31 October 2015

Energy Saving Trust response to the Public consultation on the Energy Performance of Buildings Directive

EST is the leading, impartial sustainable energy organisation. We work on behalf of governments and businesses across the UK providing services in the area of data, assurance, consumer engagement, advice, grant and loan administration.

For DECC EST delivers the telephone-based Energy Saving Advice Service in England and Wales. We also undertake other research and awareness-raising work for DECC on a project-by-project basis. Prior to the coalition government, for over 15 years, EST ran national energy advice services for DECC and predecessor departments as a grant-funded organisation.

In Scotland EST is the principal delivery partner of the Scottish Government for home energy efficiency. We run comprehensive local and national advice and support programmes.

The Energy Saving Trust Foundation supports the development of a strong and vibrant community energy sector in the UK through research and support projects.

Public engagement on energy is at the heart of our work. In total each year EST handles just over half a million energy efficiency advice calls on behalf of UK and Scottish governments. We have 5m visitors annually to our website and reach 80% of the UK population through the media.

31 October 2015

A. Overall Assessment

1. How successful has the EPBD been in achieving on its goals?

We are focusing our response on the outcomes of EPBD for home energy efficiency in the UK and therefore are not answering this question addressing the overall impact of the directive.

2. Has it helped improve energy efficiency in buildings?

For energy efficiency in English homes, Energy Performance Certificates have become an important instrument to promote renovation, though there are quality and compliance issues. As far as we are aware, other aspects of EPBD have had limited impact on home energy efficiency in England. In particular the EPBD Recast has not led to more ambitious refurbishment and new-build mandatory energy standards in homes. The UK government recently moved away from a plan for NZEB homes in England by 2016. The Energy Saving Trust believes NZEB homes and higher retrofit (especially consequential improvement) standards are affordable and achievable in the UK.

In more detail:

EPCs are already having a strong indirect influence on the energy performance of homes (see q27 below):

- By providing a metric (EPC ratings) that is being be used in regulation around energy efficiency
- By generating a dataset that can be used in planning energy efficiency retrofit programmes
- The energy assessment system developed in the UK when EPCs were introduced has become a standard tool in the delivery and assessment of energy efficiency programmes

Evidence suggests we are starting to see the impact of EPCs in the market and citizens' awareness (see q10 below)

EPBD Recast has not had an impact on energy standards in home new build or renovation: the Impact Assessment of the Energy Requirements (Part L) of English Building Regulations, last updated in 2013 said: *"these [cost optimality] requirements do not impose costs or benefits from 2013."* (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/226965/Part_L_2013_IA.pdf)

We are particularly concerned that the UK Government has recently scrapped a Europe-leading requirement for Zero Carbon (effectively NZEB) homes in England in 2016, and that EPBD will not provide the framework for this policy's reintroduction before 2020. We also are not aware of plans for NZEB homes in Scotland by 2020. Evidence we cite below suggests that an NZEB standard is affordable and realistic for UK homes.

While it is difficult to prove a counterfactual we do not believe the English home energy efficiency policy mix was influenced by the requirement for heating system inspections which the UK delivers through the alternative route.

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

See Question 2.

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?

See question 2. We point to EPCs as the most successful element of EPBD in contributing to energy efficiency in homes in England. With regard to EPCs we believe they are starting to drive investment, but this needs further public sector support:

- A correlation in the UK and in other countries has been established between EPC rating and property value (see: DECC, 2013, An investigation of the effect of EPC ratings on house prices: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207196/20130613_-_Hedonic_Pricing_study_-_DECC_template__2_.pdf). As a result of this we anticipate that the impact of EPCs on investment in refurbishment will develop. But this is something governments needs to support: in the UK EST is currently delivering a project with a leading bank (Nationwide) to enable them to factor EPC ratings into their mortgage lending considerations. This is being supported by public sector innovation funding.

- The data available from EPCs has the potential to be used much more widely to plan real estate investments at scale at Europe. With Climate KIC funding, EST is currently working with Knight Frank, the leading European real estate company, and the Italian Energy Agency, ENEA, to develop new tools that can use EPC data to understand the investment possibilities of buildings across Europe (domestic and non-domestic, public and private)

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

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?

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

As we explain above, we believe the introduction of EPCs is a very important informational measure perhaps particularly in promoting action for existing buildings. However in England we have not, at least since 2002, seen EPBD have significant effect on standards for existing or new buildings through building regulations.

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

No. The EPBD has not had significant impact on building regulations for new homes in the UK. We believe the next iteration of building standards in the UK should require NZEB-standard homes.

9. Will the 'nearly zero energy buildings' targets be met? Why/Why not?

It is not clear that a NZEB standard for new homes will be required in England or Scotland, despite the requirement within EPBD - as it currently stands - by 2020.

The planned Zero Carbon Homes (effectively NZEB) standard for England by 2016 was recently axed. In Scotland the 2013 Sullivan Report on "A Low Carbon Building Standards Strategy for Scotland" concluded that "Subject to the previous recommendation, subsequent review of energy standards should be programmed to align with the EU Directive requirement for 'nearly zero energy' new buildings from 2019[1]." However, we are not aware of further progress in developing this requirement.

We believe NZEB is a reasonable and affordable ambition for UK homes from 2016. In England analysis by the consultancy Cyril Sweett for the Zero Carbon Hub (Cost Analysis: Meeting the Zero Carbon Standard, February 2014[2]) showed the price of compliance with the standard to be £7,116 for a detached home - 2.5% of average the cost of such a home in 2014 (average detached price £276,000 according to the Land (cadastral) Registry).

We do not have capacity to investigate the complexities of the cost-optimal methodology. But we highlight that experience in England shows that a clear plan for an ambitious NZEB standard leads to rapid reductions in the cost of meeting that standard in advance of it coming into effect. The 2016 Zero Carbon Homes standard for England was announced in 2008 and scrapped in 2015. Before its scrapping, the Cyril Sweett analysis cited above showed the costs of compliance with the Zero Carbon Homes standard had roughly halved between 2011 and 2014.

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?

We believe EPCs have been a successful mechanism and are contributing to improvements in energy performance. The EPBD led to the introduction of Energy Performance Certificates across the UK (with separate regimes in England and Wales; Northern Ireland; Scotland).

EPCs have had a growing influence as a central part of government programmes to promote energy efficiency in housing. In terms of market impact, in recent years increasing evidence has been produced to demonstrate that a higher EPC rating does correlate with higher house values.

We believe that the data produced from EPCs on the energy efficiency of the housing stock is a vital tool for private and public stakeholders to promote the renovation of the housing stock – and this could be used much more effectively across Europe. In Scotland Energy Saving Trust administers the EPC database on behalf of the Scottish Government and shows European best

[1] http://www.zerocarbonhub.org/current-projects/performance-gap

[2] http://www.zerocarbonhub.org/sites/default/files/resources/reports/Design_vs_As_Built_Performance_Gap_End_of_Term_Report_0.pdf

practice in how EPC data can be processed, analysed and presented to inform programmes to renovate the housing stock.

EPCs have become a vital tool in policy making to promote energy efficiency as follows:

In leading to the development of an assessment process for the energy efficiency of existing properties (RdSAP)

- In providing a metric which can be used in legislating for energy efficiency. For example, minimum EPC "E" standard will be introduced in 2018 for private rented properties in England and Wales. The England Fuel Poverty strategy sets a standard of EPC "C" for fuel poor homes to reach by 2030.
- In developing standards for social housing. For example, the Scottish Energy Efficiency Standard for Social Housing is based on minimum Energy Performance Certificate (EPC) Energy Efficiency (EE) ratings
- In creating an assessment system that can be integrated with official energy efficiency programmes: the ECO and Green Deal funding programmes (in England, Wales and Scotland), together with a range of Scottish Government fuel poverty and energy efficiency programmes both all rely on versions of the EPC assessment process.

Energy Saving Trust research shows ever-growing consumer awareness of Energy Performance Certificates with awareness of EPCs (as a requirement at the point of buying and selling) having more than doubled between 2011 and 2014 (16% to 35%) and 23% of UK householders claiming to know their EPC rating .

In social housing, EPCs have become widely used as part of performance data on the condition of the stock.

11. What has worked well in the EPBD? What needs to be improved?

See question 2 above.

We believe more needs to be done to streamline implementation of EPBD where there is overlap with other Directives (namely EED and RES). A challenge here is that the decision makers and officials responsible for implementing the directives are often in different ministries: in the UK EPBD responsibility sits within DCLG while RES directive responsibility is within DECC. We understand this is the situation in nearly half of all member states.

We are also concerned that EPBD does not adequately address the challenge of buildings in multiple occupation and ownership. Building ownership and tenure arrangements can be complex. The directive does not address how multiple different parties with a title to the whole or part of a building - all of whom can facilitate or prevent energy upgrades - can be persuaded to work together to carry out renovations. There needs to be a stronger focus on information, regulatory and financing measures to overcome this consents barrier.

Similarly we have faced issues in the UK in applying rules around EPCs to homes in multiple occupations (shared homes). Some of the UK most vulnerable people live in shared housing and these are often large, old and cold properties. Yet the residents do not get EPCs when they move into the property because under EPBD rules EPCs only have to be produced and supplied when a dwelling is fully self-contained. Further UK government has failed to provide clear guidance on

whether homes in multiple occupations need domestic or non-domestic energy assessments. We believe the - often vulnerable residents of shared housing - should benefit from information in EPCs like other residents and more broadly EPBD should address homes in multiple occupations.

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)?

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?

We believe there is a strong case for greater co-ordination of national requirements for energy performance certificates to enable comparability of data about building energy performance between European countries.

We are basing this on the project EEPPA which we are delivering with the real estate industry: research from this project shows that investors are increasingly concerned with the energy performance of non-domestic and domestic buildings. But these firms operate across the European market; to make investment decisions they need energy performance certificate data that can be readily translated from one country to another.

14. Are the objectives of the EPBD delivered efficiently?

15. Has the EPBD created any unnecessary administrative burdens? If so, please provide examples

The EPBD has undoubtedly created administrative burdens but we do not believe these are unnecessary. However, cuts in government budgets as a result of austerity makes dealing with these burdens more difficult and therefore leads to non-compliance with the regulations. Support is needed to national governments to make better use of cost-effective tools – particularly data analysis – to achieve effective and cost-effective compliance.

To give one example, a challenge in the UK has been enforcement of EPC requirements, particularly at point of rental. Enforcement of these requirements is entrusted to trading standards officers in local councils, in an era when councils have faced substantial budget cuts. In responding to a recent UK Government consultation on additional EPC-related enforcement, the organisation representing Trading Standards Officers objected to the requirements and pointed out:

"*TS [trading standards] had experienced savage reductions in staffing levels, such that services focus their limited resources on areas identified by intelligence as being high priority, together with locally identified priorities. TSI published a national workforce survey earlier this year (2014). This predicts an average reduction in England and Wales of 45% of trading standards officers between 2010 and 2015... ... TS services continue to deliver an invaluable service to consumers, businesses, and society as a whole*." (Private Rented Sector Energy EfficiencyRegulations

31 October 2015

(Domestic) DECC consultation – 2014 Response of The Trading Standards Institute http://www.tradingstandards.uk/files/seealsodocs/75964)

Against this background of limited budgets and administrative capacity, EPBD needs to support the reduction of administrative burdens through knowledge development and exchange between governments. We would also point to the better use of data. With rapid technology developments in data analysis – and falls in prices of the IT tools to do this – governments can increasingly interrogate data collected for EPBD compliance along with other datasets and use it to improve quality and compliance.

For example we are well-aware of the best practice example of the Portuguese EPC administration (the agency ADENE) which monitors non-compliance and poor quality of accredited experts through highly effective analysis of their National EPC register. A focus should be on promoting this sort of cost-effective data-driven approach.

16. Has the EPBD created any unnecessary regulatory burdens? If so, please provide examples

31 October 2015

B. Facilitating enforcement and compliance

17. Is compliance with the provisions of the EPBD adequate?

In England we do not believe that compliance with the provisions of the EPBD is adequate. We highlight two areas:

Compliance with EPC Requirements

Evidence suggests EPCs are often not supplied as part of the home rental process in England and Wales. Government's own data from 2013 placed the percentage of EPCs issued as a proportion of private rentals at 26%. For sales, EPC compliance is largely assured by the involvement of legal conveyancers in the process. Compliance with EPCs and EPC display requirements are regulated at a local level in England by Trading Standards departments in local councils. However as a result of austerity these departments have increasingly not had the capacity to enforce the requirements (see q 15 above).

Quality of issued EPCs

Anecdotally, EPCs are perceived as often being of low quality. The price charged for domestic EPCs in England – as low as £36 (€50) based on an online search at the time of writing – certainly would seem to militate against a through and accurate in-home assessment carried out by a skilled expert.

Building Regulations

Compliance issues with the energy components of English building regulations are significant. They link to a wider issue of new build homes and retrofits not meeting designed energy standards (see answer to question 20a below).

18. Is the definition of NZEBs in the EPBD sufficiently clear?

19. Is the NZEB target in the EPBD sufficiently clear to be met?

20. If not, what, in your view, are the missing factors that would ensure compliance with:

a. Minimum energy performance requirements in new buildings?

It is widely recognised that in-use energy performance for new buildings and following energy-related renovation rarely meets the design standard.

The Zero Carbon Hub in the UK has carried out a detailed review of the "Design vs As Built issue" for new build homes[3]. It has identified a complex mix of issues that contribute to this problem (including compliance, skills, user behaviour, poor understanding of performance of components etc).

[3] http://www.zerocarbonhub.org/current-projects/performance-gap

Specifically focusing on compliance, the Zero Carbon Hub recommends a specific improvement to the system in England[4]. They suggest there should be requirements for housebuilders to sign a declaration of accuracy about the components used in the construction of the home. The declaration should as far as possible be in non-technical language (so that it can be signed by senior managers in the housebuilder concerned) and should then be required before any of the following documents are produced:

- The formal calculation of building regulations compliance, using the national calculation methodology
- The production of an EPC
- The works completion certificate

We suggest these sort of compliance requirements could be promoted through a revised EPBD.

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

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.)?

Compliance is best ensured by placing the onus on professionally qualified installers who are motivated and proud to be delivering work to the required standard –rather through ever-increasing programmes of checks and inspections.

EPBD should promote the development of effective competent persons schemes for installers of insulation, glazing and heating measures. Such schemes should involve rigorous quality assured through monitoring, customer surveys, random inspections etc. They should also involve regular training and awareness for installers in energy efficiency issues. These competent person schemes should be delivered by the industry and rigorously accredited by government

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

e. Certification of the energy performance of buildings, including tailor-made recommendations for the improvement of the energy performance of buildings?

f. Regular inspections of heating and air-conditioning systems?

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?

4 http://www.zerocarbonhub.org/sites/default/files/resources/reports/Design_vs_As_Built_Performance_Gap_End_of_Term_Report_0.pdf

31 October 2015

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?

23. What do you think of the various ways of calculating building energy performance at national/regional level? Please include examples.

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?

31 October 2015

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

No. Building stock data varies across and within Member States, in both reliability and availability.

We need a much stronger focus from policy makers on using data to understand national/regional and local progress on uptake of energy efficiency. This data enables monitoring of progress by policy makers, but data can also drive the market – by enabling better planning of energy efficiency programmes.

“Big data” technology to manipulate, analyse and present very large datasets has progressed immensely since the last update of the EPBD. This should make it much easier for MS to use multiple datasets to understand the characteristics of their building stock. In particular it is vital that EPC data is used as a central part of the mix to understand the building stock.

EST would like to point to best practice in this area that we have developed working with Scottish Government. We have created the "Home Analytics" address-level model of home energy efficiency features. This creates a modelled picture of each Scottish home’s likelihood to have key energy efficiency features based on a wide range of datasets including EPC data. This is made available too Scottish Government but also particularly to Local Authorities who deliver energy efficiency programmes. Home Analytics uses aggregated data from EPCs about the homes in the same area – alongside other data – to report on the likelihood of a given property having a particular feature. By using aggregated EPC data it protects individual privacy. Datasets that also feed into Home Analytics alongside EPC data include:

- HEED data – records of measures installed in historic energy suppliers energy efficiency programmes
- Data collected by EST (with agreement) in providing advice to Scottish homeowners
- Scotia Gas records – which indicate which homes are off the gas network (and therefore have to use more expensive heating fuels)
- Scottish House Condition Survey – the national housing survey
- Data on the installation of boilers and windows, for the purposes of compliance with building standards and safety regulations.

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?

We are concerned that the policy mix, at least in England, is not sufficient to stimulate the large scale energy renovation of our existing building stock. At the time of writing the UK government has a very limited policy mix to drive action on energy efficiency in homes in England either

through financial support, awareness campaigns or regulation – though we expect some new policies to be announced shortly.

Nonetheless, we believe that there are elements of the recent UK policy experience that are distinctive in Europe and deserve consideration.

- The UK has successfully used supplier obligations (promoted under Article 7 of the EED) to achieve a large scale programme of insulation on the UK's homes. This has been particularly successful in driving the uptake of cost-effective mass insulation measures (cavity wall insulation and loft insulation) and heating system improvements in Low income homes. For more information on Supplier Obligations across Europe, including UK, see the Enspol programme here: http://enspol.eu/
- The UK's Green Deal was the world's most fully developed national pay-as-you-save (PAYS) programme for energy efficiency measures. While this particular programme was not a success for a complex variety of reasons, the Energy Saving Trust believes PAYS schemes are potentially a powerful policy instrument. We particularly see PAYS financing as being important for lower income owner occupier householders alongside other types of low cost financing. One learning from the Green Deal experience is that government cannot leave PAYS entirely to the market but also needs to subsidise interest rates and the cost of some measures.
- The UK Government has pioneered the Renewable Heat Incentive – using a Feed in Tariff type financing model to make it attractive for householders to invest in low carbon heating.

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?

See question 2.

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?

Yes but we suggest this needs to reflect the principles of subsidiarity and to align effectively with different MSs broader housing policies.

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?

Yes. Based on UK experience we support:

- The use of Building regulations to require upgrades to insulation and heating system when systems are replaced and at key renovation points. The biggest energy saving in homes in the UK has been achieved through a requirement (introduced in 2005) that domestic central boilers should only be replaced by high-efficiency condensing models
- A more ambitious minimum whole-house standard – based on the EPC – for rented properties, to take effect from a given date. England's Decent Homes Standard for

social housing (1997-2010) required social housing providers to upgrade homes – with central government financial support. It included a minimum set of standards for heating and insulation and transformed the energy efficiency of social housing in England.

- Identification of a minimum, safe home energy efficiency standard. UK law gives local authorities powers to order landlords to improve properties that are so expensive or difficult to heat that they are likely to be cold or damp. EPBD should similarly consider the links between the least efficient homes and poor health - health and safety regulations should require immediate improvements to the least efficient homes that are dangerously cold and damp.

More radically we suggest governments should consider a longer term plan for minimum whole-house standards for owner-occupied properties, which would take effect at the point of home sale - the Scottish Government is currently considering introducing this plan. We would encourage the use of EPC ratings to set such a standard. This should be flagged well in advance with information advice and financing to support home owners in meeting the standard.

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

No.

Current levels of harmonisation are low and there is a lack of comparability. Differences in the calculation methodology, relating to the use of primary and finale energy factors, is one issue, other areas that need addressing are the scope of assessment and qualifications of assessors, and the cost of the EPC to the consumer.

We believe that EPCs can be a very important tool to improve awareness of energy usage and as stated above consumer awareness of EPCs generally has increased. EU-wide energy labels for household goods has proven effective to drive producers to outperform each other on energy efficiency and EPCs have the potential to do something similar if greater harmonisation and comparability can be achieved.

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

No.

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?

As stated elsewhere in this response we believe that EPCs have helped improve awareness of energy usage among building owners and tenants however there remain issues regarding quality assurance and also proper displaying. Building trust in EPCs and ensuring they are displayed as they are supposed to be will be an important step and will also make EPCs a more valued and used tool.

Bringing EPCs to the forefront of the sale and rental process, along with ensuring compliance with existing displaying legislation, will need to be addressed to get the most out of EPCs.

31 October 2015

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?

We suggest this is something to consider but do not have a firm view.

Based on our experience as the Scottish EPC administrator, we would also point out that by using big data analysis techniques, once a sufficient number of buildings in the stock have an EPC it is possible to develop a very accurate address level model of the energy efficiency of every building in the stock. For many purposes (e.g. policy monitoring) it is therefore not essential for all buildings to be required to have the certificate – though we recognise the process of commissioning and receiving the certificate is an important one for engaging building owners.

31 October 2015

D. Smart Finance for Smart Buildings: Financing energy efficiency and renewable energy in buildings and creation of markets

34. What are the main reasons for the insufficient take-up of the financing available for energy efficiency in buildings?

A large proportion of the potential available finance for energy efficiency in buildings still remains untapped despite the emergence of new financial tools and instruments onto the market. This is because of the major gap that exists between the finance sector and project developers, which needs to be bridged before a pipeline of projects can be established. The gap is a result of the lack of understanding on behalf of the developers, as to what constitutes a robust business case and the failure of the financial institutes to support the developers through a complex and bureaucratic application process.

This is not helped by the fact that there is little incentive to invest in energy efficiency improvements on behalf of building owners and is compounded by the existence of numerous barriers as reported in the study by the Building Performance Institute Europe. The result of this situation is that the market for energy efficiency in buildings remains immature and the financing of projects is still considered by investors as a risky proposition.

- The following barriers have been identified and previously documented
- The initial high costs of developing a project without any certainty of accessing finance
- The ratio of the risk exposure to the return on investment is a significant indicator for the investment's validity for a financier
- The prevailing view among investors is to consider energy efficiency projects as very risky and therefore a high discount rate is applied.
- Long pay back times deter investment
- The absence of standardised procurement, contracts and verification processes.
- The relatively small size of the energy efficiency projects compared to other investment options.
- The lack of understanding and transparent communication between the financial institutions and the developers

Sources: Report from the Commission to the European Parliament and the Council –Financial support for energy efficiency in buildings – COM(2013) 225

Energy Efficiency Financial Institutions Group-Energy Efficiency the First Fuel for the EU Economy- final report February 2015

31 October 2015

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

See above question for the barriers:

The Energy Efficiency Financial Institutions Group, convened by the European Commission, has clearly laid out the reasons for the insufficient take up of financing and has made recommendations to both policy makers and market participants aimed at to stimulating the uptake of energy efficiency financing in the building sector. The Energy Saving Trust believes that these recommendations should be taken on board. In particular we support the recommendations that existing building regulations should be fully implemented and concerted regulatory pressure should be provided in the future as well as focusing the deployment of European Structural Funds to support the project development assistance to bridge the gap between developers and financiers.

Communication between developers and the financial institutions must be improved through the transparent an open sharing of information. Financial institutions should inwardly invest in the development of their own technical and legal teams to support developers and assist in bringing forward bankable projects.

Future work of the EEFIG group should be supported to improve communications and foster more collaborative working between the financial institutions and the project developers as well as developing a shared set of standards for each element in the energy efficiency process.

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

The lack of standardized procurement procedures, contracts and products as well as lack of technical knowledge on behalf of developers and financial institutions is holding back the flow of projects. Financing tools that support more standardisation as well as project development could help more projects reach financial close thereby providing more examples of successful projects which will in turn increase the confidence in the market.

European financing programmes such as Horizon 2020 and ESIF focus on the development of innovative projects instead of supporting the development of projects built on the experience gained from existing leader projects. Finance could support the knowledge transfer from large cities and towns to local authorities, which have severely restricted resources to develop bankable projects in isolation.

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

EST is concerned by the substantial subsidies that are granted to fossil fuels each year. This was highlighted in a recent IMF report where energy subsidies are projected at US$5.3 trillion in 2015. For the UK this stands at over $40bn in 2015 (nominal), including petroleum, coal and natural gas. As pointed out in the BPIE response there is also a lot of support in the shape of heating bill support-payments such as Winter Fuel Payments in the UK, costing around £2bn a year.

In addition we are concerned about EU legislation on VAT whereby the UK, in maintaining a VAT rate of 5% for energy saving products, is in breach. This seems contradictory to the motivation behind the EED and EPBD in promoting energy efficiency and the energy performance of EU building stock.

38. Have energy efficiency and renewable energy projects been combined to maximise their financing? How can the EU help? Get input from Graham Ayling here

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?

From 2018 in England and Wales EPC F and G banded private rated properties will no longer be eligible to be rented out in the private rented sector. However, there is a very substantial "get out clause": landlords will still be able to rent out F&G properties if they are not able to access grants to pay for the required upgrades.

In Scotland regulation is also currently being drafted - regulation of energy efficiency in the private sector (REEPS) - to improve energy efficiency and reduce carbon emissions in existing private sector houses. REEPS would restrict the sale and rental of energy inefficient homes (F and G rated), which, if implemented would go further than the legislation that applies in England and Wales.

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?

41. Was

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

b) the creation of aggregated facilities (through standardisation of Energy Performance Contracts and clarification of regulatory, fiscal and accounting issues) sufficient to meet the goals of the EPBD?

The prevailing immature market increases transaction costs and slows down the economic advantages of scale. In the UK projects city level project in London (RE:FIT and Renew) have established standardised energy performance contracts as well as offering clarification on regulatory, fiscal and accounting issues have helped to stimulate the update of energy efficiency in buildings. However local authorities are still often unable to bear the risk of the projects without the support of significant financial guarantees.

31 October 2015

E. Energy poverty and affordability of housing

42. What measures have been taken in the housing sector to address energy poverty?

The concept of "fuel poverty" (as 10% of income needing to be spent on heating) was developed in the UK and measures specifically focused on the fuel poor are the central part of the home energy efficiency policy mix in all parts of UK. Recently England, but not other UK nations, have moved away from the 10% fuel poverty definition in favour of the "Low Income, High Cost definition" (see https://www.gov.uk/government/publications/final-report-of-the-fuel-poverty-review)

The Fuel Poverty strategy for England sets a target of EPC "C" for fuel poor homes to reach by 2030. This Strategy sets out a strategic approach to tackling fuel poverty for England.

The Energy Company Obligation is a GB wide scheme and has a specific fuel poverty element: the Home Heating Cost Reduction Obligation (HHCRO). Under HHCRO, obligated energy suppliers must promote measures which improve the ability of low income and vulnerable households (the 'affordable warmth group') to heat their homes. This includes actions that result in heating savings, such as the replacement or repair of a boiler

Scotland in turn has a comprehensive approach to tackling fuel poverty. The Housing (Scotland) Act 2001 set a statutory duty on the Scottish Government to eradicate fuel poverty in Scotland by November 2016 though this is not going to be met. The Scottish Government's Home Energy Efficiency Programmes (HEEPS) is the Scottish Government's initiative to tackle fuel poverty and improve the energy efficiency of Scotland's homes, and provides measures to support those likely to have difficulty paying their fuel bills or keeping their home sufficiently warm.

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

We feel that fuel poverty may fit better into the EED rather than the EPBD. Work may also need to be undertaken to clarify definitions across MS as for instance in the UK different definitions are used by different governments (see q 42 above)

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

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

EPCs are provided to purchasers and renters as part of the rental/purchase agreement and in the EPC there is information on estimated energy use, carbon dioxide (CO2) emissions and fuel costs of this home. This includes both estimated and potential heating costs.

We have some concerns that EPCs aren't being sufficiently advertised prior to the rental/purchase agreement- i.e. during the purchasing process and we believe that EPCs should be displayed in window displays and advertisements. Making estimated heating costs and running costs available to interested buyers/renters should be a key part of EPC implementation

so that interested parties use the information in EPCs as a key part of their decision, rather than the information being provided towards the end of the process, once decisions have all but been made.

We also believe MS should be encouraged to develop online tools that use EPC data to enable live updating of cost and energy saving information for home owners. We should move away from seeing EPCs as primarily a paper based mechanism.

31 October 2015

F. Ensuring new highly efficient buildings using a higher share of renewable energy

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?

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?

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

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?

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

51. Does the EPBD address the issue of embedded energy? If so, in what way?

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

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

31 October 2015

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

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

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?

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

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 have specific provisions 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?

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?

31 October 2015

H. Awareness, information and building data

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?**
2. **national authorities?**
3. **regional authorities?**
4. **local authorities?**
5. **local companies?**

64. Has the directive promoted information on opportunities for consumer-friendly smart meters and interoperable energy efficient appliances?

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?

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?

67. Has building data harmonisation been achieved?

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

We suggest greater harmonisation is likely to be required before this is possible or desirable. We also suggest that progress in this area can be delivered by the market, but MSs need to support that by opening up EPC registers.

We would like to bring to your attention the Climate KIC funded project European Energy Performance of Properties Analysis (http://www.climate-kic.org/projects/european-energy-performance-of-properties-analysis-eeppa/). The motivation for this project came from the leading European real estate company Knight Frank whose clients want to be able to make better use of EPCs across different MS.

31 October 2015

Phase 1 of the project focused on a strong proposition of a central database for EPCs. This was not widely supported by stakeholders. We would recommend you reviewing the final report from Phase 1 of this project, which we can supply (email david.weatherall@est.org.uk)

Phase 2 of the project therefore focuses on how a pan-European EPC service could support the real estate industry, governments and other stakeholders to share techniques in analysing, presenting and understanding EPC data – including by comparing EPCs produced by different MSs. This phase is being delivered by the Energy Saving Trust, the Italian energy agency ENEA and Knight Frank.

As we explain in our responses above, we believe there is a huge potential for stakeholders in MSs to make better use of aggregated EPC data (combined with other data sets such as cadastral registers):

- Governments can monitor policy progress
- Local governments can plan energy efficiency programmes
- The supply chain can understand the market for their products better and target customers better
- EPC administrators can monitor quality of EPCs and the performance of assessors

And we suggest the focus at the moment should be on supporting MSs to achieve these objectives.

We also suggest that the Commission should support market driven approaches by encouraging an opening up EPC databases to private actors. There is huge variation in public access to EPC data across Europe – from Lombardy which has a totally open EPC dataset which can be downloaded by anyone - to Flanders where even copies of single EPCs are only accessible to government.

31 October 2015

I. Sustainability, competitiveness and skills in the construction sector

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?

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

71. Are energy, materials, waste and water use addressed in the EPBD?

31 October 2015

J. Buildings systems requirements

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?

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?

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?**

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

c. **that replacement/upgrading of the technical building systems is triggered?**

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?

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?

31 October 2015

K. Operational management and maintenance

77. Based on existing experience, does the EPBD promote the key ways to ensure that buildings meet stringent efficiency targets in their operation?

78. Based on existing experience, does the EPBD promote the best way to close the gap between designed and actual energy performance of buildings?

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