Irish Institutional Property

Energy Performance of Buildings Directive – Irish Transposition

Impacts and Recommendations Report

Q1 2026

Contents

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Definitions

Building Energy Rating	A standardised grade showing a building's certified energy performance based on calculated consumption. Known under EU law as an Energy Performance Certificate.
Decarbonisation	The process of reducing carbon dioxide (and other greenhouse gas) emissions into the atmosphere. Climate neutrality is the goal of the decarbonisation process, i.e., achieving zero net greenhouse gas emissions (net-zero carbon footprint) by the target date.
Deep Renovation	A renovation which is in line with the 'energy efficiency first' principle, which focuses on essential building elements, and which transforms a building or building unit: (a) before 1 January 2030, into a nearly zero-energy building; (b) from 1 January 2030, into a zero-emission building.
Embodied Carbon	Covers the entire carbon emissions associated with materials and construction processes throughout the whole lifecycle of a building or infrastructure. Embodied carbon therefore includes the following modules (or lifecycle stages of a building) under EN 15978: material extraction (module A1), transport to manufacturer (module A2), manufacturing (module A3), transport to site (module A4), construction (module A5), use phase emissions (module B1, e.g. refrigerant leakage but excluding operational carbon), maintenance (module B2), repair (module B3), replacement (module B4), refurbishment (module B5), deconstruction (module C1), transport to end of life facilities (module C2), processing (module C3), disposal (module C4). Benefits beyond the system boundary (modules D1 – D4) should also be reported separately to modules A-C38.
Energy Performance Certificate	A certificate, recognised by a Member State or by a legal person designated by it, which indicates the energy performance of a building or building unit. In Ireland, these are known as Building Energy Rating Certificates.
Greenhouse Gases	In the context of the built environment, only the following greenhouse gases are considered: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF_6)40. Their global warming potential is quantified in units of carbon dioxide equivalent.
Green Lease (Green Clauses in Leases)	A lease between an owner and occupier of commercial building which provides obligations on both parties to minimise adverse environmental impact in areas such as energy, water and waste.
Life-cycle global warming potential	An indicator which quantifies the global warming potential contributions of a building along its full life cycle.
Minimum Energy Performance Standards	Rules that require existing buildings to meet an energy performance requirement as part of a wide renovation plan for a building stock or at a trigger point on the market (such as sale, rent, donation or change of purpose within the cadastre or land registry), in a period of time or by a specific date, thereby triggering renovation of existing buildings (Art. 2 of Directive EU 2024/1275).
Nearly Zero Energy Building	Nearly zero are buildings with a very high energy performance. 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 standard has applied to all new buildings occupied after the 31st of December 2020.
Non-residential Building	A building which is mainly used or intended for non-residential purposes. If at least half of the overall useful floor area is used for residential purposes, the building is classified as a residential building.
Primary Energy	Energy from renewable and non-renewable sources which has not undergone any conversion or transformation process.
Primary Energy Demand	Primary energy demand is the total primary energy required to supply all final energy uses, including conversion, transmission, and distribution losses.
Operational Carbon	Operational carbon refers to the greenhouse gas emissions arising from all energy consumed by an asset in-use during the operational stage of its life cycle.
Renovation Passport	A tailored roadmap for the deep renovation of a specific building in a maximum number of steps that will significantly improve its energy performance.
Residential Building	A room or suite of rooms in a permanent building or a structurally separated part of a building which is designed for all-year habitation by one private household
Split Incentive	Transactions where the benefits do not accrue to the person who pays for the transaction. In the context of building related energy, it refers to the situation where the building owner pays for energy

	retrofits efficiency upgrades but may not recover savings from reduced energy use that accrue to that occupier.
Zero-emission Buildings	Buildings with a very high energy performance, as determined in accordance with Annex I of the EPBD, requiring zero or a very low amount of energy, producing zero on-site carbon emissions from fossil fuels and producing zero or a very low amount of operational greenhouse gas emissions, in accordance with Article 11 of the Directive. Only new buildings that meet this standard can achieve a building energy rating of A.

Acronyms

BACS	Building automation and control system
BER	Building Energy Rating
BIM	Building Information Modelling
BMS	Building Management System
CCI	Construction Cost Index
CEG	Clean Export Guarantee
CRREM	Carbon Risk Real Estate Monitor
CSO	Central Statistics Office
DEAP	Dwelling Energy Assessment Procedure
DHW	Domestic hot water
EPBD	Energy Performance of Buildings Directive
EPC	Energy Performance Certificate
EPD	Environmental Product Declarations
ESB	The Electricity Supply Board
ESG	Environmental, Social, and Governance
EV	Electric vehicle
GHG	Greenhouse Gas Emissions
GNI	Gas Networks Ireland
GPRN	Gas Point Registration Number
GWP	Global Warming Potential
IGBC	Irish Green Building Council
IIP	Irish Institutional Property
LEED	Leadership in Energy and Environmental Design
MEES	Minimum Energy Efficiency Standards
MEPS	Minimum Energy Performance Standards
MPG	MilieuPrestatie Gebouwen
MSS	Micro-generation support scheme
NBRP	National Building Renovation Plan
NGO	Non-Governmental Organisation
nZEB	Nearly zero-energy building
PED	Primary Energy Demand
PRS	Private Rented Sector
PV	Photovoltaic panels
RP	Renovation passport
SEAI	Sustainable Energy Authority of Ireland
SRI	Smart readiness indicator
WLC	Whole life carbon
ZEB	Zero-Emission Building

Foreword

Pat Farrell, CEO – Irish Institutional Property

Irish Institutional Property (IIP) regularly commissions thought leadership research to help its members navigate the evolving regulatory landscape of the Irish real estate market. As the Energy Performance of Buildings Directive (EPBD) moves toward transposition into Irish law, with a deadline of May 2026, IIP commissioned CBRE to produce this report. It draws on Irish official statistics and public-sector energy data, CBRE's market research, the EU legislative text, international policy experience from the UK, France and the Netherlands, and independent industry and academic studies, alongside direct engagement with IIP members.

The EPBD represents a material regulatory change for Ireland's property sector. The Directive's ambition is clear: to accelerate the decarbonisation of Europe's building stock, ensuring that by 2050 all buildings achieve zero-emission building (ZEB) status. For Ireland, this is not only a moment of regulatory change but a strategic opportunity. With a relatively modern building stock, an established energy performance framework and an active development and retrofit market, Ireland is well placed to translate the EPBD into a practical, investable and credible pathway—demonstrating how ambitious regulation can support delivery, confidence and long-term value.

The EPBD is not just an environmental imperative, it is a market reality that will increasingly define asset value, investor confidence and occupier demand. For institutional property investors and occupiers, the challenge is twofold: compliance and competitiveness. Failure to act risks stranded assets, diminished valuations, reduced access to green finance and a shrinking pool of suitable, future-proof space.

Key impacts for Irish institutional property investors

- **Building Energy Rating (BER):**
  A new BER methodology and scale will apply to new and existing buildings from May 2026. BER A will be reserved for **ZEBs** only, and additional data points, such as the smart readiness indicator (SRI) and global warming potential (GWP), will become mandatory. This will increase compliance costs and require upskilling across the industry.
- **ZEBs:**
  All new buildings must meet ZEB standards from 2030, with public buildings required to comply from 2028. This entails eliminating fossil fuel heating, achieving stringent energy demand thresholds and prioritising on-site renewable energy. Retrofitting to ZEB standards will be complex and costly but essential to avoid asset obsolescence.
- **Minimum Energy Performance Standards (MEPS) for non-residential buildings:**
  Ireland is required to ensure the lowest performing 16% of non-residential stock undergoes deep renovation by 2030, rising to 26% by 2033. IIP supports ambitious targets, such as a minimum BER of E by 2030, to demonstrate leadership and accelerate progress.
- **National trajectory for the renovation of housing:**
  By May 2026, the Irish government is required to publish a national trajectory for the progressive renovation of homes. It will be defined as a decrease in the average primary energy use of the entire residential building stock between 2020 and 2050.
- **Data transparency and reducing the performance gap:**
  The EPBD mandates a national energy performance database and improved data sharing between landlords and tenants. This will close the performance gap and enable benchmarking but may raise General Data Protection Regulation (GDPR) and implementation challenges.

The Opportunity

While the EPBD introduces complexity and additional costs, it may also support long-term competitiveness for assets that align early with regulatory requirements. High-performing low-carbon assets may support rental resilience, attract global capital, foreign direct investment and blue-chip occupiers and industries, and align with environmental, social and governance (ESG) mandates. Acting decisively can support Ireland's competitiveness in sustainable property investment and in meeting national climate targets, thereby delivering long-term value for owners, occupiers and society. If implemented with robust compliance and enforcement, EPBD-aligned standards can also build market confidence, sending clear signals to international capital and other stakeholders that Ireland is a credible, well-governed destination for sustainable investment.

IIP stands ready to work with the government, regulators and our members to ensure a smooth cost-optimal transition that safeguards Ireland's competitiveness while meeting our climate obligations for net-zero carbon by 2050.

Key Recommendations for Government

Building Energy Ratings

- Provide a transition period for BER scale and methodology change, including the provision that all existing BER ratings will be valid until their expiration date.
- Establish a user-friendly, free to access and robust database of BERs, operational energy use and basic building details. Provide benchmarks for energy and carbon performance at least once a year.
- Include the percentage of default values used in the calculation on a BER certificate. This will provide useful information on the confidence level of the rating and represent data completeness.

Zero-Emission Building Standard

- As part of cost-optimal studies to develop the ZEB standard, aim for a maximum of 5% capital cost increase to minimise impact on development.
- For existing buildings retrofitting to ZEB levels, establish an alternative set of standards, such as lower PED or insulation levels to encourage retrofit. Consider how the reduction in lifecycle carbon can compensate for marginally higher PED, compared with a new build.
- No-carbon energy sources - provide clarity on how grid electricity will be included in this definition.
- Ensure that the Irish grid can supply more green power to meet increased demand from buildings.
- Improve the application process for the Micro-generation support scheme to encourage accelerated take-up from the institutional property sector.

Minimum Energy Performance Standards (MEPS) for non-residential buildings

- Ensure Irish competitiveness by considering improving MEPS to BER E by 2030 for non-residential buildings.

National trajectory for the renovation of housing

- Ensure that engagement is undertaken with institutional investors and owners, so the needs of this sector are considered in the trajectory. If the needs are addressed well, with tailored grants, funding and compliance pathways, the rate of change could be transformational.

Key Recommendations for Institutional Property Investors

Building Energy Ratings

- Prior to the publication of new BER standards, May 2026, undertake an audit of your existing building stock to understand how changes in BERs may impact your portfolio.
- Consider renewing BER ratings that are due to expire in the near-term before the implementation of new BER methodology.
- Communicate potential changes with occupiers, investors, and lenders prior to May 2026 and update any contractual documents that refer to meeting or maintaining a specific BER grade.
- Include budget for the increased cost of BERs.

Zero-Emission Building Standard

- Investigate how ZEB standards will impact your current design standards for new developments. Fossil fuel systems such as gas boilers will no longer be permitted. Enhanced requirements for energy efficiency are likely to impact on the costs of fabric and building systems.
- Solar photovoltaic (PV) systems will be required for new and existing buildings. Include provision in new developments and undertake surveys to understand the space provision, structural and electric capacity of existing buildings for the retrofit of PV systems.
- Build capacity in consultancy and your supply chain to measure and reduce embodied carbon.

Minimum Energy Performance Standards non-residential buildings

- Develop BER improvement plans for all buildings with a BER of B or lower. Retrofit projects are likely to be most cost effective if they are planned well in advance of lease events, any periods of vacancy and any required plant replacement.

1 Building Energy Ratings

This section aims to highlight key changes and impacts related to Building Energy Ratings (BERs). It also proposes recommendations to government to enable a smooth implementation of the required changes and to property owners and investors to prepare assets for incoming changes.

Relevant EPBD articles and appendices for reference	*Article 4: Adoption of a methodology for calculating the energy performance of buildings* *Article 19: Energy performance certificates* *Article 22: Databases for the energy performance of buildings* *Annex I: Common general framework for the calculation of the energy performance of buildings* *Annex V: Template for energy performance certificates* *Annex to the Communication to the Commission Annex : Energy performance certificates (Articles 19-21, Annex V) and independent control systems (Annex VI)*

1.1 What changes to BERs are proposed?

1.1.1 Updates to BER methodology and scale

Article 4 requires an update to the methodology for the calculation of BER certificates. Specific details on the methodology are set out in the EPBD at a high level and will be implemented by the Irish Government. The methodology will follow an efficiency-first principle, prioritising fabric, and system efficiency before renewable energy contributions are considered.

- Article 19 requires the BER scale to be revised. Under the new scale, sub-ratings will be removed. For example, instead of B1, B2, or B3, a building will simply receive a BER B rating.
- BER thresholds will shift from using an Energy Performance Indicator (a ratio comparing the building to a reference building) to using PED, expressed as the amount of energy used per square metre.
- BER A will be reserved for ZEBs only. (See the Sections 3 on ZEB for existing buildings for details).
- BER G is reserved for the worst performing buildings in the national stock.
- The scale also adds an optional A+ rating for buildings whose energy demand is at least 20% below the ZEB threshold and which generate more renewable energy on site than they consume.

The new BER scale and template is required to be published by the government and in use by 28th May 2026.

1.1.2 Additional data on BER certificates

Article 19 and Annex V dictates that additional information should be provided on BER Certificates including:

- SRI (see Chapter 4 for additional details on SRI)
- Cost-effective measures to improve BERs for ratings below an A.GWP for new buildings (see Section 4 for additional details on GWP).

Cost-effective improvement measures and updates BER thresholds are required to be included in BER certificates from 28th May 2026.

GWP is required to be included in BER certificates starting in 2028 for buildings over 1,000m^2 and starting in 2030 for all new buildings.

1.1.3 Establishment of a national database for energy performance

Article 22 requires that each member state creates and maintains a national database for energy performance. This data should be digital and accessible and include all issued BERs, SRI, renovation passports (SRI and RPs are covered in more detail in Chapter 4) and inspection reports for an asset.

The database is required to be in use by 28th May 2026.

1.2 How changes to BERs may impact institutional property in Ireland

1.2.1 Updates to BER methodology and scale

The Irish government has not yet communicated the details of how BERs might change in Ireland under the EPBD. The figure on this page illustrates how the new scale could be arranged. The most significant change to the BER scale will be the requirement that a building with a BER of A must be a ZEB.

This means that any building, including existing buildings that does not meet ZEB, such as a current BER A building using gas, may no longer achieve a BER of A. In addition, many BER B and C buildings could fall into lower performance classes, particularly those that rely on fossil fuels or large amounts of on-site renewables.

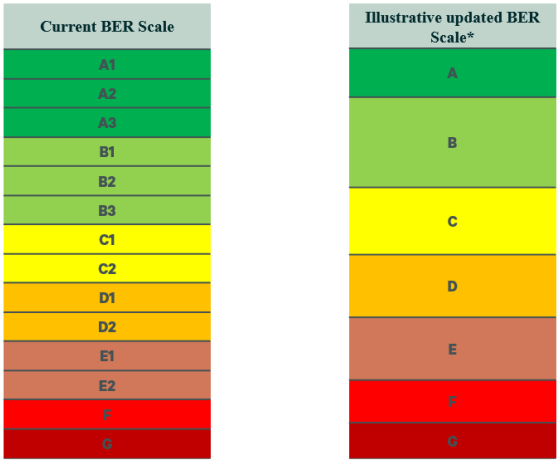


Figure 1: Illustrative updated BER scale

As of today, 37% of commercial stock and 59% of residential stock have a BER rating. With the increased prominence of BERs in the EPBD, an increase in BER adoption among existing buildings is expected, which may also increase the inaccuracy in BER levels due to the lack of information and reliance on standard values.

According to Central Statistics Office (CSO) data, 27% of non-residential buildings currently rated as BER A have gas or oil heating and may likely be impacted by this change, which could, in turn, impact value and rents.

In the residential sector, 21% of A-rated units have fossil fuel heating, and only 6% of homes built between 2020 and 2024 do. Therefore, changes to the BER scale are less likely to impact the residential sector.

The commercial impact of BERs

High BER ratings are in demand from tenants and investors, and a downgrade in BER is likely to impact the commerciality of an asset. CBRE maintains a sustainability index, which maps the impact that a high EPC (BER) has on key financial metrics of a building. An efficient property is defined as one with an EPC of A or B, while 'returns' is a valuation metric that considers rents and income yields of a property.

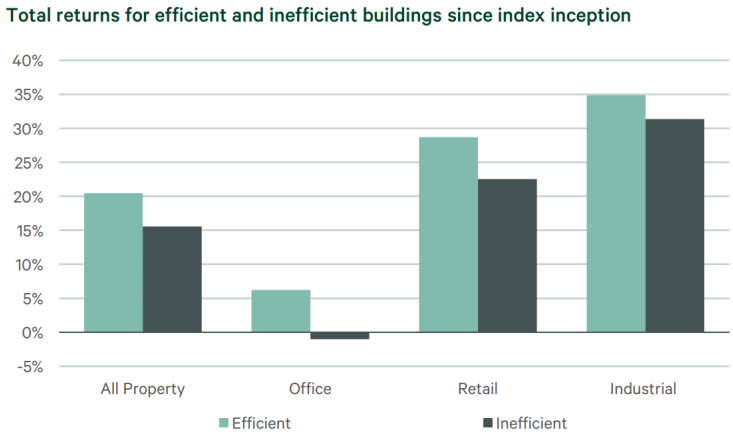


Figure 2: Total returns for efficient and inefficient buildings - Source: CBRE Sustainability Index (Inception Q1 2021 to H1 2025)

The impact of a building's BERs on rent, value and yields is highly dependent on the age and location of an asset and other building attributes. The table below discusses some sector trends for the commercial impacts of BERs.

Table 1: Commercial impacts of BERs

Sector	Commercial Impacts of BERs
Office Sector	Corporate office occupiers continue to seek highly sustainable buildings. Approximately 60% of Dublin office take-up in 2024 comprised highly sustainable stock, i.e. that with a BER rating of at least A3 and strong Leadership in Energy and Environmental Design (LEED) or Building Research Establishment Environmental Assessment Method (BREEAM) credentials. CBRE Research defines a Prime CBRE Dublin Asset as having a BER of A and a top green certification, secondary city centre asset has green credentials below this. In CBRE's property investment yields data from Q3 2025, prime office sector is estimated at an investment yield of 5.00%, and secondary assets are estimated at an investment yield of 7.75%.
Industrial Sector	For industrial buildings, CBRE EMEA (Europe, the Middle East and Africa) research has found that 65% of occupiers are willing to pay a premium for net-zero carbon buildings. There is less of a differential shown in the industrial sector between prime and secondary stock, as tenants are typically highly focused on location. However, as shown in the Sustainability Index and CBRE yield sheet, there is still a differential with prime industrial warehouses estimated at an investment yield of 5.00% and secondary warehouses estimated at an investment yield of 6.00%.
Residential Sector	In the residential sector, first-time buyer research commissioned by the Bank of Ireland reveals that sustainability is a key priority.[1] Nearly nine in ten (87%) first-time buyers say the BER rating of their future home is important, and six in ten (59%) have considered a green mortgage, which is typically available to homes with a BER of B3 or better. Among those looking at second-hand properties, almost nine in ten (88%) plan to undertake home improvements to boost energy efficiency.

[1] Sustainability a key priority for first time buyers - Bank of Ireland Group Website

The impact on investors, lenders, and tenants

Many commercial office or industrial tenants have sustainability performance targets for buildings they occupy. In addition, social housing providers may also have energy or BER targets. Also, in some lease arrangements, landlords can include provisions in the lease that a tenant must not negatively impact a building's BER through a fit out or other alterations.

Any changes to a building's BER through updates to the methodology could impact a tenant's ESG goals, or impact on lease clauses to maintain a BER classification.

In addition, the finance sector commonly uses certain BER levels in the criteria for green finance in alignment with the EU Taxonomy and Sustainable Finance Disclosure regulations. Changes in an asset's BER rating may impact the range of finance available.

1.2.2 Accuracy and data included in BER certificates

The additional information required to be calculated and displayed in BER certificates will offer more data points for evaluating buildings, benefiting owners, occupiers, and investors. This enhancement, however, will necessitate a more in-depth analysis and require additional data for completing the BER assessment.

It is expected that the SEAI will provide training to BER assessors on the new methodology and calculation requirements, as well as indication to any associated software updates.

Current BER methodology allows assessors to use default values (often conservative) when information is missing, which can lead to inaccuracies in the final rating. It is expected that the initial inclusion of SRI, cost-effective improvements, and GWP metrics may be heavily based on defaults in the short term, due to lack of experience and data in the market. Until adequate knowledge and data is available to support the new BER methodology, it is likely that BERs will remain variable in quality and heavily reliant on default values.

The update provides an opportunity to improve the BER Advisory Reports. Current BER software issues an advisory report along with the BER certificate. At present, the recommendations in the advisory report can be simplistic and outdated (e.g. suggesting tungsten lighting and solar hot water heating).

It is also likely that there will be an uplift in cost needed to provide the additional data on the certificate and whether a suitably qualified BER assessor can be engaged. BER ratings currently cost around €500 for a simple residential unit, to €15,000 for a complex office building where software modelling is required. With the additional requirements for improvement plans and GWP measurement for new buildings, it is expected that the cost of BER certificates could increase by 30% or more due to the added complexity. However, there is strong industry competition to keep prices competitive, and the EPBD has a provision under Article 19 paragraph 14 for governments to provide a simplified method for updating BERs, which may mitigate the cost increases.

1.2.3 Establishment of a national database for energy performance

A national database will provide an accessible way for owners, occupiers and investors to benchmark assets. However, it has been noted by institutional property investors that the quality of BERs is variable depending on the assessor, the age of the BER and the number of default values that have been assumed.

1.3 Recommendations for institutional property investors

1.3.1 Update to BER methodology and scale

– **Complete an audit of BERs in portfolios:** Include when they expire, the advisory report and the modelling inputs, to understand potential impacts. Also develop decarbonisation plans for fossil fuel-dependent buildings and BER

improvement plans for low-BER-grade buildings. Update near-expiry BERs prior to the adoption of the new methodology in May 2026.

- **Communicate potential changes with occupiers and investors** prior to May 2026 and update any contractual documents that refer to meeting or maintaining a specific BER grade.

- **Review green finance agreements linked to specific BER grades**. Start communication and/or clarification with lenders, in the case that the BER of financed buildings are likely to change.

- **Keep accurate building data to ensure accuracy of new BERs.** For new developments, existing building and spaces fitted out by tenants, keep accurate records of building data, including fabric; heating, ventilation and air conditioning (HVAC) systems; and lighting installations. As BER methodology changes, building data will be key to successful accurate re-rating.

1.3.2 Accuracy and data included in BER certificates

- **Include SRI and GWP calculations as part of current projects.** SRI and GWP calculation should be included as part of the design and development process for new construction and major renovations. This will allow project teams to upskill their staff in implementation, prior to new requirements coming into force.

- **Set internal benchmarks for CO_2 emissions and GWP** to support the interpretation of information included on new BER certificates. Recommended benchmarks include the UK Net-zero Carbon Standard, the London Energy Transformation Initiative (LETI) and the Royal Institute of the Architects of Ireland (RIAI).

1.3.3 Establishment of a national database for energy performance

- **Include green lease clauses for data sharing**. Consider including consents in leases for the use and disclosure of energy use information for both new leases and with existing tenants.

- **Invest in processes to record sustainability data**. As more sustainability related information is shared at a public level, requests from investors/third parties on sustainability metrics such as Scope 3 emissions and actual energy use will become more commonplace. Platforms such as DeepKi or Measurabl provide online-based platforms for recording sustainability information at a detailed level.

1.4 Recommendations for government

1.4.1 Updates to BER methodology and scale

- **Provide public guidance on new BER methodology and scale as soon as possible** to provide certainty to industry and so investors can plan for future changes.

- **Implement a transition period for buildings with current BERs:** The changes to BER methodology will impact buildings, particularly with those that currently have fossil fuel-based services. It is recommended that a transition period is implemented by the government to allow industry time to prepare for new scale and methodology. This would help minimise any potential value impact and allow for contractual commitment related to the current BER scale to be addressed. To implement this requirement in 2026 would be overly onerous for existing buildings, may disincentivise building retrofits, and could delay the completion of in-progress projects.

1.4.2 Accuracy and data included in BER certificates

To improve accuracy of additional data included in BER and reduce impact, it is recommended that the government:

- **Improve BER Advisory reports:** Develop more robust database and software for producing cost-effective energy improvement recommendations. To reduce costs to asset owners and investors, the advisory report recommendations must be significantly improved and aligned to the requirements for ZEBs.

1.4.3 Establishment of a national database for energy performance

- **Link BER data to actual energy use consumption on the database,** using data from the Electricity Supply Board, Gas Networks Ireland and the Commission for Regulation of Utilities smart meter programme.

- **Develop BER quality indicators:** To enable assessment of BER reliability, include in the database the percentage of default values assumed in each calculation.

- **Provide anonymised sustainability data and metrics** via the CSO to create Irish property sector-specific benchmarks. Benchmarks should include BERs, total primary energy, SRI, GWP, CO_2 emissions, actual CO_2 emissions and actual energy use. Statistics should be issued bi-annually to ensure that they are up to date.

- **Enable the database to provide open-source energy data to property owners**, with applicable energy consents from tenants, to enable a holistic view of building energy performance.

2 Zero-Emission Buildings

The introduction of the ZEB standard mandates high energy performance and near-zero emissions across the building life cycle. For the Irish institutional property sector, this new standard presents both substantial compliance challenges and strategic opportunities, influencing design, construction, renovation and long-term asset value.

This section aims to highlight key changes and impacts related to ZEB. It also proposes recommendations to government to enable a smooth implementation of the required changes and to property owners and investors to prepare assets for incoming changes.

Relevant EPBD articles and annexes

Article 2(2): Definition of zero-emission building
Article 7: New buildings
Article 8: Existing buildings
Article 11: Zero-emission buildings
Annex to the Communication to the Commission Annex 7: Zero-emissions buildings

Table 2: Summary of ZEB requirements

Category	Key requirements
Operational Greenhouse Gas	ZEBs must produce zero or very low operational GHG emissions. ZEBs must produce zero on-site carbon emissions from fossil fuels. Member States are mandated to establish maximum thresholds for these emissions.
Energy Demand Thresholds	Member States must ensure that a ZEB's energy demand complies with a maximum threshold at least 10% lower than the total primary energy use threshold for nZEBs.
Energy Supply for ZEB Status	The total annual primary energy use of the building must be covered by one or more of the following: – Renewable energy generated on-site or nearby – Renewable energy provided by an energy community – Energy from an efficient district heating and cooling system – Energy from carbon-free sources
Smart Readiness	Where economically and technically feasible, a ZEB must have the capacity to react to external signals and adapt its energy use, generation or storage.
Life Cycle Global Warming	The total life-cycle GWP of a ZEB must be calculated and disclosed via the building's EPC. *Note: Not required for residential buildings including large-scale projects*

All new public buildings are to be ZEBs by 1st January 2028.
All new buildings are to be ZEBs by 1st January 2030.
From May 2026, BER class A will be reserved for ZEBs only. (Discussed in Section 3 of this report)

2.1 How is ZEB different from the existing nearly zero-energy building (nZEB) standard?

The EPBD provides a high-level definition of a ZEB, for both new and existing buildings undergoing major renovation and buildings updating their BER in the future. Below are the three most significant changes under ZEB as defined in the EPBD. The Irish government must interpret and define how the requirements are to be implemented in Ireland.

2.1.1 No fossil fuels on site

Currently, nZEB targets very low energy use, but does not fully eliminate on-site fossil fuel emissions. Carbon emissions in existing nZEB buildings will depend on the energy mix and level of renewables. In ZEB, no on-site carbon emissions from fossil fuels are allowed. This means that, for new buildings, the combustion of fossil fuels, such as solid fuels, natural gas or oil, is not permitted on the building site to meet energy needs.

2.1.2 More stringent energy demand thresholds

Currently, the nZEB standard requires very low energy demand, with maximum PED thresholds set at national level using cost-optimal calculations. New buildings that meet ZEB standards must comply with a maximum threshold for energy demand, expressed as total primary energy use in kWh/(m²·y), covering all energy uses such as heating, cooling, ventilation, domestic hot water and lighting. This threshold must be at least 10% lower than the national nZEB threshold (Maximum Total PED) that was in effect from 28th May 2024.

For existing buildings, Article 8 of the EPBD requires that for buildings undergoing 'major renovations', the renovated part is upgraded to meet the minimum energy performance standards of Article 5.

However, if an owner/investor wishes to undertake a major retrofit to obtain a BER of A, ZEB standards may be applied. However, Article 11, point (4) of the EPBD specifically addresses ZEBs after renovation: "Member States may adjust the maximum threshold for the energy demand of a ZEB for renovated buildings, while complying with the respective provisions on cost optimality". This provides a pathway for major retrofits to meet a less demanding primary energy requirement when it is economically beneficial.

2.1.3 Energy supplied by carbon-free sources

Currently, nZEB requires energy needs to be "covered to a significant extent" by on-site or nearby renewables, with no explicit requirement for exclusive renewable energy. In ZEB, all primary energy supply must come from:

- Renewable sources generated on-site or nearby
- Renewable sources provided by a renewable energy community
- An efficient district heating and cooling system
- Other carbon-free sources.

The article leaves it to member states to define 'carbon-free sources', which in practice in Ireland will mean green electricity. The article also notes that where it is not technically or economically feasible to meet the requirements for zero-emissions energy, some energy coverage may come from other energy from the grid, as determined by criteria established at a national level.

While the EPBD does not state an explicit hierarchy of zero carbon energy sources, the list above is used in this order in multiple locations. This, along with Article 10 specifically addressing the implementation of Solar Energy on buildings, points to on-site solar and renewables being a priority for the legislation.

2.2 How the ZEB standard may impact institutional property in Ireland

2.2.1 No fossil fuels onsite

The impacts of ZEB operational Greenhouse Gas emissions requirements for no fossil fuels on site are discussed below, according to property sector.

New **single-family homes** and private rented sector (PRS) **schemes** are typically all-electric under nZEB requirements, and therefore ZEB will have minimal impact to new builds.

If an owner of an existing home or PRS scheme wishes to retrofit to BER A, gas heating systems need to be replaced with an electric heating system, most commonly a heat pump.

New **commercial offices** typically have electric heating due to nZEB requirements and based on market preference; therefore, this will have minimal impact to new builds.

Changing from gas-dependant to all-electric in existing offices poses a logistical and commercial challenge. Major retrofit projects, such as degassing, cause disruption, which impacts any tenants in situ. It will be challenging for property owners to replace gas-based systems mid-lease. Property Investors may find that net-zero carbon planning can be a way to engage with tenants.

New **industrial developments** are typically gas-free unless there are specific space-heating requirements to warehouse areas. New industrial developments with tenant-installed gas-heated areas may not comply with ZEB requirements without finding an alternative space heating system. The landlord will need to make a commercial decision on whether to disallow gas heating.

Implementation of all-electric heating systems

Heat pump installation for PRS and homes: In a government report, "Report on the Analysis of Skills for Residential Construction & Retrofitting, 2023 to 2030" written in 2022, the author found that there were 3,870 skilled workers for housing retrofit, and a further 22,779 required to meet government targets for housing retrofit. Institutional property investors have found that the availability of heat pump technicians and installation companies has been a challenge to the retrofit of heat pumps in PRS schemes. In addition, heat pump installations on balconies may be impacted by planning regulations.

Commissioning of office building systems: As office and industrial buildings become more efficient and complex under new energy efficiency rules, effective commissioning and training of the site team will be required to ensure that design energy performance is delivered. Ineffective operations of a building can be linked to a 'performance gap' between designed performance and actual performance. See Section 4.3 for more details.

Research confirms the benefits of monitoring-based commissioning improving building performance. Soft Landings, as described by Buro Happold's research[2], focuses on bridging the gap between design and operation through structured aftercare and post-occupancy evaluation, with case studies such as Newcastle University's Urban Sciences Building achieving operational performance within 3% of target and reporting up to 11% improvement in user productivity.

[2] Buro Happold Soft Landings and Aftercare

Leasing implications of all-electric heating systems for non-residential buildings

As organisations increasingly set net-zero carbon targets, in some cases they are seeking all-electric buildings, workplaces and facilities. As referenced in section 1.2.1, new buildings are most commonly all-electric, under nZEB regulations. ZEB standards will support this trend.

The CBRE 2025 European Logistics Occupier Survey found that industrial and logistics occupiers are now being more sophisticated in their sustainability approach, and more occupiers prefer net-zero carbon ready facilities to those with Green Certifications.

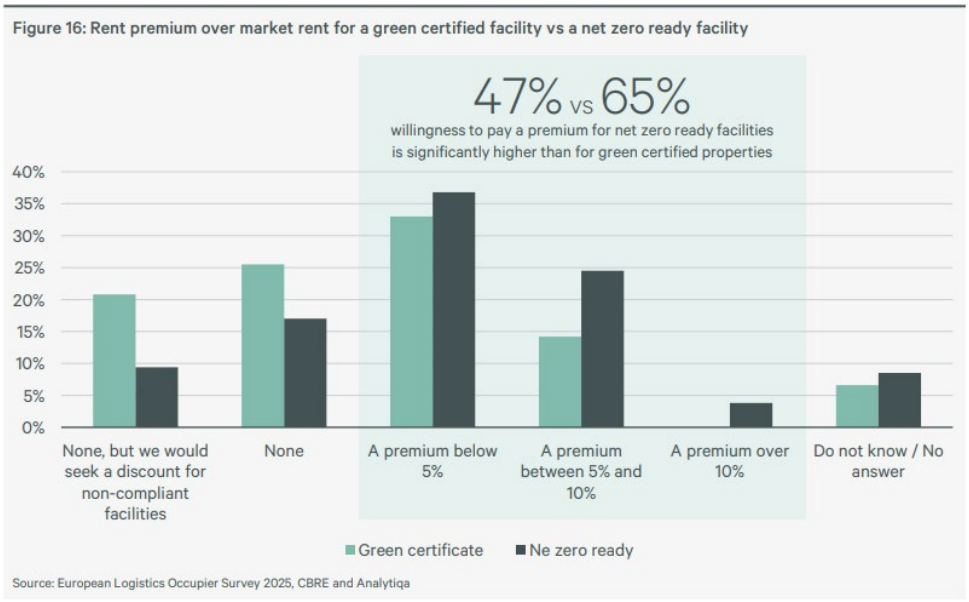


Figure 3 : Rent premium over market rent for a green rated facility v a net-zero facility

Source: CBRE 2025 European Logistics Occupier Survey

In the office sector, the 2025 CBRE European Office Occupier Sentiment Survey found that meeting sustainability goals was the most important reason for relocation. The previous year's report found that only 38% of occupiers surveyed did not have a net-zero carbon goals or had no deadline for achieving it.

2.2.2 More stringent energy demand thresholds

New buildings

To identify the impact of meeting ZEB PED threshold targets, an analysis of the PED values in existing BERs for non-residential buildings was conducted. The summary in the table below indicates that best-in-class BER A1–A2 buildings may meet ZEB PED requirements, whereas current A3 buildings may not demonstrate the required 10% improvement.

Table 3: Current nZEB and ZEB PED ranges Source: CSO data, BERs since 2020

CURRENT BER	COMMERCIAL OFFICE BUILDING	INDUSTRIAL BUILDING	RESIDENTIAL
nZEB and ZEB thresholds for PED	nZEB = 85 kWh/m2/yr Potential ZEB threshold= 76 kWh/m2/yr	nZEB = 85 kWh/m2/yr ZEB = 76 kWh/m2/yr	nZEB =45 - 60 kWh/m2/yr ZEB = 40 - 54 kWh/m2/yr
Average PED by BER class, based on SEAI data			
A1	26*	26	<25
A2	63	53	25 – 50
A3	88	83	50 – 75
B1	120	110	>75

*Warehouse figure, no reliable data for office buildings

As a result of the improved energy demand thresholds, it is expected that building fabric thermal performance and the efficiency of mechanical and electrical systems may need to be improved to meet ZEB standard.

Energy demand threshold for existing buildings

The retrofit of existing buildings will be challenging if changes to existing fabric, structure and floor-to-ceiling heights are required to facilitate systems to meet ZEB PED levels. A key consideration of the financial viability of a retrofit project is whether the façade will need to be replaced, improved or left in place to reach a required target performance level.

An SCSI study shows the costs associated with external enclosures for an office retrofit project can range from €0/sqm where no change to the façade was required, and €600/sqm where significant works were required. (2025 costs). A recent CBRE case study find façade upgrades are typically €350-400 per sqm floor area. In addition, required façade and structural impacts would trigger works to building elements that have the highest embodied carbon intensity.

A 2024 report by Construct Innovate, in partnership with the Irish Green Building Council and University of Galway[3], showed that structural and façade elements make up 75%-80% of the embodied carbon on construction of a new building, and the UK Green Building Council reports that a deep retrofit project typically saves 40% of embodied carbon in comparison to a new build.

The amount of carbon released from the renovation/replacement of structure and façade systems may well outweigh the carbon saving by lower PED levels required for ZEB.

A high-level modelling exercise was conducted to evaluate the long-term carbon impact of upgrading a typical office building through HVAC, façade, and lighting improvements. It compares two retrofit strategies over a 50-year period, focusing on their lifecycle carbon footprints. The analysis aims to determine how different levels of energy efficiency in the retrofits affect the building's carbon emissions, specifically comparing the impact of achieving a strict ZEB definition (over 10% better than nZEB) versus a less stringent ZEB standard (4% better than nZEB).

The building under consideration is a 3-storey open-plan office with a total floor area of approximately 5,000 square metres. The design is characteristic of single or multi-let office spaces, incorporating separate office floors, common areas, and centralised mechanical systems.

[3] IGBC Indicate Final Report

This assessment follows standard life-cycle carbon-analysis practice by distinguishing between embodied carbon and operational energy. Embodied carbon includes all greenhouse-gas emissions generated during the production, transport and installation of construction materials. Operational energy is represented by PED, the annual primary-energy use of the building as defined in the BER methodology. PED serves as the main measure of operational performance in this study.

The net cumulative carbon savings presented here reflect the balance between:

- Upfront emissions from renovation works (e.g. embodied carbon from new façades and systems), and
- Long-term operational savings, calculated by converting annual PED reductions into CO_2e while accounting for expected grid decarbonisation.

Table 4: Assumptions for retrofit study

Assumptions for retrofit study – Typical office building					
	HVAC Upgrade	Façade replacement	Lighting upgrade	PED improvement	Period to achieve carbon savings.
Scenario 1 Light retrofit	Yes	No	No	4%	5 years
Scenario 2 Deep retrofit	Yes	Yes	Yes	11%	17 years

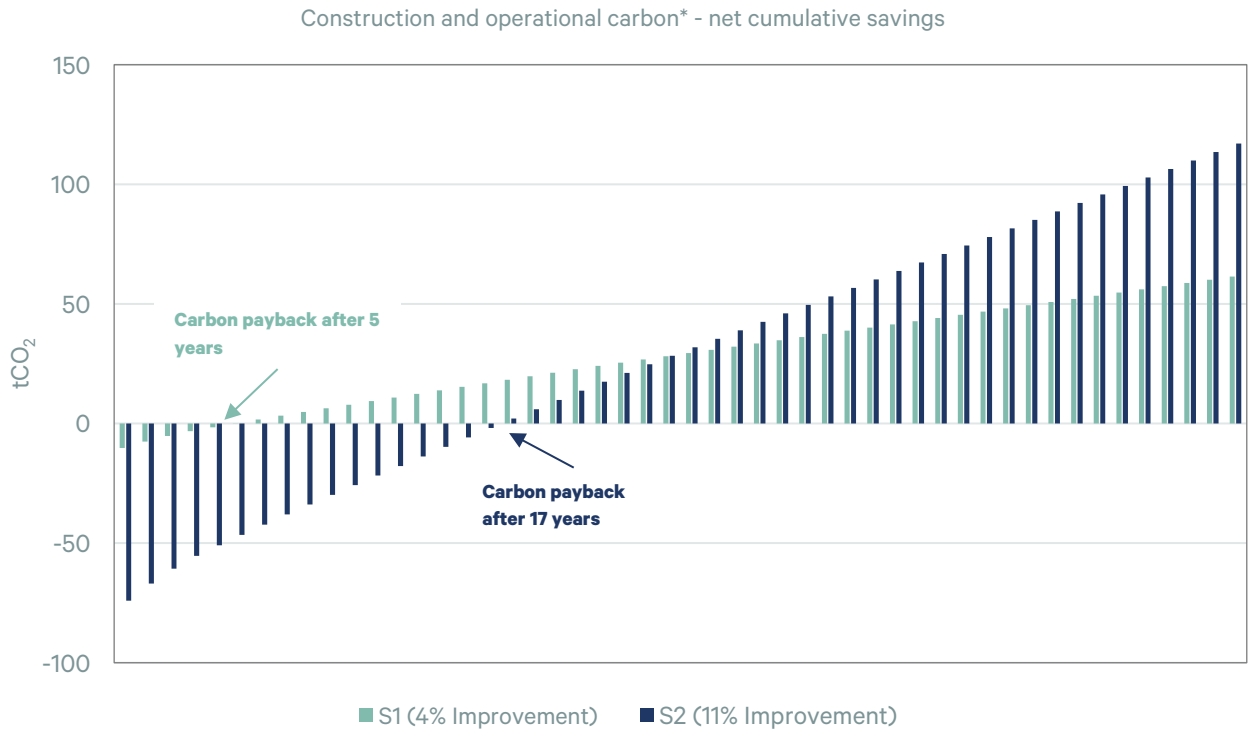


Figure 4: Example of net cumulative carbon savings for a light and deep office retrofit

The analysis shows that S1, the scenario where the façade is not replaced, provides a net carbon saving sooner than the S2, the deep retrofit. The deep retrofit provides a greater benefit in the long-term horizon (after 25 years).

The study confirms that even modest improvements in energy efficiency can deliver meaningful and timely carbon reductions. As a result, PED reductions of less than 10% can still contribute significantly to climate goals, especially where deeper retrofits are limited by cost.

This supports the case for flexible PED requirements in retrofit regulations, ensuring that practical, cost-effective interventions that deliver early carbon benefits are fully recognised.

Overheating

There is a concern among institutional property investors that higher levels of thermal performance could create overheating issues. Investors have reported multiple cases where mechanical ventilation systems have had to be added to circulation areas not because Part L required it, but because the spaces could not achieve acceptable thermal comfort without it. The belief is that this is being caused by the combination of increased fabric performance and airtightness with the simplistic weather files currently used for Building Regulations compliance.

Under current regulations, to design buildings to meet nZEB standards and to calculate the BER requires the use of weather data. Currently, all non-residential buildings in Ireland must use the Dublin International Weather for Energy Calculations weather file for building regulations compliance and BER calculations. This file, derived from American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) research in 2001, averages weather data over multiple years, typically averaging 20 years of past data which may not be reflective of the current and future weather conditions.

Under more stringent requirements to meet the ZEB standard, there is a risk that overheating risks could be increased if it is not considered as part of standard development, and if weather files are not updated.

Theoretical reduction in operational energy costs and the performance gap

The increase in building efficiency and on-site renewable energy generation will reduce the energy use of a building and, in theory, reduce operating cost from energy bills.

In practice, for institutional property investors, the benefit of reduced energy bills will be passed to the tenants (office, industrial and PRS), or the homeowners in the case of individual homes. Cairn Homes report a 41% reduction in energy use due to the implementation of Passive House Standards (see case study).

The difference between nZEB and ZEB is a 10% reduction in PED, which should approximate to a reduction in energy bills, however, particularly in the office sector there can be a ‘performance gap’ between predicted performance and actual performance due to the operation and maintenance of the building (refer to Section 4.3 for more details on the performance gap).

Increase in construction costs

SEAI research shows there was a 2%–5% increase in construction costs due to the introduction of nZEB standards in 2009. Ireland is one of the most expensive countries in the European region for constructing new buildings (see the construction cost index (CCI) below comparing construction costs), and the impact on construction costs must be carefully considered in the implementation of the EPBD.

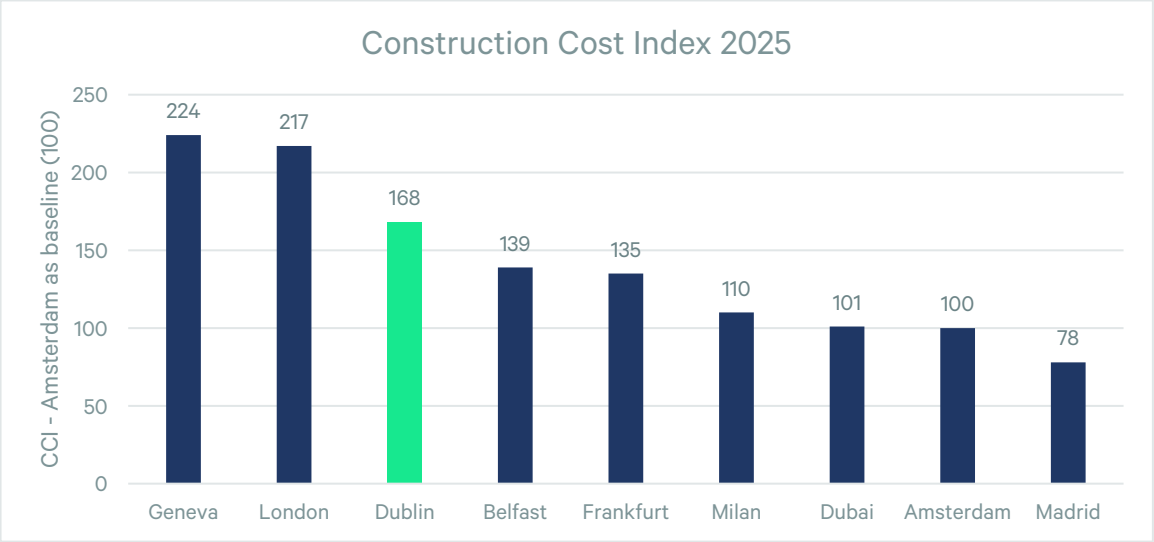


Figure 5: Construction Cost Index 2025 Source: AECOM

Cost-optimality is a core requirement for implementing the EPBD. It stipulates that ZEB energy demand thresholds must be defined in a way that remains economically optimal. In practice, *cost-optimal* refers to the level of energy performance that delivers the lowest overall cost over a building's expected economic life cycle.

The cost-optimality calculation considers a range of factors, including initial investment costs, maintenance and operating expenses (such as greenhouse gas allowance costs), environmental and health externalities, and any potential revenue generated from on-site energy production. These optimisation benchmarks are reviewed every five years to ensure that ZEB thresholds remain economically achievable while continuing to drive high levels of energy performance.

2.2.3 ZEB implementation case studies

To illustrate the impact of ZEB on different property types, case studies have been completed for typical buildings relevant to institutional property investors. These list changes to construction that may be required, and typical costs.

This assessment used SEAI-approved software to model four representative building archetypes, office, industrial, apartments and single home. A 'Baseline' was established for each archetype, meeting current Part L regulations and nZEB standards. Improvement measures were then evaluated to determine the additional steps needed to achieve a 10% better PED compared to the Baseline. Cost increases for achieving ZEB targets were determined using in-house cost data as well as being sourced from various references including typical projects and unit rates. A parallel analysis was conducted for existing buildings, identifying the measures and indicative costs associated with retrofitting them to ZEB standards.

As the definition of ZEB is yet to be published for the Irish market and at the time of writing, there are many unknowns, which is reflected in the range of approximate figures and high-level analysis. Key elements that will impact build cost at the time of implementation of ZEB are:

- Requirements for improved building fabric, mechanical and electrical services to meet the energy thresholds
- Any future improvements in equipment efficiency
- Requirements for PV under Article 10, and prices of PV at the time of construction
- The availability of materials for construction
- The availability of skilled labour to deliver projects
- Government policy and availability of grants and lending/funding at preferential rates

– Economic or geopolitical instability

New construction

The following table provides an overview of current construction costs, the improvement in performance that is required between nZEB and ZEB for key building systems, and the estimated cost uplift for these changes for the sample buildings analysed.

To enhance nZEB construction to meet ZEB requirements, typically there is not a significant change that is required, rather an upgrade of key building systems. Note that the cost uplift relates to the items mentioned only and assumes that all other elements of the construction remain the same.

Table 5: Impacts of ZEB new construction case studies (Source: CBRE / T&T)

Building type (New Construction)	Construction cost under current regulations (nZEB) (2025 prices per sqm)	Typical nZEB specification	Typical enhancements to meet ZEB	% uplift in costs for delivery of elemental ZEB requirements*
Commercial office (5k sqm) nZEB to ZEB	€2,800 - €4,250	nZEB compliant building fabric (walls, roof, windows and doors)	Enhanced insulation to building fabric	Up to 5% uplift
		Heat-pump HVAC and domestic hot water (DHW) system with typical standard efficiency	Heat-pump HVAC and DHW system with enhanced efficiency	
		Basic building management system (BMS)	Building automation and control system (BACS) compliant BMS, including additional monitoring points	
Industrial Warehouse - Not heated, including 10% office space (10k sqm) nZEB to ZEB	€900 - €1,850	Electric heaters for office spaces	Heat-pump heating to office spaces	Up to 5% uplift
		500sqm PV installation	Increase area of PV installation from 500sqm to 900sqm	
Residential multifamily (100 units) nZEB to ZEB	€2,500 – €3,400	nZEB compliant building fabric (walls, roof, windows and doors)	Enhanced insulation to building fabric	Up to 5% uplift
		Standard LED lighting	Upgraded LED lighting	
Single family semi- detached home (2 bedroom) nZEB to ZEB	€1,550 - €2,900	nZEB compliant building fabric (walls, roof, windows and doors)	Enhanced insulation to building fabric	Up to 7.5% uplift

Upgrading existing nZEB buildings to ZEB

If asset owners wish to upgrade nZEB buildings to ZEB, the following upgrades may be required. As existing nZEB buildings typically have a BER of A2 or A3, only incremental improvements are likely to be required as long as there are no gas systems. Typical interventions and rates (based on 2025 costs) are summarised in the table below; however, it is essential that asset specific modelling is carried out to understand the most cost-effective way of improving energy and carbon performance. It should also be noted that the costs of retrofit are a wider range as they will depend on the existing building's design and construction.

Table 6: Impacts of ZEB retrofit impacts (Source CBRE)

Building Type	HVAC Upgrade	Facade Replacement Feasibility	Solar PV Integration	Estimated typical cost for elemental ZEB requirements. * (2025 prices)
Commercial office (5k sqm) nZEB to ZEB	Convert gas heating systems to heat pumps for heating and cooling.	Based on cost-effectiveness and carbon reduction potential.	Not required for ZEB PED targets	Heat Pumps: €90-150/m^2 Additional thermal Insulation: €45-150/m^2
Industrial (Warehouse not heated- 10k sqm) nZEB to ZEB	Convert gas heating systems to heat pumps for office spaces only.	Not likely to be cost effective.	Yes (900sqm)	Heat Pumps: €5-70 /m^2 Solar PVs: €320-700 (per sqm of PVs)
Residential multifamily (100 units) nZEB to ZEB	Convert gas heating systems to heat pumps.	Based on cost-effectiveness and carbon reduction potential.	No	Heat Pump heating system: €125-200/m^2 Thermal Insulation: €30-190/m^2

Disclaimers

- Costs for implementing a system include that system only and does not include design, preliminaries, any associated works that might be required.
- Current build costs, plus additional requirements for fabric and systems efficiency and based on 2025 prices, rather than the future prices when ZEB legislation will come into force.
- The % figures indicated in this assessment are for guidance purposes only and are subject to confirmation upon receipt of detailed design.
- This report does not account for potential impacts of current economic or geopolitical uncertainty. Variations in market conditions, material costs, or labour rates have not been included.

2.2.4 Energy supplied by carbon-free sources

ZEB's prioritisation of renewable energy will impact property in the following ways.

Table 7: Prioritisation of renewable energy under the EPBD and ZEB

Location	Energy Source	Considerations
On-site	On-site of nearby renewable energy sources.	Offset the greatest amount of energy requirement with onsite facilities. Industrial building provide the greatest opportunity due to building geometry, while PRS provide a challenge due to energy payment structures with tenants.
Local	Renewable energy from a renewable energy community	Renewable energy communities are not commonplace in Ireland. They may be more practical in semi-rural or suburban locations, but they are not likely to be practical in city centres.
	Energy from an efficient district heating and cooling system	In Ireland, there are two district heating and cooling systems: Tallaght and Ringsend (with the latter not yet being commissioned). It is unlikely district heating and cooling will be widely accessible in the short to medium term.
Regional or national	Energy from carbon-free sources	In Ireland, the most available source of carbon-free energy will be renewable energy from the grid. If, optimistically, 5% - 20% of energy needs can be provided by rooftop solar, the balance must come from green energy contracts.

Onsite renewable energy generation

Under the EPBD, renewable energy sources can be from any non-fossil fuel sources including wind, solar, geothermal, ambient energy, tide, wave and other ocean energy. At a national level, wind power is the largest source, however at a building level, PV power generation is the most practical and commonly used.

Increased onsite renewable energy requirements would prioritise roof space for solar PV. This could require typical plant/equipment to be moved to alternate locations such as basements. An increased use of batteries in all property sectors would maximise effectiveness of PV systems but is not widely used at present. Export of excess energy into the grid can be used to balance net energy demand under ZEB rules but will require increased flexibility of electricity infrastructure or demand balancing.

Particularly for existing buildings, the installation of solar PV systems can have two additional challenges. In the Dublin areas, solar requirements will impact available area for sustainable urban drainage measures such as green roofs, which are common in planning requirements. In addition, roof structure and water proofing will need to be assessed for compatibility with a solar PV system and its fixings.

Address climate resilience by clarifying plant location, comparing flood-risk protection costs for basements/ground floors versus constrained roof space (blue/green roofs and limited-impact PV), and consider a minimum solar threshold (for example, only where PV can meet around 10–15% of PED) as investors now ask about plant location in climate transition risk assessments.

Renewable energy community/district heating

District heating systems are in operation in Tallaght and planned in the North Docks / Ringsend areas. The SEAI is running a sustainable energy community network currently showing 803 Community Renewable Energy Generation projects in various stages of planning, however it is unclear how many of these are in operation.

Energy from other carbon free sources

It is anticipated the main sources of carbon-free energy in Ireland will be green electricity sourced from the grid. The graph below shows the increase in renewable energy making up the Irish grid electricity supply, currently at around 40%. The majority of the renewable energy generated is wind-power.

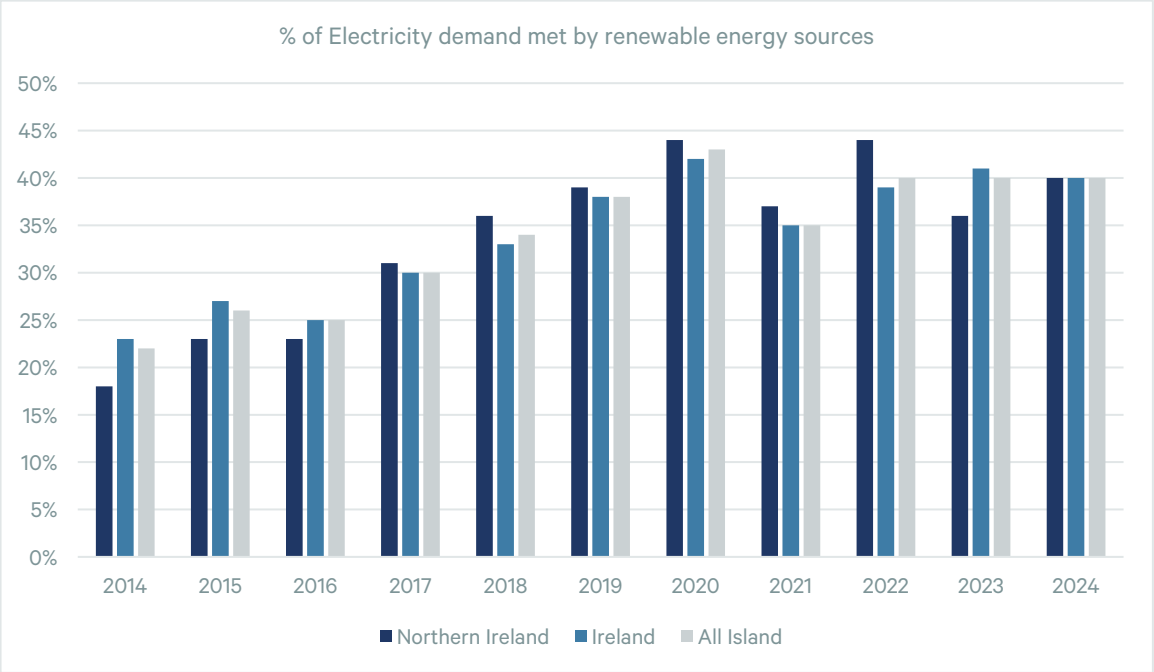


Figure 6: Proportion of electricity demand met by renewable energy sources in Ireland (Source: International Energy Agency)

High demand for 100% renewable electricity contracts may create a premium due to a current lack of supply.

Supplying electricity back to the grid

While the potential of solar energy is clear, the current framework for facilitating its integration into the Irish national grid presents several challenges that must be addressed to encourage widespread adoption. The Microgeneration Support Scheme (MSS) and the Clean Export Guarantee (CEG) (Commission for Regulation of Utilities, 2022) are positive steps in encouraging solar deployment, yet the administrative complexities surrounding application procedures, grid connection approvals (NC6/NC7), and the rollout of smart meters are significant impediments to widespread implementation . Administration and lengthy approval times, in particular, function as deterrents, ultimately restricting the accelerated deployment of solar energy across the country. Addressing these bottlenecks will be key to drive further investment in this area.

2.3 Recommendations for institutional property investors

2.3.1 No on-site fossil fuels

- **Develop a transition plan to eliminate fossil fuel use from their existing portfolios.** Prioritise buildings where heating systems are nearing end-of-life, lease renewals are upcoming, or major refurbishments are already planned, to minimise disruption and leverage existing investment cycles.

- **Incorporate clauses mandating no-fossil-fuel heating in new commercial lease agreements and renewals.** This can incentivise office, industrial and retail tenants to adopt sustainable heating solutions and align their portfolio with future regulatory requirements.

- **Include best-practice commissioning of heat-pumps and other newer technologies when replaced.** Including a seasonal commissioning contract for ensuring performance over the first 12 months of operations.

- **Invest in comprehensive training for building management teams.** Efficient operation and effective maintenance of new, alternative heating systems is essential to ensure optimal performance, efficiency, and longevity of these critical installations. Providing effective training for site teams will support the effective running of a building and potentially manage energy costs.

2.3.2 More stringent maximum energy demand

- **Review in design and development projects to understand designed PED thresholds.** Compare against ZEB requirements to understand the design and cost implications. Before ZEB is implemented, aim to target a BER of A2 or better. Explore options for BER improvement to mitigate risk of BER slippage under ZEB requirements.

- **Communicate the benefits of ZEB.** Under ZEB, buildings will use less energy and require less cost to operate. Develop marketing messages around operational savings in order promote the benefits of ZEB buildings, and improve market appeal, to recapture higher initial investment required by ZEB.

2.3.3 Energy supplied by carbon-free sources

- **Include additional onsite renewable energy generation during development** Review in design/development project to develop options for additional onsite energy generation. If in conflict with planning/SUDS requirements, engage with local authority on pathways to increase onsite renewable energy generation.

- **Evaluate energy procurement contracts** across portfolio and consider renewable energy options.

- **Investing in energy storage solutions** particularly battery systems, will allow property investors to maximise the self-consumption of on-site renewable energy, reducing reliance on the grid and enhancing energy independence.

2.4 Recommendations for government

2.4.1 No on-site fossil fuels

- **Promote heat pump and district heating and cooling adoption.** Provide targeted financial incentives, technical assistance and clear guidance for the widespread adoption of heat pumps and connection to efficient district heating and cooling systems, especially for existing buildings.

– **Invest in recruitment and training** of heat pump technicians to meet increased demand for low carbon technology.

2.4.2 More stringent maximum energy demand

– **Consider construction costs of ZEB.**
To ensure Ireland remains an attractive place to invest in real estate and occupy as a tenant, it is essential that the cost-optimal implementation of ZEB standards does not increase construction costs compared to other European countries. As part of developing ZEB standards, the government should also consider upfront costs of energy-saving measures (e.g. insulation or heating systems) against long-term benefits such as energy savings and reduced emissions. In theory, additional construction costs should be balanced by a reduction in lifetime energy costs; however, the construction costs will be met by the developer/investor.

– **Alternative threshold for existing buildings.**
Article 11 paragraph 4 allows for a different energy threshold to be set for existing buildings to achieve ZEB. Due to the benefits in embodied carbon of retrofitting rather than rebuilt, this should be incentivised by government. The target should be set to provide a pathway for building fabric to be improved – rather than replaced – to allow an A rating. Over the lifetime of the building, this would have a positive impact on embodied carbon emissions. If façade replacement is required to achieve ZEB standards, this may make a retrofit project financially unviable and disincentivise the market to invest in retrofit projects.

– **Address overheating risks.**
Commission a detailed study to understand overheating risks for all main building types in Ireland considering future climate scenarios and integrate the findings into ZEB standards and building regulations. Update climate files required in Part L modelling to provide more locations and allow for future climate change.

2.4.3 Energy supplied by carbon-free sources

– **Develop a carbon-free energy hierarchy.**
To ensure that on-site renewable and local systems are prioritised before grid electricity the government should set a clear hierarchy of carbon-free sources as part of the ZEB framework, which is in line with the outline in Article 11(7) and Annex 7. It is recommended that the requirements for on-site solar under Article 10 are prioritised first, and clear requirements are set out in ZEB definition. 10-20% has been demonstrated to be feasible, through the implementation of nZEB. Due to the lack of current district and community energy systems, these should be given the same priority as electricity from the grid.

1. On-site solar power generation and other onsite renewables
2. District, community and grid green power

– **Define 'carbon-free sources'.**
Provide a clear national definition for 'carbon-free sources' for ZEB compliance, including how green grid electricity will be accounted for and establish verification methods. It is recommended that green/renewable energy contracts will count towards ZEB compliance. Two approaches that should be considered are: 1) Contracts with energy providers linked to guarantees of origin, and 2) Referencing the energy mix (preferably at a local level, such as the area surrounding the building, rather than at the national level).

– **Streamline the process for grid connection for energy export from asset level PV systems.**
To accelerate take-up of energy export schemes, implement simplified and standardised online application process for both the Microgeneration Support Scheme (MSS) and Clean Export Guarantee (CEG), which is integrated with the grid connection process. Accelerate the roll out of smart meters.

Implementation case study – Cairn Homes and Passive House

Cairn Homes has employed the Passive House standard as part of its sustainability strategy to deliver high-quality future-proofed homes at scale. The decision stems from a desire to reduce operational carbon emissions, improve energy efficiency and enhance resident comfort while meeting Ireland's climate targets. Passive House offers a proven science-based approach that guarantees performance through rigorous design and certification, ensuring homes are warm, healthy and affordable to run.

Construction Changes:
Cairn did not have to alter its construction methods significantly to achieve Passive House certification. While keen attention to airtightness workmanship was needed in order to meet the stringent targets required by the standard, and some optimisation of thermal bridging details, no significant additional insulation was required generally. Triple-glazed windows were installed to minimise heat loss and gain, while mechanical ventilation with heat recovery systems ensure fresh filtered air and stable indoor temperatures. These measures virtually eliminate the need for conventional heating, reducing heat energy demand by an estimated 55%.

Costs:
While building to Passive House standards involves higher upfront costs compared to traditional methods, Cairn views this as a strategic investment. The additional expense is offset by long-term savings on energy bills – predicted to average 41% annually – and reduced maintenance costs due to improved building durability. For Cairn, the cost premium is justified by the benefits to residents and the resilience of the asset against future regulatory and market pressures.

Benefits:
Passive House homes deliver exceptional comfort, health and well-being. Residents enjoy consistent indoor temperatures, improved air quality and protection from fuel poverty. For investors, benefits include lower operational costs, reduced risk of voids and enhanced property value. Environmentally, these homes lock in carbon reductions for decades, aligning with ZEB targets. By adopting Passive House, Cairn is setting a benchmark for sustainable scalable housing in Ireland.

Case study produced with thanks to Cairn Homes.

3 Minimum Energy Performance Standards

This section aims to highlight key changes and impacts related to Minimum Energy Performance Standards (MEPS). It also proposes recommendations to government to enable a smooth implementation of the required changes and to property owners and investors to prepare assets for incoming changes.

Relevant EPBD articles and annexes

Article 5: Setting of minimum energy performance requirements
Article 6: Calculation of cost-optimal levels for minimum energy performance requirements
Article 9: Minimum energy performance standards for non-residential buildings and trajectories for progressive renovation of the residential building stock
Annex to the Communication to the Commission Annex 1: Minimum energy performance standards for non-residential buildings and trajectories for progressive renovation of residential buildings (Article 9)

3.1 What are Minimum Energy Performance Standards?

The government is required to establish MEPS for non-residential buildings, as well as a trajectory for the renovation of residential buildings. By requiring the renovation of the least efficient properties from the market, MEPS improve the national building stock and align with EPBD climate change objectives.

3.1.1 Non-residential building MEPS

MEPS require that the lowest performing 16% of the non-residential building stock (by energy performance) undergoes deep renovation by 2030, increasing to 26% by 2033. This means:

- Establishing a national building energy performance database to identify the bottom-performing buildings.
- Defining energy performance thresholds aligned with the EPBD and national BER classes.
- Implementing compliance mechanisms, including mandatory energy audits, digital reporting and enforcement, through administrative penalties or restrictions on building use for non-compliance.

The MEPS thresholds are to be expressed by a numeric indicator for primary or final energy use, or states may also set thresholds corresponding to BER class. Compliance is to be checked via BERs; however, penalties for non-compliance are to be determined by members states, and there has been no indication from the Irish government yet on how this will be implemented.

3.1.2 Renovation trajectories for residential buildings

By May 2026, the Irish government is required to publish a national trajectory for progressive renovation of homes. It will be set as a decrease in the average primary energy use of the entire residential building stock between 2020 and 2050.

The trajectory must achieve a 16% reduction in average primary energy consumption of the residential building stock by 2030, and 20%–22% by 2035. Key technical measures include:

- Development of renovation passports integrated with the national energy performance registry.
- Deployment of financial instruments (e.g. tax credits, low-interest loans and energy efficiency obligation schemes) to incentivise deep renovations.
- Implementation of data-driven monitoring systems to track progress against national energy efficiency targets.
- Nationwide information campaigns leveraging digital platforms to increase homeowner engagement and uptake of renovation programmes.

Institutional PRS landlords manage a significant share of Ireland's newer apartment stock and face structural barriers not addressed by owner-occupier policies, for example:

- SEAI grant eligibility rules that disadvantage planned investment cycles,
- A funding cap of €300,000 for grants under the de minimis aid rules, which limits retrofit projects
- DEAP limitations for communal systems
- Insurance and fire safety costs that make rooftop PV installation on PRS scheme less viable.

3.2 How MEPS may impact institutional property in Ireland

3.2.1 Non-residential buildings MEPS

SEAI manages the database for BERs, which includes calculated primary energy use for non-residential buildings that have a BER. The graph below shows the spread of BER grades between residential and non-residential building stock.

To identify the bottom performing buildings that may be impacted by MEPS, the bottom 16% corresponds to buildings classified as G and F, and the bottom 26% to G, F and E. (Note that the EPBD requires that MEPS be defined by PED rather than BER level, however this provides an estimate)

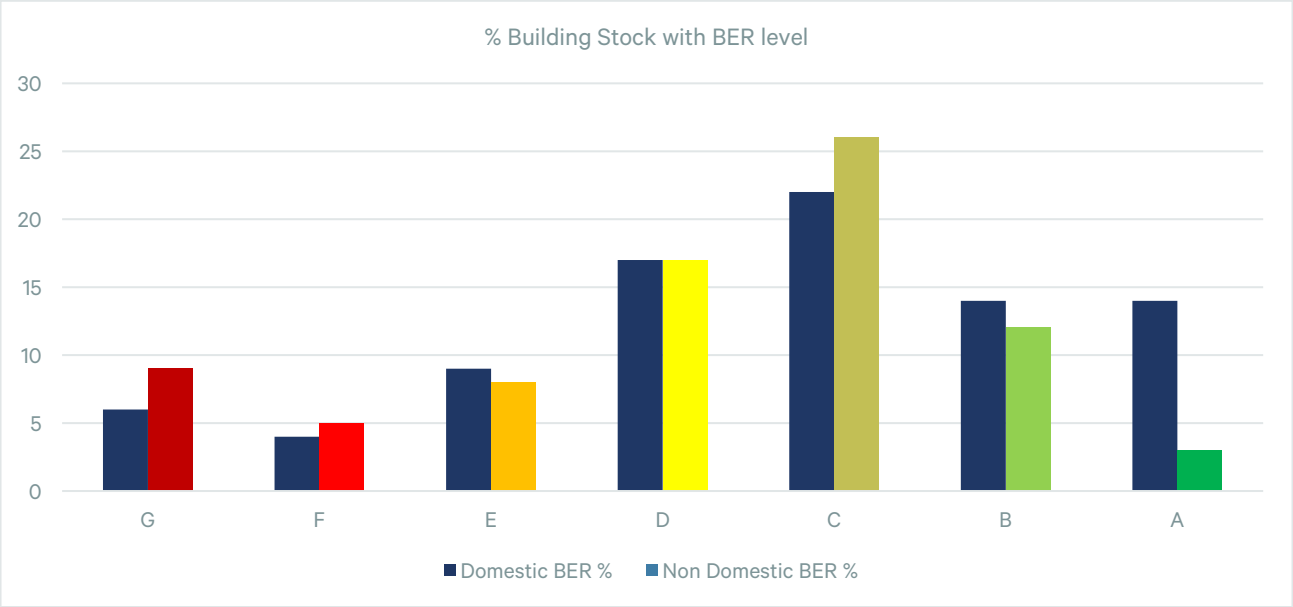


Figure 7: % of building stock with BER rating Source: Central Statistics Office

Other countries in the region have set more ambitious MEPS than those required by the EPBD, as listed below.

UK	A minimum EPC of E for all rentals is already in place under the Minimum Energy Efficiency Standards, with targets for minimum EPC C by 2030 currently in consultation.
France	Residential buildings must have EPC F (2025), E (2028) and D (2034). Commercial buildings must evidence a reduction in energy use (40% by 2030).
Netherlands	Office buildings must have an EPC of C (2023) – the current compliance rate is 78%.
Belgium (Flanders)	By 2030, all detached and semi-detached rental houses must reach at least EPC E, and all apartments and terraced houses at least. When a non-residential building is sold or transferred, it must, within five years, implement a set of basic energy upgrades including rooftop insulation, double glazing, efficient heating, and also achieve either at least 5% on-site renewable energy use or an equivalent of EPC level E.

Institutional property investors note that it is important that property standards in Ireland stay in alignment with other European cities such as London, Paris and Amsterdam to attract investment.

Impact of Minimum Energy Efficiency Standards in the UK

In the countries and regions above, clear regulations have provided certainty to industry and accelerated the improvement of building stock. The graph below shows the issuance of EPCs in the UK by year.

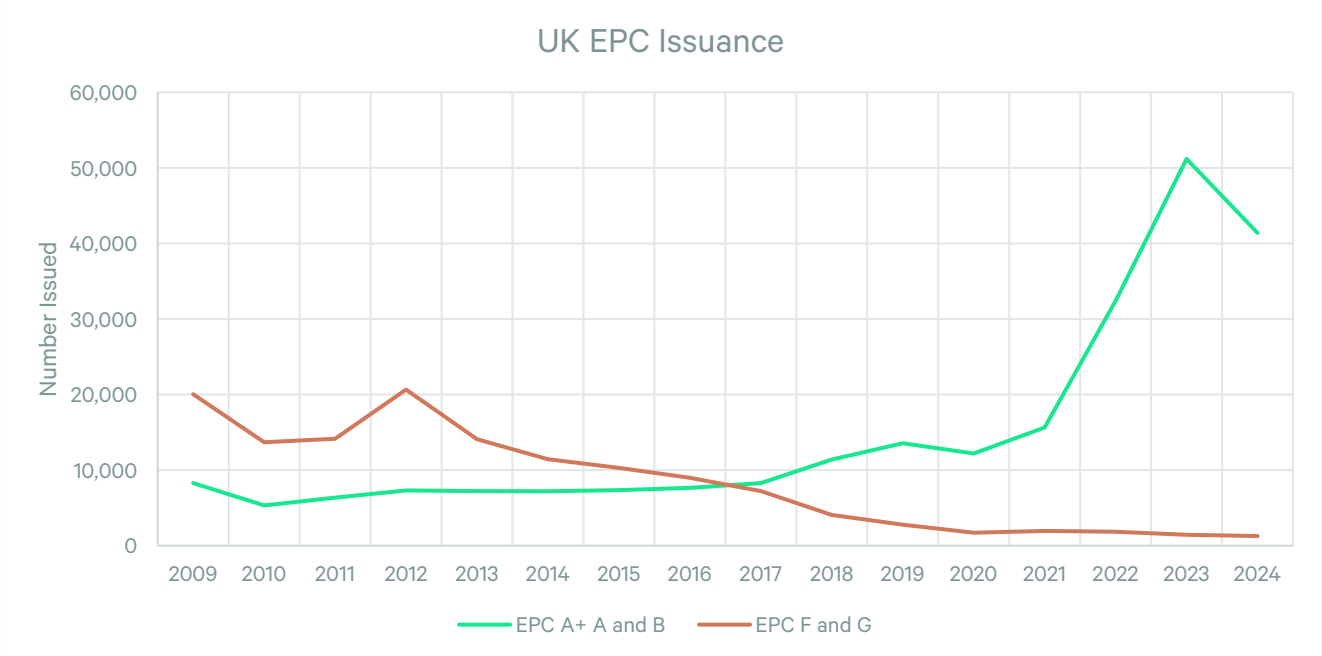


Figure 8: EPC Issuance of high performing and low performing buildings in UK
Source https://www.gov.uk/government/statistical-data-sets/live-tables-on-energy-performance-of-buildings-certificates

MEES regulation was introduced in 2018, and the graph clearly demonstrates the acceleration of buildings rated an A+, A or B, and the near elimination of non-compliant assets. There was a reduction in EPC F and G issuance when regulations came into force in 2018 making E the minimum requirement. There has been a slow increase in issuance of A and B EPCs. This is likely due to a combination of new buildings built to stricter Building Regulations and upgrades to buildings in anticipation of the future standards. In 2022 the EPC calculation methodology changed, benefiting buildings that use electricity for heating, this seems to have increased the number of 'good' EPCs being issued. Overall, MEES regulations in the UK, along with more stringent legislation for new builds has had a significant impact on improving building stock.

Meeting MEPS in Ireland

For commercial buildings in Ireland, retrofit projects are being more frequently undertaken due to the business need to attract and retain high-quality tenants, meet investor requirements and secure funding. Often, when there is an opportunity to retrofit a building, the opportunity is taken to upgrade to an enhanced BER rating such as B or A, so that the asset will appeal to a wider range of investors and tenants.

MEPS will most likely impact institutional property investors by imposing a hard deadline for upgrading lower-performing stock, which may not align with periods of vacancy. While upgrading lower performance assets to meet future MEPS standards is not likely to require significant upgrades, the options may be more limited or challenging to implement with tenants in-situ.

Office and industrial buildings: Improving the BER of lower performing buildings usually involves upgrades such as LED lighting, rooftop solar PV (where applicable), and improvements to building control systems, also mandated by other EPBD regulations. In addition, to avoid conservative default values in the BER assessment negatively impacting the score, improvements can be achieved by obtaining air permeability testing certificates and detailed documentation of building systems.

3.2.2 Renovation trajectories for residential buildings

Under the current proposals, it is unclear what targets the Irish government will set for the residential sector. Given the investor demand for sustainable assets, it is likely that PRS scheme investors will target the retrofitting of assets ahead of government targets. Particularly where heating and building systems are decentralised, a unit-by-unit approach to retrofitting in line with general maintenance needs is likely to be adopted, which will improve BER performance. This sector of buildings will also be impacted by the requirements for solar energy and electric vehicle (EV) charging before MEPS have an impact.

Single family homes

The future owners of the homes will be responsible for meeting MEPS requirements. However, as new homes developed by institutional property investors will meet current nZEB and future ZEB requirements, they are unlikely to be impacted by this article.

3.3 Recommendations for institutional property investors

- **Maintain comprehensive records of BERs and their expiry dates.**
  This enables owners and investors to proactively identify "at-risk assets" within their portfolios and develop strategic decarbonisation and retrofit plans, thereby avoiding potential penalties and asset devaluation under the evolving EPBD framework.

- **Develop BER improvement plans**
  Ahead of MEPS deadlines, institutional property owners should implement BER improvement plans for non-residential assets with a rating of B or lower. This proactive investment aligns with the industry's ambitious target of a minimum

BER E by 2030, mitigating future compliance risks, enhancing marketability, attracting green finance, and securing premium rents.

3.4 Recommendations for government

- **Set ambitious targets for MEPS**
  The government should set more ambitious MEPS targets for non-residential buildings, such as achieving a E rating by 2030. Irish institutional property is in competition to secure investment at a European level, and MEPS targets should be set to ensure alignment with other world-class cities in the region. This approach will accelerate the transformation of Ireland's building stock, demonstrate leadership in sustainable property investment, and provide the essential long-term market certainty required for industry investment in decarbonisation and retrofitting.

- **Engage with industry on the trajectory for housing renovation**.
  The government should undertake structured engagement with institutional residential landlords prior to finalising the trajectory, to ensure that compliance mechanisms and financial supports reflect the investment and decision-making structures of PRS operators. Without this, there is a material risk that measures designed for individual homeowners will be applied to PRS stock in ways that are impractical, reducing overall compliance rates.

- **Invest in a communications strategy to enhance public understanding on energy efficient homes.**
  As part of the trajectory for residential buildings, the government should develop a communications plan to ensure that members of the public are aware of the opportunities for energy efficient homes and the operations of heat pumps, PV and other new technologies.

Policy case study: Minimum Energy Efficiency Standards (MEES) – UK

The MEES were introduced in 2015 by the Energy Efficiency Standards (Private Rented Property; England and Wales) Regulations in 2015. The new regulations introduce stricter requirements on commercial landlords, with potentially heavy penalties for non-compliance. The changes brought about by the MEES regulations have been implemented in phases. The key dates so far have been:

- 1st April 2018: Landlords of buildings that are covered by the MEES regulations must not renew existing leases or grant new leases unless the building has an EPC rating of E or above.
- 1st April 2020: Residential properties subject to an existing lease must not continue to be let unless they meet MEES band E.
- 1st April 2023: Commercial properties that are subject to an existing lease must not continue to be let unless they meet MEES band E.

The UK government is expected to announce an update to the MEES for commercial real estate, with a likely decision to raise the minimum EPC rating from E to B for buildings leased after 2030 but before 2035. This change aims to reduce carbon emissions from commercial real estate, in line with the UK's net-zero target.

The new standards are expected to impact a significant proportion of commercial stock, with approximately 60% of buildings currently below the proposed threshold, particularly in urban areas such as Central London. Landlords will need to invest in improving the energy efficiency of their buildings to comply with the new regulations, which are likely to include exemptions for buildings where efficiency measures are not deemed cost effective. The announcement is expected to be made later this year, with a phased implementation to allow landlords sufficient time to make necessary improvements.

Implementation case study – Hibernia Observatory Building

Hibernia Real Estate Group, an Irish office investor, developer and asset manager, decided to refurbish its Observatory building in Dublin after identifying a strong risk of the asset becoming stranded due to poor energy and carbon performance, reliance on fossil-fuel heating and limited occupier comfort controls. Rising energy costs and the projected increase in carbon taxes to over €100 per tonne by 2030 further threatened the building's financial viability and long-term value.

The total investment of around €1.5 million – less than 2% of the building's current valuation – was approved by Hibernia's private equity owner Brookfield Asset Management and funded through a shareholder loan. The asset, as of 2025, is now fully let as a result of the repositioning strategy and updated energy performance credentials achieved.

The comprehensive refurbishment of the 20-year-old asset began in 2024, with a clear focus on sustainability. The project aimed to improve the BER, eliminate fossil fuel use by installing heat pump technology and enhance thermal integrity through roof insulation. Additional measures included installing a 34kWp PV array for on-site renewable energy generation, upgrading to a smart BMS and introducing demand-controlled ventilation on vacant floors. The refurbishment also initiated certification under LEED Operations and Maintenance as no green building certification previously existed and provided occupiers with bespoke online dashboards to monitor energy and carbon performance.

Energy modelling predicts that these interventions will reduce annual carbon emissions by approximately 45%, significantly improving operational efficiency and preventing the building from becoming stranded in the short to medium term. A life-cycle carbon assessment concluded that the refurbishment would add less than 8% to the building's lifetime embodied carbon emissions, with the original construction accounting for 78% and a future façade replacement in 30 years contributing the remaining 14%.

To minimise embodied carbon, the project prioritised retaining the original structure and façade and reusing existing raised access floors, ceiling tiles and mechanical and electrical equipment where feasible. Rigorous testing of air handling units and ductwork ensured compatibility with the new heat pump system operating at lower flow rates.

This strategic refurbishment not only improves the building's energy performance and sustainability credentials but also enhances tenant comfort and protects asset value in a rapidly evolving regulatory and market environment.

Case study produced with thanks to Hibernia Real Estate and RKD.

Read more here: https://rkd.ie/insights/towards-net-zero-a-case-study/

4 Other EPBD Articles

During stakeholder engagement with institutional property investors the topics in the previous chapters were identified as potentially having the greatest impact on institutional property investors in Ireland. This chapter provides an overview of other important but potentially less material EPBD articles, and recommendations are discussed.

4.1 Global Warming Potential (GWP) Calculation

Relevant EPBD articles and annexes

Article 16: Data exchange
Article 22: Database for the energy performance of buildings
Annex VI: Data exchange

4.1.1 What is changing under the EPBD?

The EU's EPBD introduces a mandatory requirement for new buildings and ZEBs to calculate and disclose their life-cycle GWP. GWP is a crucial indicator that quantifies a building's total contribution to climate change throughout its entire lifespan, encompassing both operational (energy use) and embodied (material production, construction and demolition) GHG emissions.

Under the new BER requirements, GWP will also be included as a required metric on the certificate. This will apply from 1st January 2028 for all new buildings with a useful floor area larger than 1,000 m², and from 1st January 2030 for all new buildings. The Sustainable Energy Authority of Ireland (SEAI) are currently consulting on the methodology.

From 1st January 2028, GWP must be calculated and disclosed on the EPCs for all new buildings with a useful floor area exceeding 1,000 m².

From 1st January 2030, this obligation extends to all new buildings.

4.1.2 How GWP Calculations may impact institutional property investors?

The life-cycle GWP of a building considers carbon emissions from all life-cycle stages of building materials—extraction, manufacturing, transport, and construction—using standardised factors from Environmental Product Declarations (EPDs) or databases. Calculations use bills of quantities and materials invoices to apply EPD factors against. This process is typically done during design stage and can be required to be redone at completion. GWP calculations will add costs to BERs, for example, the cost for a life-cycle assessment for LEED purposes is typically €8,000–€12,000 (2025 prices).

As carbon from construction materials (embodied carbon) typically accounts for 40-60% of life-cycle carbon emissions for a new building, embodied carbon is an important metric that clearly demonstrates the benefit of retrofits versus new build. As buildings reduce their operational carbon emissions over time, embodied carbon will become more significant.

4.1.3 Recommendations for property investors

The increasing focus on life-cycle GWP means property owners must now track and minimise the embodied carbon of their assets from design through to disposal.

– **Develop internal life-cycle carbon assessment methodology to measure GWP.** The methodology should comply with the EU requirements, EN 15978 standard and Level(s) indicator 1.2. Internal processes, such as building information modelling (BIM) can improve the accuracy of GWP calculations.

- **Investing in training for staff on GWP calculation** methodologies and reporting requirements will equip teams with the necessary expertise to accurately measure, manage, and report on the embodied carbon of their property portfolios.
- **Investigate the use of low carbon materials.** While the availability of lower carbon materials is growing, specification of them for existing developments will support the growth of the supply chain.

4.1.4 Recommendations for government

- **Finalise and implement GWP methodology:** Expedite the finalisation and publication of Ireland's life-cycle GWP Calculation Methodology and National Embodied Carbon Database of Building Materials, ensuring alignment with EU frameworks (EN 15978, Level(s) indicator 1.2) and existing standards such as LEED/BREEAM.
- **Invest in data infrastructure and training:** Develop a robust national database for embodied carbon data and invest in comprehensive training programmes for professionals (architects, engineers and BER assessors) on GWP calculation and reporting.
- **Incentivise low-carbon materials:** Introduce financial incentives and regulatory measures to promote the use of low-carbon construction materials and circular economy practices and the publishing of Environmental Product Declarations.

Policy case study – Embodied carbon benchmarking in the Netherlands

The Netherlands implements a best-practice approach to embodied carbon calculation through its Dutch Environmental Performance of Buildings (MilieuPrestatie Gebouwen; MPG) metric. This metric quantifies the environmental impact of building materials over their entire life cycle using a life-cycle assessment framework, encompassing all phases from raw material extraction to end-of-life demolition.

The MPG calculation has been mandatory in environmental permit submissions for new office constructions exceeding 100m² and new residential developments since **2012**. The regulatory threshold has progressively tightened over time, improving the carbon impact of new developments.

Projects achieving good MPG scores can access fiscal incentives such as the Milieu-investeringsaftrek scheme, which allows for the recovery of approximately 10% of additional construction costs. The system relies on the National Environmental Database, a legally mandated repository of verified environmental declarations (Milieuverklaringen) for construction products, ensuring data standardisation and reliability. This framework has improved industry awareness of embodied carbon and incentivised the use and development of low-carbon materials.

4.2 Solar Energy in Buildings

4.2.1 What's Changing under the EPBD

Article 10 of the EPBD provides for a significant push for solar energy in buildings across the EU. Specifically, it mandates that all new and existing buildings must include solar energy generation.

Relevant EPBD articles and annexes	*Article 10 – Solar Energy in Buildings*

The Irish government will be required to determine what comprises a 'suitable solar installation' for both new and existing buildings in the Irish context, considering the issues in the table below. As maximising on-site renewable energy is a key part of ZEB implementation, the rules determined under this article will have an impact on ZEB standards. Article 10 provides additional information on what the government will need to consider in determining the solar energy requirements.

Table 8: Considerations required for 'Suitable solar installation' according to the EPBD

What is a 'suitable solar installation'		
Technical	Technical suitability refers to the compatibility between the technical characteristics of the solar installation and those of the roof or façade of the building, ensuring that installation is possible. There is no technical suitability if it is technically impossible to install a solar system.	– Orientation – Roof structure – Waterproofing – Exposure to high winds – Electric infrastructure of building – Presence of other systems such as HVAC equipment and green roof coverings
Economic	Economic feasibility refers to the cost of the solar system and whether the expected benefits outweigh the costs, considering the expected lifetime of the solar installation.	– Payback period
Functional	It is not functionally feasible to deploy solar installations if these would result in changes that affect the building's intended use, considering any specific constraints (e.g. regulations) that may apply to the building.	– Building regulations – Planning regulations – Fire regulations

All new public and non-residential buildings will be required to include solar energy installations by 31st December 2026 (Note that this is before ZEB requirements are implemented).

All new residential buildings must include solar energy installations by 31st December 2029.

4.2.2 Impacts for institutional property investors

Reduction in operating costs

The reduction in energy costs will be passed to the tenants. The reduction will depend on the size of the system compared to energy demand, the orientation of the solar panels and other installation factors. Typically, a smaller proportion of energy can be provided by on-site solar to a high-rise office compared to an industrial warehouse, or even a low-rise residential scheme.

Increasing the adoption of PV in Ireland

By the end of 2025, 34% of Ireland's energy demand was being met by renewables, with 5% being from solar power. While the capacity of solar is increasing year on year, and prices are decreasing, additional capacity is still required. Practical implications of solar installation are discussed in Section 2.2.3.

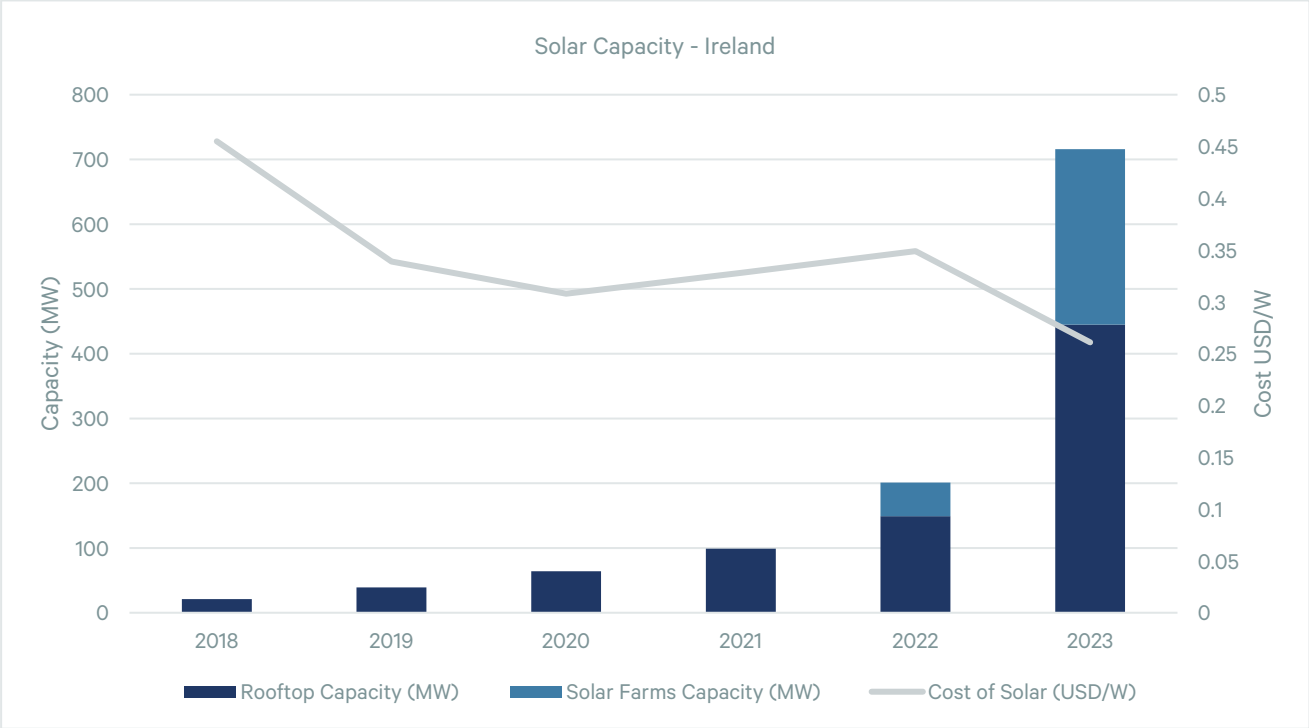


Figure 9 : Solar capacity of Ireland and costs of installation over time
Source International Renewable Energy Agency Renewable Power Generation Costs in 2023

4.2.3 Recommendations for institutional property investors

- **Mutual benefits of solar:** Consider how commercial leases can be structured to ensure the tenant's benefit of solar and reduced energy bills is captured to offset initial investment cost.

4.2.4 Government Recommendations

- **Clarify 'suitable solar installation' criteria:** Provide national criteria for what constitutes a 'suitable solar installation' for both new and existing buildings, considering technical, economic and functional feasibility and ensuring optimal solar generation potential.
- **Consider planning and fire requirements:** Consult with local planning jurisdictions to ensure that planning requirements for a green roof do not restrict the installation of solar energy systems.
- **Continue with grant programmes** for solar PV on residential properties, including both homes and PRS properties.

4.3 Data Exchange

Sharing energy use data is a key part of managing buildings and improving energy performance. The EPBD requires the government to set up a platform to enable 'Data Exchange' between building owners, landlords and tenants.

The aim of this Article is to close the 'performance gap' – the difference between how energy-efficient a building is expected to be and how much energy it uses. Ultimately, this leads to better decisions and helps create buildings that are more open about their energy use and better for the environment.

Relevant EPBD articles and annexes	*Article 16: Data exchange* *Article 22: Database for the energy performance of buildings* *Annex VI: Data exchange*

4.3.1 What is required under the EPBD?

Building data sharing between owners, tenants and managers

Under Article 16, the Irish government is required to provide a method to allow building owners, tenants and managers direct access to their building system's data. The data to be shared include the following:

- Building elements
- Energy performance of building services
- Projected lifespan of heating systems
- Details of building automation and control systems
- Sustainable mobility systems
- Digital building logbook.

In practice, this is likely to work alongside the database for the energy performance of buildings under Article 22, which will collect building data and allow public access to the aggregated data.

4.3.2 Impacts for institutional property investors

Improving access to whole building data

A major barrier to improving energy performance in the Irish institutional property sector is gaining access to whole building data, which is essential for undertaking accurate energy audits and improvement studies. Research has shown that up to a 20%[4] reduction in energy use can be achieved by operational measures alone. In the current market, depending on lease structures, data gaps may exist, where tenants are either unable or prefer not to share energy use data with landlords. Ensuring that data is shared will support the improvement of buildings' operational energy performance.

Closing the performance gap

Industry research has shown that there is typically a gap between the modelled energy performance of a building and the actual energy use as measured at the building. This issue, known as the 'performance gap', can be caused by building management practices, incorrect setup of building systems and set points, or occupant behaviour. The chart below demonstrates how actual energy use intensity has limited correlation to EPC class offices in the UK.

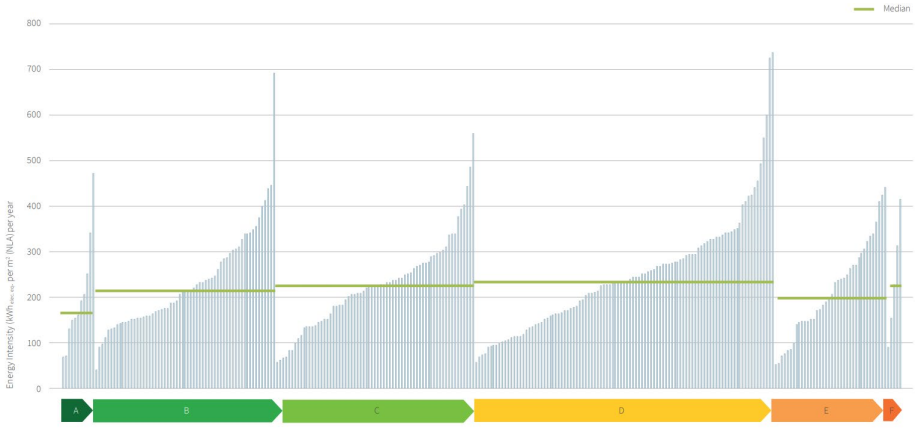


Figure 10: Office Energy Intensity by EPC Rating 2018/19 – Source: Better Buildings Partnership

[4] UK Green Building Council - Building the case for net-zero: retrofitting office buildings

Where public disclosure of energy use is required by the government, there is typically a reduction in energy use year on year. The following programmes have been successfully implemented in other countries:

- Tertiary Decree (France) – 20% reduction
- Energy Star (US) – 35% reduction in operational energy use
- NABERS (Australia) – 30%–40% reduction over a ten-year period.

Reduction in operational energy costs

If a building can be run more efficiently through improved access to data, there will be a reduction in energy bills for building owners and landlord services, and in the bills and service charges passed through to tenants.

4.3.3 Recommendations for property investors

- **Mandate data sharing through green leasing for non-residential properties**
  Include green lease clauses in lease agreements for data sharing, to allow for the collection of whole building energy-use data.
- **Invest in data management platform**
  Explore data management platforms for buildings and automatically collect and analyse building energy-use.

4.3.4 Recommendations for government

- **Establish a data-sharing platform for tenants and landlords.**
  Obtain smart meter data from utility companies. Link the data-sharing platform with the energy performance database (Section 1.1.3) that the performance gap in Ireland can be assessed, allowing for future policies and interventions to target improvements in energy efficiency.

Policy case study: France's Tertiary Decree for Operational Energy Efficiency

France has implemented a robust regulatory framework to drive operational energy efficiency in its commercial building stock, notably through its Tertiary Decree (Décret Tertiaire). This regulation mandates significant reductions in final energy consumption for tertiary sector buildings, aiming for 40% by 2030, 50% by 2040 and 60% by 2050, relative to a 2010 baseline. Both building owners and lessees are responsible for achieving these targets, necessitating active energy management and optimisation strategies. The primary standard for compliance and monitoring is the OPERAT platform, a centralised digital system managed by the French Agency for Ecological Transition (ADEME).

Building occupants are required to annually declare their energy consumption data via OPERAT, enabling verification against the decree's objectives. Non-compliance is enforced through penalties, including fines of up to €7,500 per entity per building. This comprehensive approach has fostered best practices such as mandatory data collection and widespread adoption of building automation and control systems, and it has already demonstrated a **22% reduction in energy use between 2020 and 2022**, illustrating the direct impact of regulatory drivers on energy.

4.4 National Building Renovation Plan

4.4.1 What is required under the EPBD?

A national building renovation plan (NBRP) serves as a strategic long-term roadmap outlining national measures and targets for transforming existing building stock into a highly energy-efficient and decarbonised asset base. This chapter analyses the technical implications of NBRPs, including their requirements for energy performance and renewable energy systems integration, renovation rates, and economic and regulatory impacts on the property sector.

Relevant EPBD articles and annexes	*Article 3: National building renovation plan* *Annex II: Template for the national building renovation plan*

Under Article 3 and Annex II of the EPBD, the Irish government must develop and implement a comprehensive NBRP. Key requirements include:

- Detailed overview of building stock: An analysis of the national building stock, covering residential, non-residential, public and private properties and including characteristics such as age, typology, climate zone, ownership patterns and current energy performance.
- Measurable targets and timelines: Establishment of clear, measurable targets and intermediate milestones for 2030, 2040 and 2050, focusing on annual renovation rates and reductions in primary energy use and GHG emissions.
- MEPS: Specification of MEPS for non-residential buildings, including nationally determined maximum energy performance thresholds, and a renovation trajectory for the residential sector.
- Policies and measures: Detailed implemented and planned policies and measures, including financial incentives, technical assistance, skills development initiatives and strategies to overcome market barriers.
- Investment and financing: Identification of investment requirements and delineation of financing sources, encompassing both public and private funding mechanisms.
- Inclusive development process: Involvement of regional and local authorities and public consultations during formulation.

A draft NBRP must be submitted by state governments by 31st December 2025, and the final version by 31st December 2026, with subsequent updates every five years.

4.4.2 Impacts for institutional property investors

The NBRP, while a government-led initiative, significantly impacts institutional property owners by providing market certainty regarding future regulatory requirements and investment priorities. Owners will be required to align their long-term asset strategies with the national decarbonisation pathway and the binding intermediate milestones defined in the NBRP.

4.4.3 Recommendations for institutional property investors

- **Engage with the consultation process**
  Review the draft NBRPs upon their publication at the end of 2025 to understand detailed goals, trajectories and specific obligations and participate in any public consultations or stakeholder workshops.
- **Prepare for increased data collection and analysis requirements**
  Ensure robust systems are in place for BERs, renovation passports and other performance metrics.

4.4.4 Recommendations for government

- **Engage with industry:** Ensure clear and consistent communication with the property industry and conduct meaningful consultations to facilitate a smooth transition and implementation of the NBRP.

4.5 Renovation Passports

4.5.1 What is required under the EPBD?

Currently, consultants provide a wide range of reports to assess the pathways to improve existing assets, including BER improvement plans, net-zero carbon studies, Carbon Risk Real Estate Monitor (CRREM) pathways, and costings and reliance, with varying levels of detail. The definition of an industry standard report will support the development of robust pathways to net-zero carbon by 2050. It will also motivate investors to compare the pathways and costs to net-zero carbon across portfolios and across potential investments.

Relevant EPBD articles and annexes	*Article 12: Renovation passports* *Annex VIII: Requirements for renovation passports* *Annex IV: Renovation passports*

The EPBD introduces renovation passports as a comprehensive tailored roadmap to guide building owners through deep renovation processes, aiming for ZEB compliance by 2050. Renovation passports are voluntary unless a member state decides to make them mandatory. As per Annex VIII(1), a renovation passport will include:

- The current energy performance of the building.
- A graphical representation of the roadmap and its steps for a staged deep renovation.
- Relevant national requirements, such as MEPS and rules on phasing out fossil fuels in heating and cooling.
- A succinct explanation of the optimal sequencing of renovation steps.
- Detailed information for each step, including the name and description of renovation measures, estimated energy savings (primary and final energy consumption and percentage improvement), estimated reduction of operational GHG emissions, estimated energy bill savings and the estimated energy performance class to be achieved.
- Information on available funding and links to relevant webpages, as well as information on technical advice and advisory services.

Ireland is mandated to establish its voluntary renovation passports scheme by 29th May 2026

4.5.2 Impact on institutional property investors

For institutional property investors, RPs are an opportunity to standardise the information available on buildings at the point of sale, facilitating decision-making. The implementation of RPs is anticipated to incur consultancy fees among asset owners for additional reporting or consulting. However, it is also expected to contribute to market certainty by providing clarity on the direction of the market regarding building performance and renovation trajectories.

4.5.3 Recommendations for institutional property investors

- **Participate in government engagement:** RPs, if implemented well, can provide valuable consistency on the information available on existing buildings and their path to net-zero carbon. Investors are encouraged to actively participate in engagement and pilot projects to ensure that RPs meet their needs.

4.5.4 Recommendations for government

- **Industry engagement:** Seek feedback from industry on the content and format of RPs.

4.6 Smart Readiness Indicator

4.6.1 What is required under the EPBD?

The SRI is a standardised technical framework designed to assess a building's capability to adapt its operation to occupant needs, optimise energy efficiency and interact with the energy grid. This chapter evaluates how this assessment methodology drives the adoption of smart technologies, influencing building design, operational strategies and market valuation.

Relevant EPBD articles and annexes *Article 5: Smart readiness of buildings*

The SRI will be a new way to rate how 'smart' a building is. It looks at a building's ability to:

- Adapt to the needs of the people living or working there
- Adapt to the needs of the energy grid
- Use energy more efficiently
- Keep the indoor environment healthy and comfortable.

The SRI is under development and is set to be a **voluntary** system for now, but the EU will undertake further consultation and publish more detailed plans in 2027.

4.6.2 Impacts

Currently, the SRI has minimal impact on the industry in Ireland due to its voluntary nature and the limited engagement to date. Smart building technologies are increasingly important to institutional investors, especially in the premium office sector.

4.6.3 Recommendations for institutional property investors

- **Monitor for updates.** Investors should monitor future developments and detailed plans from the EU, anticipated in 2027.

4.6.4 Recommendations for government

- **Industry engagement:** As for RPs, seek feedback from industry on the content and format of SRIs.

4.7 Sustainable Mobility

4.7.1 What is required under the EPBD?

Infrastructure for sustainable mobility, especially electric vehicle (EV) charging facilities, is a critical component mandated by directives such as the EPBD to decarbonise transport within the built environment.

Relevant EPBD articles and annexes *Article 14: Infrastructure for sustainable mobility*

4.7.2 Installation of EV charging points

The table below provides a summary of the requirements for EV charging points.

Table 9: EV Charging requirements under the EPBD

Building Type	Requirements
For new non-residential buildings and non-residential buildings undergoing major renovation	Provide at least one charging point for every five car parking spaces. Provide pre-cabling for a minimum of 50% of remaining car parking spaces, including ducting, to enable future installation of recharging points for EVs, electrically power-assisted cycles and other L-category vehicle types.
For all (existing) non-residential buildings (with more than 20 car parking spaces)	By **1st January 2027**: Provide at least one recharging point for every 10 car parking spaces or ducting for at least 50% of the car parking spaces.
For new residential buildings and residential buildings undergoing major renovation	By **1st January 2027**: Provide pre-cabling for at least 50% of car parking spaces, including ducting, to enable future installation of recharging points for EVs, electrically power-assisted cycles and other L-category vehicle types. Provide at least one charging point for new residential buildings with more than three car parking spaces.

4.7.3 Impacts for institutional property investors

For some assets of this type, providing an EV charging point for every 10 spaces is beyond future projections for occupant use and would require significant investment in electrical infrastructure in the car park.

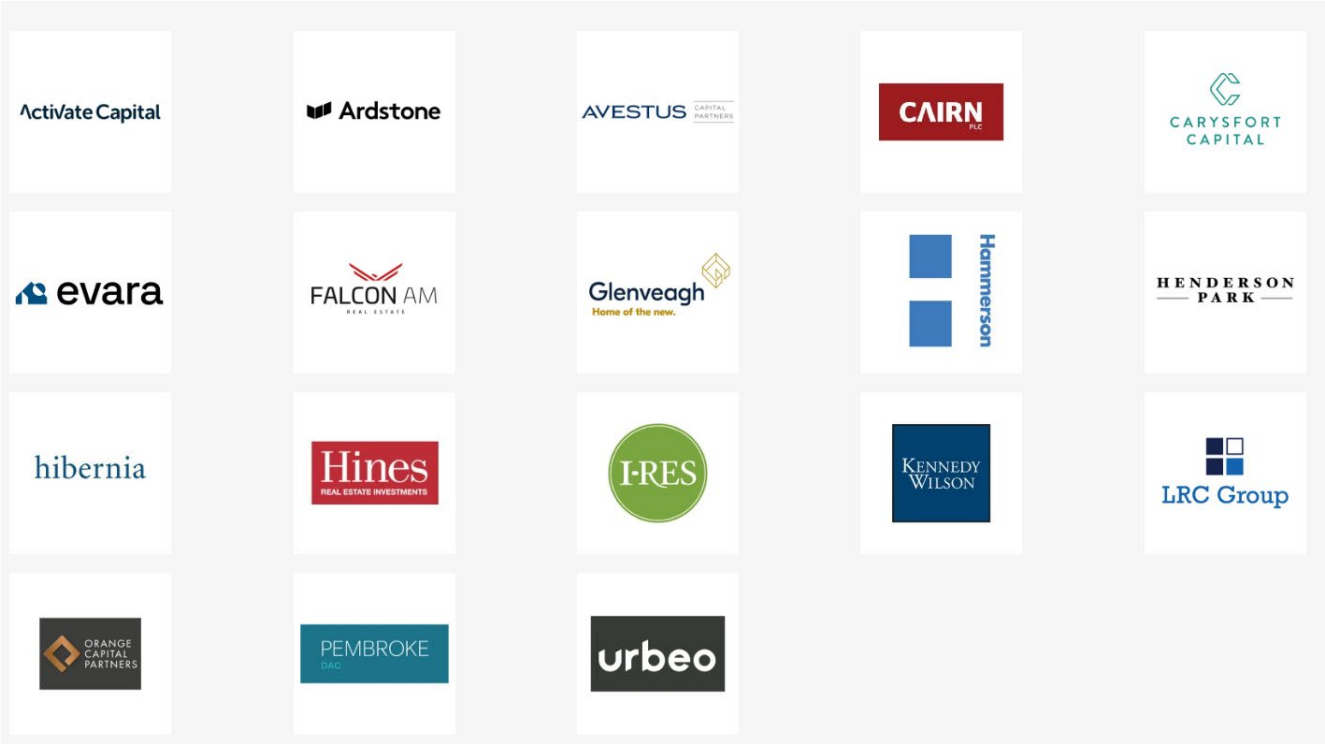
4.7.4 Recommendations for institutional property investors

– **Develop a plan for installation of EV charging.** Factor in necessary CapEx for installing EV charging infrastructure to new and existing assets.

4.7.5 Recommendations for government

– **Seek industry feedback** on the barriers to EV charging point installation in existing office, industrial, retail and PRS buildings
– **Evaluate the feasibility of targets for existing buildings,** particularly where they may exceed current occupant demand, and adjust policies or timelines, as necessary. It is noted that a 'cost-optimal' approach is allowed for ZEB and BACS, and a cost-benefit analysis of EV charging should be allowable as an alternative to numerical targets.

Appendix A: Irish Institutional Property Members



Appendix B: Impacts of EPBD Articles on institutional property investors

In this report, each EPBD theme has been considered regarding how it will impact an asset owner. These impacts have been summarised into the following categories.

- **Cap-Ex: w**ill require investment in the physical asset
- **Op-Ex: m**ay have an impact on operating costs
- **Consultancy Fees: t**he asset owner will be required to pay for additional reporting or consulting fees
- **Value: m**ay enhance financial performance of asset
- **Market certainty: w**ill be of benefit to the asset owner by providing certainty on the direction of the market

EPBD Issue	Cap-Ex	Op-Ex	Consultancy Fees	Value	Market Certainty
Implementation of Efficient Buildings at a National Level					
National Building Renovation Plans (Article 3, Annex II, Annex VIII)					☑
Renovation Passports (Articles 3, 12, Annex VIII)			☑		
Energy Performance Certificates (Articles 19–22, Annex V, Annex VI)			☑	☑	☑
Building Standards					
Zero-Emission Buildings (Articles 7, 8, 11)	☑		☑		☑
Minimum Energy Performance Standards (Articles 4, 5, 9, Annex I, Annex II, Annex VII)	☑			☑	☑
Smart Technology and Renewables					
Smart Readiness Indicator and Digital Tools (Article 15, Annex IV)			☑		
Solar Deployment (Article 10)	☑	☑		☑	
EV Charging (Article 8)	☑	☑			
Carbon Reduction and Fossil Fuels					
Global Warming Potential (Article 7, Annex III)			☑		
Phasing Out Fossil Fuels (Articles 10, 11, 13, 23, 27, Annex II)	☑			☑	
Support Structures					
Finance and Access to Financing Schemes (Article 17)					☑