted more than three months. This opens the prospect of a loophole, with landlords who do not have an EPC offering property for rent without a “valid EPC” and so the property cannot be defined as sub-standard under these regulations. Whilst this is unlawful and exposes the landlord to penalties under the EPB Regulations, they are capped at a far lower level than the Energy Efficiency Regulations allow. Given the evidence of the past eight years of EPB Regulatory avoidance, this prospect cannot be discounted. There is also the prospect of local authorities being responsible for enforcing the Regulations on themselves.

39.4 Once again, the need for proper enforcement of the EPBD requirements is essential not only for the benefits of the EPBD itself, but also for the benefit it may bring to support other policy measures.

40. What is being undertaken to solve the problem of 'split incentives' (between the owner and the tenant) that hampers deep renovations? Is it sufficient?

2500 character(s) maximum

40.1 Other respondents may be better placed to respond in detail, but as noted above under Q35. this is a significant problem and needs greater attention.
41. Taking into account the experience and achievements to date, would

a) scaling-up of existing public funds alone be sufficient to meet the goals of the EPBD?

b) aggregation of energy efficiency investments in buildings (e.g. enabled by standardisation of Energy Performance Contracts and clarification of regulatory and accounting issues) contribute to the achievement of EPBD goals

E. Energy poverty and affordability of housing

Energy poverty affects living conditions and health. It has many causes, including a combination of low income and general poverty conditions, energy-inefficient homes and a housing tenure system that fails to encourage energy efficiency. For example, in Britain, 9,300 people died prematurely due to the cold during the winters of 2012 and 2013.

The Energy Union has identified a combination of measures, mainly in the social field and within the competence of authorities at national, regional and local levels, as the only effective way of tackling energy poverty. When phasing out regulated prices, Member States need to propose a mechanism to protect vulnerable consumers, which could preferably be provided through the general welfare system. If provided through the energy market, it could be implemented through schemes such as a solidarity tariff or in the form of a discount on energy bills. The UK Government is preparing a programme under which doctors will be able to prescribe boilers, insulation and double glazing to fuel-poor patients suffering from health conditions exacerbated by cold homes.
42. What measures have been taken in the housing sector to address energy poverty?

2500 character(s) maximum

42.1 The UK has operated a regime of reduced VAT for energy efficiency measures. Unfortunately the EU has seen fit to take the UK to the European Court. It is deeply regrettable that the EU has done this, as it removes one of the most effective current policy measures in this area, and will only harm those in greatest need of energy efficiency improvements in their housing. There needs to be an urgent review of this policy position by the EU.

43. Should have further measures tackling energy poverty been included in the EPBD?

2500 character(s) maximum

43.1 Tackling fuel poverty is an important activity which has clear connections to energy efficiency but it should not be included in the EPBD. There are a number of other schemes in the UK dedicated to alleviating fuel poverty and it would be better if the EPBD remained focused on its primary objective of promoting the improvement of the energy performance of buildings through cost-effective measures. There is still plenty to be done to ensure that the Directive as it stands is fully implemented and enforced, without diluting it by including fuel poverty alleviation measures.

44. Has tackling energy poverty been a requirements when constructing new buildings and renovating existing buildings in Member States?

2500 character(s) maximum

44.1 New social housing built to the minimum standards in the UK will be much cheaper to heat than much of the existing stock.

45. Are energy costs for heating and air conditioning being made available to interested buyers/tenants?

2500 character(s) maximum
F. Ensuring new highly efficient buildings using a higher share of renewable energy

Directive 2009/28/EC on the promotion of the use of energy from renewable sources (‘the RES Directive’) requires Member States to introduce in their building regulations and codes appropriate measures to increase the share of all types of renewable energy in buildings. One possible measure is Demand Response, which is a set of time-dependent programme activities and tariffs that seek to reduce electricity usage and provide control systems that encourage load shedding or load shifting at times when the electricity grid is near capacity or electricity prices are high. Demand Response helps to manage building electricity costs and to improve the reliability of the electricity grid.

By December 2014, Member States must, in their building regulations and codes, require the use of minimum levels of energy from renewable sources in new buildings and in existing buildings that are subject to major renovation. These provisions are complementary to the Near Zero-Energy Building (NZEB) requirements in the EPBD, which set clear obligations to reduce the primary energy consumption of buildings and recommend that the resulting nearly-zero or very low amount of energy needed should be covered to a very significant extent by energy from renewable sources. The Roadmap to a Resource-Efficient Europe (COM (2011) 571) proposed that buildings should be renovated and constructed with greater resource efficiency. While the Energy Efficiency Directive (‘the EED’) and the EPBD have an impact on building and construction activities they are not designed to provide an overall life-cycle approach. For newly-built NZEBs, from a life cycle perspective, the share of embedded energy is almost as great as the share of energy consumed in the building’s use phase.

46. What are the best policies at district and city level to increase energy efficiency in buildings? Have specific targets on renewable energies in buildings been included?

2500 character(s) maximum

46.1 One of the best policies to adopt at district and city levels is that of taking a ‘fabric first’ approach to buildings to increase energy efficiency, rather than including specific targets for renewable energies. Maximising the performance of the materials and components that make up the building fabric itself can improve energy efficiency. Minimising the need for energy consumption can be achieved through maximising air tightness, optimising natural ventilation, using the thermal mass of the building fabric, optimising solar gain, and using high levels of insulation. Focusing on the building fabric first is a cheaper way of reducing energy consumption and costs. If renewable energy is then required, the most cost effective systems can be selected as the energy demand has been reduced to begin with.
47. On the basis of existing experience, are provisions on targets or specific requirements for new buildings, beyond the current NZEB targets, missing in the EPBD which could help achieve the energy efficiency 2030 target? If so, in what types of targets or requirements?

2500 character(s) maximum

47.1 Requirements for new buildings should be focused on a fabric first approach as outlined in the response to question 46. The cheapest and most efficient unit of energy is the one that isn’t used in the first place and this is what the EPBD should be encouraging. A hierarchy which has fabric efficiency at the base, then followed by low and zero carbon technologies should be promoted. Focusing on better installation of fabric should also be included, many new buildings consume significantly more energy than they should due to poor construction detailing and lack of quality assurance on site. The Zero Carbon Hub’s ‘Builders’ Book’ identifies how builders can improve site processes to improve the quality of buildings (in this case, homes) and amongst other things, make sure that energy efficiency of the fabric is maintained.

48. Which building sectors have been addressed as a priority (public/private, residential/non-residential, industry, heating & cooling)?

2500 character(s) maximum

49. Has having no EU set targets (indicative or binding) for the sustainable public procurement of NZEB buildings by public authorities affected the development of NZEBs?

2500 character(s) maximum

50. Has the EPBD framework improved the self-consumption of electricity in buildings?

2500 character(s) maximum
51. Does the EPBD address the issue of embedded energy? If so, in what way?

2500 character(s) maximum

51.1 It is assumed that in this context, ‘embedded’ energy is the same as ‘embodied’ energy. (Some consistency of terminology would be helpful in this area). This would include the energy consumed to create the building, refurbishing and maintaining the building during its life, and demolition energy consumed in the disposal of the building. This is a complex area and evaluation of the whole-life energy consumption of buildings should be covered in other European policies. The EPBD should focus on reduction of the amount of energy buildings use in operation rather than the embodied energy.

51.2 The European Standards developed by CEN TC350 cover the issues of whole life cycle performance and address both energy use and embodied energy, as well as water efficiency.

52. Is demand response being stimulated at the individual building level and if so, how?

2500 character(s) maximum

52.1 The role of the EPBD is to catalyse energy efficiency in buildings, which has been taking place through building users measuring energy consumption which then facilitates management of this consumption. Rather than focusing on demand response through reducing or shifting energy consumption during peak periods, users should be looking at absolute energy reduction in buildings.

52.2 At this stage it would be far better to focus on achieving the existing EPBD objectives and not add additional items.

53. What obligations are missing at EU level and national level, and at regional and local level to meet the goals of the EPBD?

2500 character(s) maximum

53.1 As noted above, at this stage it would be far better to focus on consolidating the achievement of the existing EPBD objectives and not seek to add additional items at this point.

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

The EPBD focuses on reducing energy demand and increasing energy efficiency and the share of renewable energy consumption in buildings (mainly on-site or nearby).
Alongside this, reducing transport needs, promoting active mobility, public transport and e-mobility in cities are important policy levers for achieving long-term European policy objectives in the field of climate change, energy and transport. Targeted use of information and communications technology will enable smart solutions that bring together different physical infrastructures and operational technologies. This would facilitate a better quality of services at lower cost, enabling better maintenance planning, for example, and approaches to investment that are focused on real needs.

When examining energy efficiency and renewable energy supply, the considerations at district and city level are different from those at building level. Heating and cooling networks can play an important role in improving the energy performance of buildings, but are also dependent on advance planning and adequate implementation (both at city and district level). Solutions for local renewables, co-generation and storage have in many cases proven to be more cost-effective at district level than at the level of individual buildings.

The EPBD is an instrument that could be used to address the differences at district and city level, and help Member States to develop a comprehensive strategy.

54. What are the best policies at district and city level for increasing energy efficiency and use of renewable energy in buildings?

2500 character(s) maximum

55. Are there any separate (new) obligations set at city and district level missing from the EPBD which would help increase energy efficiency and use of renewable energy in buildings?

2500 character(s) maximum

56. How has the information exchange on smart technologies which contribute to compliance of the EPBD, been promoted in cities?

2500 character(s) maximum
57. Are smart meters and their functionalities contributing to meeting energy efficiency targets and the proper implementation of the EPBD? Are other targeted meters for heat, gas and water such as those for electric meters needed?

58. Has the promotion of smart cities, smart buildings, sustainable transport solutions, smart mobility, and similar initiatives been linked with the EPBD and its aims? If so, how?

59. Have obligations been set at a national/regional level in relation to buildings and district heating and cooling, or in relation to buildings and storage? Why/Why not?

60. What incentives are missing, that would help promote efficient district heating and cooling or meeting the goals of the EPBD?
61. Have cost-optimal policies been devised that improve the performance of buildings so that they use less heating and cooling, while ensuring a decarbonised energy supply?

2500 character(s) maximum

62. Does the EPBD and its definition of NZEB reflect the requirements that could derive from the energy systems of nearly zero-emissions districts and cities?

2500 character(s) maximum

H. Awareness, information and building data

Public information and awareness play a key role in improving energy efficiency in privately-owned buildings. There is a need for clear and accessible information for citizens, professionals and authorities to enable them to evaluate the energy performance of buildings. If this information is provided in similar formats it would make it easier to compare energy performance and, in particular, help identify best practice solutions, as almost 90% of building floor space in the EU is privately owned (and over 40% of residential buildings were built before 1960). The following questions focus on your experience of the information provided and your suggestions for improving the information flow.

63. What do you think of the quantity and quality of information on the importance of energy efficiency provided to consumers by:

1. the European Commission?

2500 character(s) maximum

63.1 CIBSE is an international professional body which provides information and guidance to a range of business and consumer users. In our experience these users generally do not seek information from the European Commission, beyond accessing information on EU Regulations and Directives and policy. We have worked on several EU funded projects where we have been a dissemination partner, and have found this an effective means for information to be communicated.
2. national authorities?

2500 character(s) maximum

63.2 Some aspects of national information provision relating to minimum energy efficiency standards, in particular building regulations, are readily accessible by end users and are the subject of a good level of stakeholder engagement and consultation.

63.3 The system for developing energy performance and display energy certificates is much less accessible, does not engage closely with stakeholders and users, and does not provide the degree of guidance that the market requires.

3. regional authorities?

2500 character(s) maximum

4. local authorities?

2500 character(s) maximum

63.4 In our experience, local authorities provide no information about the EPBD and show very little active interest in or engagement with the Directive and its requirements, even where they have enforcement responsibilities.

5. local companies?

2500 character(s) maximum
64. Has the directive promoted information on opportunities for consumer-friendly smart meters and interoperable energy efficient appliances?

2500 character(s) maximum

64.1 The EPBD is not connected with smart meters or energy efficient appliances at all in the UK. The “smart meter rollout” is presented as a UK government initiative, and widely perceived to be for the benefit of the large energy utilities and not useful to consumers.

65. What relevant building data has been collected at EU and Member State level, and city and district level? Who has access to this data?

2500 character(s) maximum

65.1 In England and Wales a private company was awarded a contract to operate a national register of EPCs and DECs. This has been referred to as “gold plating” of the Directive, in UK parlance, as it is not a requirement of either the original or the recast EPBD. However, it was initially justified on the grounds that the value of collecting the data and using it to inform future policy making would outweigh the costs. This argument almost certainly still holds, if the data collected was available to the market. But the data is not readily available, and in many cases is now sold to citizens and companies and is explicitly excluded from the scope of Freedom of Information provisions.

65.2 If the benefits of collecting data nationally or at a regional level are to be realised, then it is essential that this data is made openly available, subject to the need to protect the privacy of individual citizens in relation to residential buildings.
66. How can data on the energy performance of a building and its related renovation work, across its life cycle, best be managed and made available?

2500 character(s) maximum

66.1 This is exactly the kind of approach that a building information model could enable, with data collected and managed through the complete cycle of design, construction, operation, maintenance, refurbishment, further operation and maintenance, and on to the end of life. It is the ultimate objective of the UK BIM Strategy, and if achieved should significantly reduce the costs of operating and maintaining buildings through their operational life.

66.2 The full value of such a data model will accrue to building owners and operators, and they should drive the creation and maintenance of such models.

66.3 Wider data on the building stock, drawing from individual EPCs and DECs, should be managed for public benefit and made freely accessible as open data. Maintaining a national register of EPCs, DECs and heating and air conditioning inspections should be a requirement of the Directive, and this should be a public database, with facilities to export stock level data for research, whilst addressing the need for the privacy of individual citizens to be maintained. This should be the subject of an Article of the Directive, with a specification for the minimum requirements of the database to be clearly set down in a mandatory Annex to the Directive.

67. Has building data harmonisation been achieved?

2500 character(s) maximum

67.1 No. See the answer to Q65 and Appendix A for further details, and Q66.3 for a specific proposal.

68. Is there a need for a central EU database of EPCs and qualified experts?

2500 character(s) maximum

68.1 Probably not. An effective set of national policies and open data at a national level would provide far more stimulus to national markets. There may in the future be some argument for an EU wide approach, but at this stage an effective national system for obtaining and recording building performance data must be the priority. Please see 66.3 for a national level approach.
The construction sector plays an important role in the European economy, generating almost 10% of GDP and providing 20 million jobs, mainly in micro- and small businesses. Designers, architects, builders, inspectors and certifiers, financiers, and national and regional supervisory authorities need to have the necessary skills and qualifications to ensure buildings are built effectively and using renewable energies. The sector is still largely craft-based, and there is huge scope for efficiency gains and more user-friendly retrofitting services as part of more industrial approaches, and through financial/planning/construction/maintenance package solutions based on strategic partnerships between SMEs and financing providers.

Through the EU's BUILD UP Skills initiative, between 2011 and 2013, energy efficiency skills needs and gaps for blue collar workers in the construction sector were identified in 30 countries (EU, Norway and the Former Yugoslav Republic of Macedonia). Each of these countries has produced a detailed status quo analysis with the participation of all main public and private stakeholders. From 2013 the BUILD UP Skills initiative has focused on the implementation of the national status quo analysis by setting up national training and qualification programmes for blue collar workers. These programmes have been put in place in 21 EU countries. With the launch of Horizon 2020, a new topic (EE4) on construction skills is now targeting training needs for both blue and white collar workers. Five projects focusing on skills in the construction sector will run until 2018.

The competitiveness of construction companies is an important issue, not only for growth and employment, but also to ensure the sustainability of the sector. The sector could contribute significantly to job creation by increasing its activity in promising areas such as the renovation of buildings. Construction and use of buildings in the EU account for about half of all extracted materials and energy consumption. 5—10% of total energy consumption across the EU is related to the production of construction products. The goal of the European Commission is to help the sector become more competitive, resource-efficient and sustainable. The EPBD is an instrument that could help work towards this goal.
69. How does the construction sector cost-effectively demonstrate and check compliance with the EPBD while also upgrading the skill and knowledge of tradespeople and professionals?

2500 character(s) maximum

69.1 There are a number of initiatives in the UK built environment sector to demonstrate and check compliance with the EPBD. For example, CIBSE Certification has been formed to provide an independent certification body for the approval of Low Carbon Energy Assessors who can provide Energy Performance Certificates (EPCs), Display Energy Certificates (DECs) and Air Conditioning Inspections. A rigorous training and quality assessment procedure is in place to continually upgrade the skill and knowledge of the assessors. The audience is wider than just the construction sector as those maintaining and operating buildings play a key role in compliance with the EPBD. There is a need to educate all parties involved in the life cycle of buildings, including conception, briefing, design, procurement, construction, operation, maintenance and ultimate disposal.

69.2 The EPBD currently requires assessors to be independent and competent. There is an International and European standard which addresses this competence, and it would be appropriate to consider requiring that the process for identifying suitably qualified energy assessors should be based on EN ISO 17024 and that the certification schemes that assess competence against this standard should all be required to be accredited by national accreditation organisations under the provisions of the EU Regulation 765/2008.

70. Would it have been useful to extend Eurocodes to include energy performance in buildings and other relevant aspects? If so, why?

2500 character(s) maximum

70.1 The production of the Eurocodes has been a lengthy process so extending them to include energy performance in buildings may be too time consuming to be of benefit. There are a number of other existing mechanisms to help deliver energy performance.
71. Are energy, materials, waste and water use addressed in the EPBD?

2500 character(s) maximum

71.1 Energy use is the core of the EPBD and although the wider environmental impacts of buildings such as materials, waste and water use are important, encouraging efficient energy performance is the primary concern. Therefore diluting the EPBD with other items is not recommended until we are sure that energy performance requirements are being complied with.

71.2 The European Standards developed by CEN TC350 cover the issues of whole life cycle performance and address both energy use and embodied energy, as well as water efficiency.

J. Buildings systems requirements

The EPBD requires Member States to set minimum energy performance requirements for technical building systems (means technical equipment for the heating, cooling, ventilation, hot water, and lightning or for a combination thereof, of a building or building unit) in existing buildings. National provisions should not target specific products only (e.g. boilers) but should instead address building systems while also taking into consideration the building as a whole. Whilst the Ecodesign Directive governs the placing on the market of individual products, the EPBD sets requirements for their energy-efficient performance as part of the technical systems serving a building. The EPBD also requires regular inspections of heating and air conditioning systems. While the Directive does not specify what would be regarded as a 'regular inspection', it is the view of the European Commission services that inspections carried out at least every 7–8 years would be considered acceptable, whereas anything less frequent than every 10 years is likely to be problematic.

72. Based on existing experience, do you think the setting of minimum requirements in the EPBD for technical building systems is missing? Would have technical building systems minimum requirements contributed to the improvement of buildings' energy performances?

2500 character(s) maximum

72.1 Focusing on design, fabric standards and energy efficiency of individual products, such as boilers, pumps and heat emitters, does not deliver energy efficient buildings. Unless the systems which the products make up operate efficiently, which means that they must be commissioned properly and then operated effectively, then all the evidence shows that so-called low energy buildings do not perform as they are expected to do.

72.2 The Eco-design Framework sets minimum standards and labelling requirements for Technical Building Systems. There is no need to address this topic in the EPBD, it is adequately addressed in the Eco-design Framework. These standards are a key input to the EPBD.
73. Based on existing experience, do you think in the EPBD minimum requirements for technical buildings systems focussing on other factors than heating, air condition, large ventilation systems and domestic hot water e.g. certain building categories, building size, etc., is missing?

2500 character(s) maximum

73.1 The Eco-design Framework sets minimum standards and labelling requirements for Technical Building Systems, and covers all the key energy related product groups. There is no further need to address this topic in the EPBD, it is adequately addressed in the Eco-design Framework.

74. Based on existing experience, do you think in the EPBD requirements is missing for regular inspections of the technical building systems to ensure:

a. that systems’ performance is maintained during their lifetime?

2500 character(s) maximum

74.1 As noted in our answer to Q17 we have clear figures to demonstrate that the air conditioning inspection requirements are being widely disregarded in England and Wales, with an optimistic view that 20% of required inspections are undertaken, and a pessimistic argument that fewer than 10% are actually carried out.

74.2 Enforcement is hindered by the very limited powers afforded to Trading Standards Officers to question those who claim not have systems which require inspection. Art 27 is clearly not fully implemented with respect to air conditioning inspections.

74.3 The fundamental need here is to ensure that Art 27 on Penalties is properly implemented in the UK, so that there are effective, proportionate and dissuasive penalties in place and that they are actually enforced. There is nothing new proposed here other than for the existing provisions to be fully implemented.

b. that owners/occupiers are properly informed about the potential improvements to the efficiency of their systems?

2500 character(s) maximum

74.4 If the provisions above were fully implemented, along with the linkage between energy certificates and stamp duty land tax proposed earlier then owners and occupiers would receive much more information. Unfortunately you cannot regulate to make them read the information.
c. that replacement/upgrading of the technical building systems is triggered?

2500 character(s) maximum

74.5 In many cases the replacement will fall within the scope of the Eco-design framework provisions as set out under 74 a) above.

75. Have inspections required by the EPBD, been incorporated into or more tightly linked to other inspection/certification/energy auditing activities and schemes under other EU or national directives?

2500 character(s) maximum

75.1 Please see our response to Q17. We have clear figures to demonstrate that the air conditioning inspection requirements are being widely disregarded in England and Wales, with an optimistic view that 20% of required inspections are undertaken, and a pessimistic argument that fewer than 10% are actually carried out. Again, as noted previously, this requires the existing provisions of Art 27 to be implemented fully.

76. Are the requirements for building elements set by Member States optimised to avoid market barriers limiting the installation of building products complying with EU requirements/standards e.g., under eco-design requirements?

2500 character(s) maximum

76. We believe that this should be taken into account in the cost optimal analysis.

K. Operational management and maintenance

After the completion of development and/or renovation works, buildings still use energy in a way that impacts building occupants and operators (e.g. via energy costs). Ongoing operation is a key part of a building's life cycle and is related to the goal of building NZEBs by 2020.
77. Based on existing experience, does the EPBD promote the key ways to ensure that buildings meet stringent efficiency targets in their operation?

2500 character(s) maximum

77.1 The translation of the EPBD in the UK includes tools such as display energy certificates and energy performance certificates which assist with effective energy management but by themselves are not meeting stringent efficiency targets in operation. To meet operational energy targets there are a number of energy efficiency principles which need to be followed including; integrated building design, a carefully followed energy performance brief, demand reduction through fabric and service design, optimisation of plant, effective use of controls, comprehensive building handover, a clear operational strategy, engagement of users to understand their building, and monitoring and feedback.

77.2 Domestic and non-domestic buildings will have their own challenges in operation and the enhancement of building regulations is a good start, as is making energy ‘visible’ through a certificate. There needs to be better enforcement of such tools, backed up with further drivers to promote energy efficiency. There are cases of the EPBD being used proactively, as an opportunity rather than merely as a compliance tool. For example, local authorities have used the production of Display Energy Certificates as a chance to engage schools in energy efficiency.

77.3 At the risk of repetition, Art 27 on penalties and on enforcement is the key here. If the existing provisions of the EPBD were properly enforced with reasonable but dissuasive penalties, then the EPBD would be much more effective.
78. Based on existing experience, does the EPBD promote the best way to close the gap between designed and actual energy performance of buildings?

2500 character(s) maximum

78.1 For new buildings, there has been a growing awareness for some time that many ‘low energy buildings’ use more energy than the designers thought they would. The performance of low energy designs is often little better, and sometimes worse, than that of an older building they have replaced, or supplemented. The difference between expected and realised energy performance has come to be known as the ‘performance gap’.

78.2 There are two main reasons for this performance gap. The first is that the method of calculating energy use for the purposes of compliance does not take into account all the energy uses in a building such as energy used by lifts and escalators, for catering facilities, or for server rooms. The second is related to site practice. To deliver a building that uses as much energy as expected requires that the design is built as intended, the engineering systems are commissioned effectively and the operators and occupiers of the building understand how to operate and maintain the building so that it delivers the expected performance. Making an accurate estimate of the operating hours and likely occupancy of the building is key.

78.3 The EPBD should be seen as an opportunity to close this energy performance gap but too often it is used simply as a compliance tool. Energy management needs dedicated resource and the support of top management within organisations who own, lease and use buildings.

79. Based on existing experience, are the provisions provided by the EPBD to stimulate a proactive, innovative maintenance market effective?

2500 character(s) maximum

79.1 Further research is required in this area as currently there is no available evidence as to what extent the maintenance market has been stimulated by the EPBD. There is potential for the EPBD to stimulate the maintenance market but there needs to be further incentive for recommendations to improve energy efficiency resulting from DEC, EPC and Air Conditioning Inspections to be acted upon.

L. Further Comments

Please include any further comments that have not been covered in the consultation

5000 character(s) maximum
DETAILED EVIDENCE OF LACK OF DATA ON COMPLIANCE WITH THE EPBD IN ENGLAND AND WALES

In May 2009 Grant Shapps asked “how many fixed penalties have been imposed on landlords in each month since the [EPBR] took effect in England?” Iain Wright, then Parliamentary Under-Secretary in DCLG replied “Penalty notices are issued by local weights and measures authorities... There is no requirement for the Department to be informed when a penalty charge notice is issued.”

Between 23rd April and 12th May 2009 Mr Shapps asked a further 21 questions about air conditioning inspections in government buildings. When he arrived in DCLG as Housing Minister in 2010 he was well aware that the EPBR regime was broken and unfit for purpose. The current administration has done nothing to address these problems since May 2010.

In November 2009 Andrew Murrison, then a shadow defence minister, asked a question about the number of commercial buildings which should have an EPC. John Healy, then Minister, told him “There is no centrally held information upon which to base such an estimate.”

On 18th June 2013 Don Foster, then Building Regulations Minister, said in a Commons reply that “The Department does not hold information on the number of new commercial leasing transactions, and so is unable to estimate the proportion of new commercial leases granted together with a current [EPC]”. 63 months after EPCs became a legal requirement, DCLG had no idea how many people are obeying the law. The Coalition had then run the Department for the previous 37 months.

On 1st July Mr Foster responded to a question from Clive Betts, who asked the Secretary of State for Communities and Local Government: “(1) if he will estimate the level of non-compliance with the requirement to (a) commission an energy performance certificate (EPC) for domestic properties listed for sale, taking into account the additional EPCs which would be expected to have been commissioned for the 30 per cent of listings which do not proceed to sale, (b) commission an EPC on domestic rental properties and (c) display a current Display Energy Certificate in public buildings of over 500 square metres; and what steps he plans to take to improve such compliance; (2) what information his Department holds on how many fixed penalty notices have been issued by trading standards officers in respect of breaches of the Energy Performance and Buildings Directive regulations in the last 12 months.

Mr Foster, then Parliamentary Under-Secretary of State for Communities and Local Government, replied that “Enforcement of the regulations is the responsibility of local authority trading standards. We do not collate the information requested. More broadly, we are seeking to reduce the burden of data reporting requirements on local government rather than increase it. We have issued and updated clear guidance on the requirements of the regulations.”
To emphasise, when asked what information the Department holds on enforcement action under the EPB Regulations, the minister stated quite clearly that they have no information, and that they therefore do not know what is going on in relation to compliance with the EPB Regulations.

Contact

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