Summary

The revision of two EU Directives that govern energy efficiency and the energy performance of buildings provides a vital opportunity to drive radical improvements in the energy efficiency performance of Europe’s existing building stock. Measures that target new builds should focus on implementing the current framework effectively. The principle of ‘continuous improvement’ should be used to drive the retrofitting and refurbishment of existing building stock through transforming energy performance certificates from a static into a dynamic tool. The EU should consider setting a binding goal to bring the entire European buildings sector to a nearly-zero energy standard by 2050. Energy performance certificates should be upgraded to a dynamic electronic format that records, and more frequently updates, both the design and operational performance of property and which becomes the foundation of an electronic building passport.

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Introduction

The Institutional Investors Group on Climate Change (IIGCC) represents 120 investors – mainly mainstream investors – with a combined €13 trillion of assets under management. With significant investments in the property sector, we recognise the multiple benefits that arise from property with better energy efficiency – including improved rents, yield and value flows, as well as the energy security, health and well-being dividends a more efficient building stock offers EU citizens.

We are pleased to share our views on how to reshape the EU’s energy efficiency framework so it allows for a step-change in EU efforts while supporting continuous improvement of efficiency levels.

Following the historic Paris climate conference (COP 21) and the political agreement reached by EU Heads of State and Government on the EU’s 2030 framework for climate and energy, 2016 will be the year of implementation of the political guidance provided by EU leaders.

Energy efficiency plays an even more crucial role in implementing the EU 2030 framework for climate and energy than it plays in implementing the 2030 framework. A 27% improvement of energy efficiency by 2030 – compared to 2007 ‘business as usual’ – is ambitious but feasible. We are confident that with the right policy framework this target can be delivered and could potentially be exceeded – in line with the aspirational goal anchored in the Paris agreement that efforts should be made to strive for a 1.5 degree pathway.

Nevertheless, while the EU is narrowly on track to deliver its 2020 energy efficiency target, a step change in effort is required to realise the 2030 energy efficiency target. We therefore welcome the revisions of the energy efficiency directive and the energy performance of buildings directive, which the European Commission is currently preparing. This paper outlines recommendations for the future design of these two directives.

Significant progress has been made in terms of the legislative framework for new builds. Measures that target new builds should focus on implementing the current framework effectively. However, the ambitious 2030 target given to the EU by its political leaders requires a much greater rate of renovation and refurbishment for Europe’s existing building stock. This paper will therefore focus on how to improve energy efficiency levels in Europe’s existing building stock.

Our central proposition in this paper is that ‘continuous improvement’, a concept taken from operations management, can be applied successfully to energy efficiency efforts in the building sector. To achieve this it is necessary to transform energy performance certificates from a static into a dynamic tool that allows continuous monitoring and corresponding action.

With the right mix of regulation and incentives, we believe it will be possible to decarbonise the European property sector and thus enhance its contribution to the overall EU objective of greenhouse gas emissions neutrality by mid-century. To give a long-term orientation to the European property sector, we would support the introduction of a binding goal to bring the entire European buildings sector to a nearly-zero energy standard by 2050. This goal could form part of the long-term EU 2050 low-emissions development strategy that UNFCCC parties have been encouraged to develop under the Paris agreement.
Energy efficiency framework at the EU level

Energy performance of buildings directive

Two elements form the centrepiece of this directive: the requirement to renovate a certain percentage of public buildings every year, and energy performance certificates. The scope of both these instruments should be expanded.

Currently, only public buildings fall under the mandatory renovation requirement. IIGCC supports the expansion of this requirement to commercial buildings as well. A large number of commercial buildings are not being renovated to the standards of the building regulation even though this would be cost-effective. A number of obstacles explain this phenomenon, but they could be overcome both through incentives and more stringent regulation.

Building standards should also apply to a larger number of commercial building refurbishments. IIGCC would support a comply-or-explain approach where either energy efficiency improvements are made at refurbishment, or an alternative plan must be proposed.

At present, energy efficiency levels are often not fully reflected in building valuations. One reason for this is the way that energy performance certificates (EPCs) only give a static picture of design performance and do not reflect operational performance. Design and operational performance can differ significantly according to the way the building is used.

IIGCC members strongly recommend the introduction of EPCs that cover both the design performance and the operational performance of buildings and is more frequently updated. Building energy certificates in the US are updated monthly. In order for buildings to support the EU 2020 and 2030 climate and energy efficiency targets, and for real estate investors to deepen their focus on green buildings, the two elements of building energy performance must be addressed in parallel.

If the EPCs were an electronic tool, they could be updated on an annual or monthly basis with operational energy consumption data. They could also be connected to smart meters, tapping into the enterprise software systems of property management companies that already measure energy consumption and are used for paying utility bills.

IIGCC would like to see the EPCs evolve from a static to a dynamic tool that allows for continuous improvement of energy efficiency levels. In order to achieve this aim, IIGCC members support a mandate for EPC providers to deliver both a paper/PDF version of the EPC and an electronic EPC, which includes all underlying electronic files and data.

At present EPC providers collect a wide range of data about each certified building but do not share this information with their clients, supplying only a PDF certificate with the rating. An obligation on EPC providers to supply all electronic information underlying the performance certificates to asset owners would convert EPCs from a static to a dynamic tool. This could in turn be used by asset owners to model and project the impact of building improvements on the EPC rating. Differences among countries stifle comparison and add a learning curve. As many differences from country to country should be abolished.

IIGCC members foresee that Electronic EPC certificates could then be used for an operational performance ‘rate and display’ approach. They would become the foundation of an electronic building passport with more EU commonalities.

National public databases holding EPC data would further drive energy efficiency improvements by improving market transparency. Making EPC databases more accessible and user-friendly, beyond existing levels, would increase the market usage of these certificates.

Current EPC methodology also does not fit every type of asset, for example when owners are responsible for the core and shell development but occupiers are responsible for the ‘fit out’. This makes it difficult to implement useful EPCs for the retail and industrial sectors. EPC
regulation needs to clarify at what stage of the building life cycle they should be produced. An alternative would be to provide a dedicated EPC methodology for shell and core assets (i.e. before fit out by occupiers).

Finally, much can be done to enhance the reliability – and market credibility – of these certificates in all parts of the EU: The rules defining the accreditation and monitoring process that is followed in order to accredit EPC providers should be more strongly and effectively enforced. **EPC providers should be stripped of their accreditation if found to be non-compliant.** IIGCC also recommends stronger enforcement of current regulation and rules for the accreditation of EPC providers in all Member States.

The next step will be to use EPCs as regulatory tools. Schemes of this type have been introduced in the UK (the “minimum energy efficiency standards”), the Netherlands and France. These schemes require buildings to achieve a minimum level of energy performance – measured by the EPCs – in order to be let or leased. This creates a risk of regulatory obsolescence so it is important that cost-effective improvements are implemented within a set, reasonable timeframe (2018 in the UK).

We recommend that a similar approach is introduced into the EPBD. The focus here should be on the bottom 20% of buildings – and on making it mandatory that assets with energy performance certificates rated at the lowest levels (depending on the member state) should be phased out over time in order to drive progress on the worst performers. The worst performers are often those that present the greatest opportunities for cost effective improvements.

**Energy efficiency directive**

The centrepiece of the energy efficiency directive is provided by the energy obligations placed upon energy suppliers to achieve energy efficiency improvements compared with total energy sales. The current system of energy obligations expires in 2020 and a new framework must be agreed.

IIGCC believes the current system of energy obligations has worked well in the past. It also believes the current system sits well with the way in which utility companies are transforming parts of their business to an energy service company (ESCO) model.

**IIGCC supports the continuation of energy obligations beyond 2020. In order to deliver the more ambitious 2030 target, energy obligations should be increased beyond the current 1.5% annual level of improvements in energy efficiency compared to total energy sales.**

Furthermore, should the monitoring of operational energy performance not be introduced through the reform of EPCs (in line with proposals set out in the preceding section of this paper), IIGCC believes this change should be introduced as part of the revision of the energy efficiency directive.

The focus of public sector intervention should be to leverage private finance. A variety of financial instruments should be developed to help implement the energy efficiency directive. These include zero/low interest loans, public energy efficiency funds, green refurbishment bonds and on-bill repayment, as analysed in the report by the Energy Efficiency Financial Institutions Group (Energy Efficiency Financial Institutions Group, 2015: Energy Efficiency – the first fuel for the EU Economy).

Training for building occupiers would help increase their awareness of potential energy efficiency improvements and make them more alert to the cost effectiveness (and potential savings available) through energy efficiency measures which would allow them to capture the returns from energy savings. This would help address a current bias in the regulation that in large part targets owners rather than occupiers.
**EIB, EFSI and structural funds**

For the current Multi-annual Financial Framework (2014-2020), the EU has agreed earmarked 20% of EU expenditure for climate-related purposes (‘climate mainstreaming’). Cohesion policy already contributes to energy efficiency investments, particularly in countries that have limited capacity to invest.

We support the continuation of climate mainstreaming post-2020 and suggests the appropriate level (20%+) should be decided once further analysis has been conducted.

We produced a paper in March 2015 on the Juncker Investment Plan (‘Achieving the Investment Plan for Europe’s 315bn ambition: 12 fixes’) that recommends aligning this plan with the EU 2030 climate-energy framework. We are pleased that the Juncker investment plan will indeed exclude projects that would have an adverse impact on the delivery of the 2030 framework, and that the plan will put a strong focus on energy efficiency. We look forward to continuing our work with the European Commission and the EIB on this issue.

**Energy efficiency framework at national level**

Member states have now gathered a wide range of experiences with national incentives, regulations and standards to improve energy efficiency levels. We are supportive of the role played by national development banks and the EIB in providing concessional finance and aggregating energy efficiency opportunities. We also supports moves to strengthen building codes, standardise certification on a country-by-country basis, provide fiscal incentives and develop new financial mechanisms, particularly zero/low interest loans, energy efficiency funds, green property & refurbishment bonds, and on-bill repayment mechanisms. We believe on-bill repayment of energy efficiency improvements (where upfront capital expenditure required to deliver energy efficiency improvements is taken on by banks or utility companies and recovered through energy bills) would be particularly useful in the residential sector. This approach overcomes the split incentives problem between owner and tenant – i.e. where the tenant captures the energy cost savings resulting from efficiency improvements and the landlord captures the increase in asset value.

In the residential sector, it would be useful to integrate energy efficiency levels into mortgage affordability calculations, so the ability of a mortgage taker to service his debt can reflect the impact of lower utility bills. Particularly for low income families, energy price spikes affect mortgage repayments and default levels – so lending slightly more to retrofit a house could become sensible risk mitigation for a mortgage portfolio. One recent UK study\(^1\) found that lenders could include more accurate energy cost estimates in their lending assessments and that doing so could enable slightly higher loans to facilitate efficient retrofits. The European Mortgage Federation and European Covered Bond Council is exploring the feasibility and benefits of developing a label for energy efficient mortgages. We suggest that financial regulators could be asked to examine how mortgage affordability assessments could better account for the risk of higher future energy prices, actual and potential energy efficiency levels and the higher property value that can come from lower-carbon buildings.

IIGCC members participated in the Energy Efficiency Financial Institutions Group to provide actionable recommendations more likely to attract more capital into energy efficiency investments. This process brought together financiers, investors and policy-makers and produced some very useful suggestions. We applaud the Commission for continuing to implement the EEFIG recommendations and initiating a second phase. We recommend that a similar dialogue on energy efficiency finance could be set up at member state level.

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\(^1\) [https://www.bartlett.ucl.ac.uk/energy/news/responsible-mortgage-lending-adds-value-energy-efficient-homes](https://www.bartlett.ucl.ac.uk/energy/news/responsible-mortgage-lending-adds-value-energy-efficient-homes)
Effective implementation

As set out in the introduction, we believe the regulatory framework targeting new buildings is sufficient. However, more progress should be made to implement this framework effectively. Furthermore, many of the recommendations in the body of this paper, targeting the existing building stock, also aim to enhance the implementation of current frameworks whilst improving them to fully utilise the potential for cost-effective energy efficiency improvements.

Effective implementation depends on policy-makers understanding the role of each actor involved in the life cycle of a building. Policy interventions should be targeted at the appropriate part of a building’s lifecycle and the right constituency.

The building life-cycle, from a high-level perspective, can be broken down into development, usage, periodic rounds of work, and demolition. There are three central constituencies: those who control sustainability and energy efficiency performance, those who control capital allocation at specific times, and those who pay energy and utility costs. All three constituencies have a crucial role to play in improving Europe’s energy efficiency levels.

National and European energy efficiency frameworks designed and implemented by policymakers mindful of these factors will be more effective.

Conclusion

This paper has set out our recommendations for improving the energy efficiency framework at European and member-state level. Continuous improvement, a concept from operations management, has been highly effective in driving industrial productivity. A similar concept could be applied to improve the energy efficiency of buildings: rather than looking at energy efficiency levels in a static manner (at the design stage and potentially during renovation works), energy efficiency needs to be embedded in a dynamic and continuous manner during every phase of a building’s lifecycle. This requires continuous monitoring and corresponding action, either through incremental or ‘breakthrough’ improvements to building performance.

The transformation of energy performance certificates into dynamic building passports is a key change that could go a long way towards encouraging landlords and tenants to strive for continuous energy efficiency improvements.

With the measures contained in this paper, we are confident the EU 2030 energy efficiency target – as well as the EU’s long-term 2050 climate goal – can be delivered in a cost-effective manner.

We look forward to working with the European institutions in order to make these measures a reality in the upcoming revisions of the energy efficiency and energy performance of buildings directives.