Energy Performance of Buildings Directive (EPBD)

Decarbonised Building Stock by 2050

by Ciarán Hayes

Introduction

A target to fully decarbonise the EU building stock by 2050 in accordance with the Energy Performance of Buildings Directive (EPBD)[1] has been set. Agreed by the EU on the 28th May '24, it is to be transposed into Irish law by 28th May '26. Greenhouse Gas (GHG) emissions are to be reduced by at least 60% by 2030 compared to 2015, and a decarbonised, zero-emission building (ZEB) stock to be achieved by 2050. It's an ambitious target with major implications and challenges for all sectors of the economy, public and private.

As at the 31st December '23, the Local Government sector had over 150,000[2] social houses in stock, 36,500 of which are to be retrofitted and funded to a minimum BER B2 standard by 2030. Where houses are retrofitted to a higher standard, the difference in the cost is to be borne by the Council. The EPBD Directive however provides for a restructuring of the existing BER scale and buildings under the current classification may not qualify for the same grade under the revised classification. This raises fundamental questions about the current operation of the Energy Efficiency Retrofitting Programme (EERP).

Perhaps the minimum EERP B2 standard be raised to that of a Zero Emission Building (ZEB) now. Failing that, the houses currently benefitting from the EERP will require further retrofitting and investment to meet the new 2050 EPBD ZEB targets. In such a scenario, it would seem appropriate to take the opportunity now to review the EERP and eliminate the need for a second and more expensive retrofit of the same houses. Decarbonising the entire social housing building stock will also require a significant increase in the 36,500 target currently the subject of the EERP programme.

While social housing comprises the majority of Local Authority building stock, there are a myriad of other buildings in their ownership and/or control including City & County Halls, Libraries, Museums, Enterprise Centres, Swimming Pools and other Sports buildings, Community Halls, and Depots, to

[1] https://eur-lex.europa.eu/search.html?scope=EURLEX&text=Energy+Performance+of+Building+Directive&lang=en&type=quick&qid=1723991488926

[2] NOAC Annual Performance Indicator Report 2023

name but a few. Add to that the range and age of the buildings, some of which are on the Record of Protected Structures, and it can be seen that EPBD amounts to a significant challenge.

This Briefing examines the scale of the challenge, the inevitable need for additional resources, and the slow progress of the EERP which is already on course to miss statutory 2030 target. It explores the lessons that can be gleaned from our experiences to date and the implementation challenges in the context of the national political priority that is afforded to Housing, and in particular the EERP. (Click here to access the previous EERP briefing.) Other policy implications are identified and although they may extend beyond the remit of Local Government, they will still have an impact on the sector.

In addition to Local Government senior management teams, the Briefing will be of interest to senior policy makers across government, the Department of Housing, Local Government and Heritage (DHLGH), and the Department of the Environment, Climate & Communications (DECC), all of whom have an interest in the achievement of the CAP 24 and now the new EU 2050 targets.

Energy Performance of Building Directive (EPBD)

Of the total energy used in the EU, 40% is used in buildings[3]. Over one third of the Green House Gas (GHG) emissions in the EU come from buildings. Within the existing EU building stock, 85% were built before 2000 and amongst those, 75% have a poor energy performance[4]. Acting on the energy efficiency of buildings is therefore key to saving energy, reducing bills for citizens and small enterprises and achieving a zero-emission and fully decarbonised building stock by 2050[5].

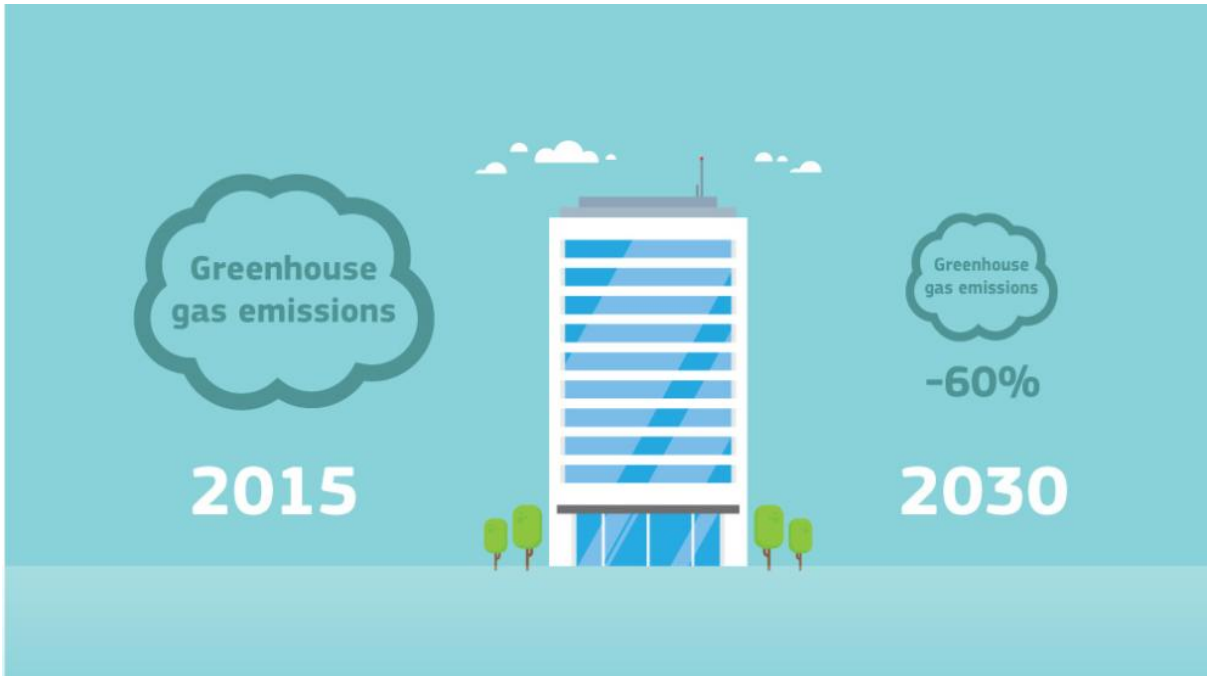
An objective of boosting the energy performance of buildings has been assisted by the establishment in the EU of a legislative framework that includes the Energy Performance of Buildings Directive (EU/2024/1275) and a revised Energy Efficiency Directive (EU/2023/1791). A further objective is to increase the rate of renovation in the EU, particularly for the worst-performing buildings in each country. Policies promoted by the Directives include:

- Achieving of a highly energy efficient and decarbonised building stock by 2050
- Creation of a stable environment for investment decisions, and
- Enabling consumers and businesses to be more informed in their energy saving choices.

[3] Commission Recommendation (EU) 2019/786, Paragraph 2
[4] Energy Performance of Buildings Directive (europa.eu)
[5] Eurostat Energy Balances and EEA Greenhouse Gas Inventory, 2023

Better air quality is supported, as is the digitalisation of energy systems for buildings, and the roll-out of infrastructure for sustainable mobility. Recognising the differences across EU countries in factors such as the existing building stock, geography and climate, the Directive allows governments to decide on the renovation measures best-suited to their specific national context, and countries can exempt various categories of buildings from the rules including historical buildings and holiday homes.

Crucially for tenants, the revised directive facilitates more targeted financing to investments in the building sector, complementing other EU instruments and fighting energy poverty by supporting vulnerable consumers. EU countries must also ensure provision of safeguards for tenants through rent support or caps on rent increases.



The directive contributes to the objective of reducing GHG emissions by at least 60% in the building sector by 2030 compared to 2015, and achieving a decarbonised, zero-emission building stock by 2050. It works hand in hand with other European Green Deal policies such as the emissions trading system for fuels used in buildings, the revised Energy Efficiency Directive, the revised Renewable Energy Directive and the Alternative Fuels Infrastructure Regulation.

Other measures in the revised Energy Performance of Buildings Directive (EPBD) include:

- A gradual introduction of minimum energy performance standards for non-residential buildings based on national thresholds to trigger the renovation of buildings with the lowest energy performance
- A binding target to decrease the average energy performance of the national residential building stock by 16% by 2030 in comparison to 2020, and by 20-22% by 2035, based on national trajectories

- An enhanced standard for new buildings to be zero-emission and the calculation of whole life-cycle carbon for new buildings
- Enhanced long-term renovation strategies, to be renamed national Building Renovation Plans
- Increased reliability, quality and digitalisation of Energy Performance Certificates with energy performance classes to be based on common criteria
- The introduction of building renovation passports to guide building owners in their staged and deep energy renovations
- Increased deployment of solar technologies on all new buildings and certain existing non-residential buildings where technically and economically feasible, and ensuring that new buildings are solar-ready (fit to host solar installations)
- A gradual phase-out of boilers powered by fossil fuels, starting with the end of subsidies to stand-alone boilers powered by fossil fuels from 1 January 2025
- One-stop-shops for the energy renovations of buildings for home-owners, small and medium-sized enterprises and other stakeholders
- Further roll-out of recharging points for electric vehicles in buildings, removing barriers to their installation, enabling smart charging and introducing measures for bike parking in buildings
- Data collection and sharing, to improve knowledge of the building stock and awareness of energy consumption in buildings

Article 2a of the EPBD sets out a framework for '… long-term renovation strategies ('LTRSs') to support the renovation of national building stocks into highly energy-efficient and decarbonised buildings by 2050, facilitating the cost-effective transformation of existing buildings into nearly zero-energy buildings ('NZEBs')'.[6]

EPBD is not a new concept. Rather, it has been fourteen years in the making. Table 1 below charts its path.

No.	Date:	Detail:
1.	28th May '24	Revised Energy Performance of Buildings Directive (EPBD) entered into force
2.	8th May '24	The revised Directive was published in the Official Journal of the EU
3.	April '24	Formal adoption of the EPBD

[6] Commission Recommendation (EU) 2019/786, Annex

4.	December '23	Provisional agreement between the co-legislators on the EPBD revision
5.	March '23	European Parliament's position on the EPBD revision
6.	October '22	Council General Approach on the EPBD revision
7.	May '22	REPowerEU Plan, including the EU 'Save Energy' Communication
8.	December '21	Commission proposal of a revised directive
9.	July '21	Delivering the European Green Deal ("Fit for 55" package)
10.	October '21	EU Renovation Wave strategy
11.	June '19	Commission Recommendation on building modernisation (EU/2019/1019)
12.	May '19	Commission Recommendation on building renovation (EU/2019/786)
13.	May '18	Amending Directive 2018/844
14.	May '2010	Energy Performance of Buildings Directive (2010/31/EU)

Table 1. Revised Energy Performance of Buildings Directive Legislative Path.

The amendment of the initial Directive in 2018 signalled the strong political commitment of the EU to modernising and improving the buildings sector. Part of the strategy was the Renovation Wave, which was presented by the Commission as part of the European Green Deal, and contained an action plan with regulatory, financing and enabling measures to boost building renovations. It aims to at least double the annual energy renovation rate of buildings by 2030 and foster deep renovation of buildings as one of its key components.

Conscious of the need to protect vulnerable citizens and small businesses in the transition, the European Green Deal (or 'Fit for 55') package proposed a Social Climate Fund and further emphasised the importance of building renovations, clean heating and cooling, and the integration of more renewable energy. Further, the REPowerEU plan highlighted the need to improve the energy performance of the EU's building stock to reduce Europe's dependence of fossil fuel imports, an issue that was brought into sharp focus by the Russia/Ukraine hostilities.

Paragraph 6 of the Commission Recommendation EU 2019/786 outlines the primary aim of EPBD which is to accelerate the renovation of existing buildings by 2050 and support the modernisation of all buildings with smart technologies and a clearer link to clean mobility. Market failure is addressed in Paragraph 8 and in particular, the issue of affordability for all citizens and the need for a sufficient workforce with the right retrofitting skills.

Of particular importance in the Irish social housing context is the necessity for an EU-wide and sustained increase in deep renovations as recommended in Paragraph 10.

With regard to financial matters, Paragraph 11 is equally important. It states that to '… ensure that the most effective application of financial measures related to energy efficiency are applied in the best way in building renovation, the EPBD now requires that those financial measures are linked to the quality of renovation works in light of the targeted or achieved energy savings of the renovation. National legislation transposing the requirements of Article 10 of the EPBD is required to ensure that financial measures for energy efficiency are linked to energy performance, the level of certification or qualification, to an energy audit, or to the improvement achieved as a result of the renovation, which should be assessed by comparing energy performance certificates issued before and after the renovation, by using standard values or by another transparent and proportionate method.'

Paragraph 16 emphasises the need for a full transposition and effective implementation of the EPBD for the achievement of the 2030 energy efficiency targets and to put the EU on track for the full decarbonisation of national building stocks by 2050.

However, Paragraph 17 leaves a lot of discretion to Member States regarding the design of building codes, implementation of technical requirements, building certificates, and technical building systems in a way that fits best the national climatic conditions and building stocks. Notwithstanding that discretion, Article 20 of the EPBD requires information to be provided to owners or tenants of buildings or building units through accessible and transparent advisory tools.

Climate Policy Implementation.

While this briefing concerns the national building stock and housing in particular, it is important to consider the policy issues at play at the macro level. The Bruntland Commission has been around since 1987 and despite the subsequent Rio Earth Summit, Kyoto Protocol, Paris Agreement and the many Conference of Parties (CoP), the greatest ongoing frustration has been the lack of engagement by the developed countries who produce the greatest emissions. Climate policy has over time struggled for priority and was often relegated in the face of other more immediate national or international concerns. The financial crisis, global pandemic, and indeed housing itself are recent examples.

What we are witnessing now however is a different and more progressive approach. It is the integration of climate objectives into many existing sectoral policies. The national primary and secondary education sectors are introducing climate into their curriculum. Within third level, the Further Education and Training (FET) and University sectors are building the energy skillsets and capacity within the economy through their curriculum, upskilling, research and development, innovative pilot initiatives and collaborations.

Similarly, sustainable mobility, just transition, renewable energy, bio-diversity, and circular economy objectives are increasingly finding expression across multiple policy areas. Indeed, sustainable mobility and just transition objectives are notable within EPBD.

Notwithstanding our failure to meet targets, the national Climate Action Plan objectives are working to move the agenda along. On the 3rd September '24, SEAI published Ireland's Energy Balance for 2023, which reports a reduction in emissions of just under 8%. Progress, but still lagging behind.

With the wider public sector being tasked with taking a leading role on climate issues, collaborations are becoming increasingly frequent among public sector agencies. The Office of Public Works (OPW) and Sustainable Energy Authority of Ireland (SEAI) are working proactively and collaboratively with public and private sector organisations on adaptation and mitigation measures respectively. Oversight is undertaken on multiple levels between the Environmental Protection Agency (EPA), Climate Change Advisory Council (CCAC), Department of the Taoiseach (DoT), Department of the Environment, Climate and Communications (DECC), and the Climate Action Delivery Group (CADG).

As is often the case however, policies that have been successfully formulated have struggled on implementation. Historically, climate policies have been to the fore in this regard. It remains to be seen whether the integration of climate issues into other policy areas will bring greater success.

Comment and Analysis.

What then are the issues for a successful implementation of EPBD, and what lessons can be drawn for the Local Government sector from the retrofit of social housing under the current EERP programme?

The EERP is led by the Department of Housing, Local Government and Heritage (DHLGH) and tasked with the delivery of the National Climate Action Plan target of retrofitting 36,500 social houses by 2030 to a BER B2 or better standard. Working in collaboration with Local Government, it is presently

retrofitting circa 2,500 units per annum, but this volume is not sufficient, and the sector is lagging well behind the target. Meeting the target will require the retrofit of circa 5,000 units annually up to and including 2030. Doubling the rate of retrofitting will allow achievement of the 2030 target, but it is questionable it can be achieved at the current rate of progress and with current resources.

Other issues to further impact target achievement include the retrofit to date of the technically easier and cheaper units, a limitation on funding to BER B2 standard, and a cumbersome and overly bureaucratic annual approval process. Nor does it appear appropriate for Exchequer funding to continue to be allocated to the retrofit of social housing units to a minimum B2 standard when the revised EPBD standard will be much higher. Further, the efficiency, effectiveness or practicality of Local Authorities continuing to retrofit units now to a lower B2 standard only to revisit the same houses in future for further retrofit works to bring them up to the new ZEB standards, is questionable. Such an approach also runs contrary to the requirement for deep renovations.

Given these limitations and the forthcoming requirements of the EPBD, an opportunity now exists for a major review of the EERP.

In such a review, it is inevitable that the number of units requiring a retrofit will extend well beyond the current 36,500 when the gradual phase-out of boilers powered by fossil fuels, fostering of a practice of deep renovations, and the increase to ZEB standards are factored in. It will also likely result in a revised funding and approval process given the limitations of the existing process. What must also be factored in is a future requirement for national Building Renovation Plans, Energy Performance Certificates, and the introduction of building renovation passports to guide building owners in their staged and deep energy renovations.

Beyond social housing stock however, Local Authorities will be required to retrofit all other buildings in their ownership or control. That includes many buildings on the Register of Protected Structures or other buildings of cultural or heritage significance. In this regard, Local Government and all other sectors will be interested in the latitude being afforded to national governments to exempt various categories of buildings from the rules. Lobbying for exemption can be anticipated by groups such as holiday-home owners among others.

EPBD will present many other challenges to sectors beyond Local Government due to the implications for the entire building stock. An issue impacting all sectors, public and private, is competence and

capacity in energy management. Local Government has made progress in this area with the recruitment of Energy Officers, procurement of Energy Bureaus, collaboration with Energy Agencies, and participation in innovative energy saving and emission reduction Pathfinder and other projects. Such progress will need to be sustained and further embedded to deal with the data gathering, management, and analysis required under the EPBD proposals.

Conclusion.

An assessment of the current energy position is revealing. During a sustained period of abundant and relatively affordable supplies of fossil fuels, little attention was paid to the need to monitor or manage energy usage in an efficient, effective, or sustainable manner. The climate and global warming agenda have over many decades however, served to focus attention on these deficiencies and the need to build capacity and develop new energy skillsets and behaviours across the wider economy. A result of that sustained effort now finds its expression in policies such as EPBD, policies that will bring radical changes and approach to energy use and management.

Housing affordability has been a concern and political priority in Ireland for many years. Since the 2008 financial crisis, the country has been grappling with additional issues of supply and demand, issues exacerbated by increases in applications for asylum and refugee status. What must now be considered within housing policy is the EU EPBD requirement to retrofit all buildings, including the existing housing stock, to a zero emission buildings standard by 2050.

EPBD is presently a challenge, but once transposed into Irish law, will be a statutory obligation. Delivering on that obligation will require development of energy capacity and competence in energy management and performance on the part of the Local Government and all other sectors. It will require changes in approach, revised building specifications, building design codes and regulations, new administrative structures for building renovation passports, energy performance certificates and long-term renovation strategies, data management and analysis, and of course the inevitable requests for additional funding and human resources.

It is to be hoped that the experiences to date will inform such changes in approach.