

# Irish Institutional Property

The ESG timeline for real estate in Ireland

January 2024





Ernst & Young  
Business Advisory Services  
Harcourt Centre  
Harcourt Street  
Dublin  
D02 YA40  
Ireland

Tel: + 353 1 475 0555  
Fax: + 353 1 475 0599  
ey.com

**Pat Farrell**  
Irish Institutional Property  
Fitzwilliam House  
3-4 Upper Pembroke Street  
Dublin 2  
D02 VN24

January 2024

Dear Pat,

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Should you have any queries or comments regarding this report or if we may be of any further assistance, please do not hesitate to contact me on 01 221 2611.

Yours sincerely

Simon MacAllister  
Partner

D Buckley, D Dennis, M Gageby, J Hannigan, S MacAllister, S MacSweeney, B McCarthy, D McSwiney, J Maher, A Meagher, M Moroney, I O'Brien, F O'Dea, E O'Reilly, M Rooney, C Ryan, P Traynor, A Walsh, R Walsh.

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The background of the slide is a wide-angle photograph of a city waterfront at dusk or night. The sky is a deep blue with scattered white clouds. The water in the foreground is dark, reflecting the lights from the buildings and streetlights. On the left, a large, modern building with a curved, glass facade is illuminated with a bright green light. In the center, several construction cranes are visible against the sky. On the right, a row of modern, multi-story buildings with glass facades is lit up, reflecting in the water. The overall scene is a vibrant urban landscape.

# Executive Summary and Recommendations

# Background and Purpose of the Research

## Background

- ▶ IIP commissions and publishes thought leadership articles and industry insight reports based on a core theme. The core theme is selected by the research committee of IIP, relying on themes relevant to the members of IIP and the Irish real estate market.
- ▶ IIP's working committee on ESG (Environmental, Social and Governance) has been assessing the everchanging landscape surrounding ESG and decarbonisation. The regulatory landscape around ESG and decarbonisation has changed significantly in the last five years and additional stringent regulations are expected to be brought in over the years to meet EU's carbon neutrality target.
- ▶ Navigating the regulations on decarbonisation and understanding market demands can be daunting for stakeholders in the Irish real estate sector. IIP has commissioned EY to develop a research report to guide on their ESG roadmap and key regulations on decarbonisation, and provide recommendations which will help them to be better prepared for their decarbonisation journey.

## Purpose of the Research

- ▶ The objective of the research is to prepare a clear, easily digestible document on the decarbonisation roadmap and implications for the Irish real estate sector that can support practical strategic engagement by IIP. The report shall also contribute to the national conversations on decarbonisation, economic transformation implications, opportunities and risks.
- ▶ The decarbonisation journey of a sector and the organisations within the sector might be different, and each will likely be at a different stage in their journey. Some organisations look at decarbonisation from a regulatory or compliance perspective, others view it as a risk mitigator or a strategic differentiator. The purpose of this report is to create a common understanding amongst IIP members regarding the impacts of sustainability and how IIP should engage with Government effectively.

## Approach and Methodology

We adopted a multi-pronged approach to this research comprising:

- ▶ Completion of an ESG/Decarbonisation related survey with members of IIP to gauge the current state of decarbonisation of Irish real estate and inform the baseline re ESG/Decarbonisation
- ▶ Stakeholder engagements with members of IIP and other key stakeholders of the Irish real estate sector to understand the key challenges and implications of regulatory changes as well as impacts on market demand due to decarbonisation
- ▶ Secondary research to understand the key regulatory drivers of decarbonisation in the EU and Ireland, and a market scan to understand the key market drivers such as investor demand, tenant demand and climate risks driving ESG and decarbonisation and their implications in Ireland.
- ▶ EY organised a collaborative session in the "EY Wavespace" facility with members of IIP. The Wavespace session was organised to inspire creativity, innovation and bring together the lessons learnt which are needed to answer IIP's biggest questions on decarbonisation of the real estate sector in Ireland

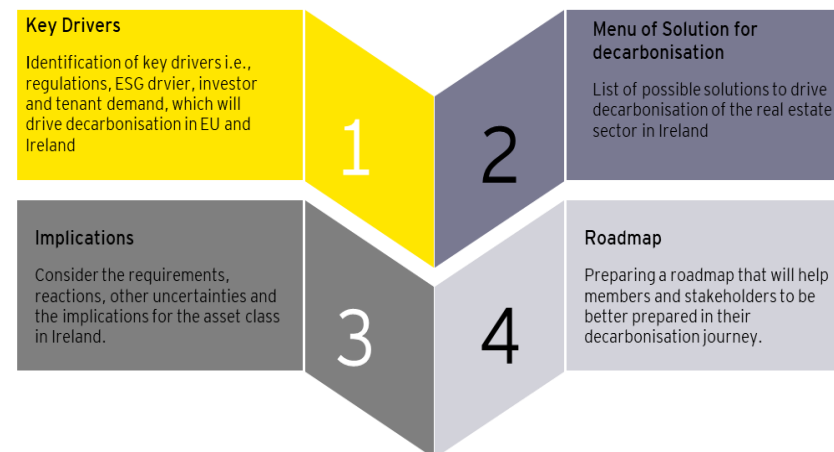
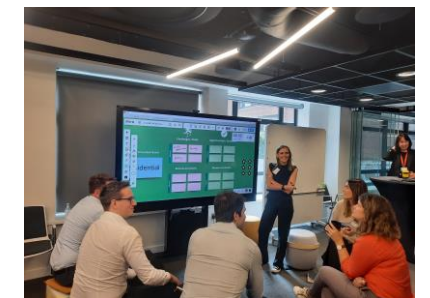
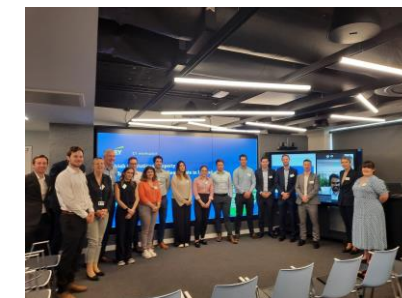


Fig 1: Objective of the research

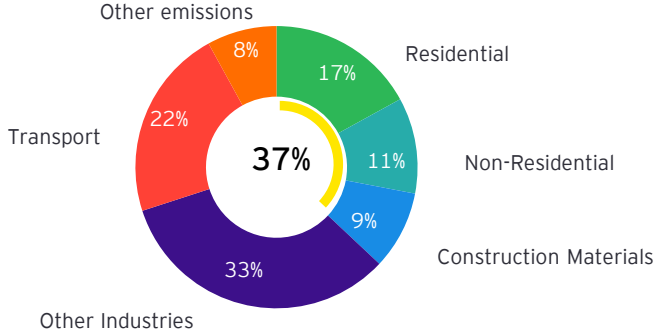


P1: (L-R) Members of IIP with EY team during the EY Wavespace session, IIP members working on identifying key risks and opportunities of Decarbonisation

# Key drivers of decarbonisation

## Background

- ▶ **Global Context:** The building sector and its value chain are responsible for c.37% of global energy and process related Green House gas (GHG) emissions.
- ▶ The residential sector alone contributes c. 17% of global energy and process related GHG emissions; the non-residential sector contributes c. 11% of the total.
- ▶ The production of construction materials contributes c. 9% of global energy and process related GHG emissions <sup>[1]</sup>



**Fig 2: Share of building sector and value chain of global GHG emissions, 2021 (%)**

- ▶ **EU Context:** In the EU, buildings are responsible for 40% of the energy consumption and 36% of EU GHG emissions, this is mainly from construction, usage, renovation, and demolition<sup>[2]</sup>. A large share of the European buildings stock are old, with c.40% of buildings built before 1970 when building energy standards were much less strict or non-existent<sup>[3]</sup>.
- ▶ **Irish Context:** As per the CAP 23, the overall emissions from the built environment accounted for 13% of overall GHG emissions. The Irish residential sector contributed c.11% of the overall GHG emissions and c. 82% of the emissions from the built environment<sup>[4]</sup>

## Key drivers of decarbonisation

- ▶ As the building sectors contribute c. 37% of global emissions, decarbonising the building and the value chain will be vital in order to minimise the climate impact of construction and also to meet climate neutral targets.
- ▶ In the EU and Ireland, buildings that already exist are likely to make up a considerable share of the total stock in 2050, retrofitting and renovations of existing buildings as well as constructing new building stock with lower embodied carbon will be crucial in making Europe climate-neutral by 2050. Some of the key drivers of decarbonisation are discussed below.

01

### Regulatory Demand

The EU has been a leader in sustainable development and has taken definitive steps towards ensuring that the Union’s net-zero targets are legally binding for all member states of the EU including Ireland

02

### Investor and Tenant Demand

Many investors are signatories to the Paris Agreement. Climate and ESG are important components of their investment strategies and they are committed to transitioning their investment portfolios to net-zero GHG emissions by 2050. On the other hand, large corporate tenants with net zero carbon commitments are demanding Green Building/ESG compliant/Net Zero Buildings from real estate developers

03

### ESG Drivers

Physical and transitional risk have direct and indirect impacts on revenue, operating and capital costs. Future proofing and having a social license to operate are therefore important drivers for decarbonisation.

Source: [1] [2022 Global Status Report for Buildings and construction, UNEP, Global ABC](#) [2] [European Commission, Energy Efficiency in Buildings, 2020](#) [3] [Energy Policy Review 2020: Europe, IEA](#) [4] [Climate Action Plan 2023](#)

## Key regulatory drivers

- ▶ Regulations are a vital policy route to mandate low-carbon new construction and retrofitting. In general the policy measures to decarbonise Europe's building stock have focussed primarily on energy efficiency and reducing emissions from the operation of Europe's building stock. Among these measures have been requirements for new buildings and for Member States to develop long term renovation strategies for existing buildings.
- ▶ From an EU context, the Energy Performance of Buildings Directive (EPBD) is the single most vital legislative tool available for tackling the built environment's climate impact.
- ▶ The Energy Efficiency Directive (EED) is also a critical legislative tool as it requires renovation of buildings in the public sector, which can lead the way to a low-carbon building stock.
- ▶ The EU Climate Law legally obligates EU Member States to achieve both the 2030 and 2050 climate ambitions. It establishes the structure for the EU and its Member States to take action towards gradually decreasing emissions and ultimately attaining climate neutrality in the EU by 2050.
- ▶ The Fit for 55 package is a collection of proposals designed to revise and renew EU regulations and introduce new initiatives to ensure that EU policies align with the climate goals for 2030.
- ▶ From an Irish context, the Part L of building regulation is a vital regulation on building decarbonisation as it transposes the requirements of the EPBD.
- ▶ The Climate Action Plan sets out a wide range of measures to implement the carbon budgets and sectoral emissions ceilings.
- ▶ The Climate Action and Low Carbon Development Act 2021, establishes a legally binding framework that includes specific targets and commitments set in law.
- ▶ The National Retrofit Plan, was published as part of the Climate Action Plan, and sets out a range of measures designed to deliver on ambitious retrofit targets.

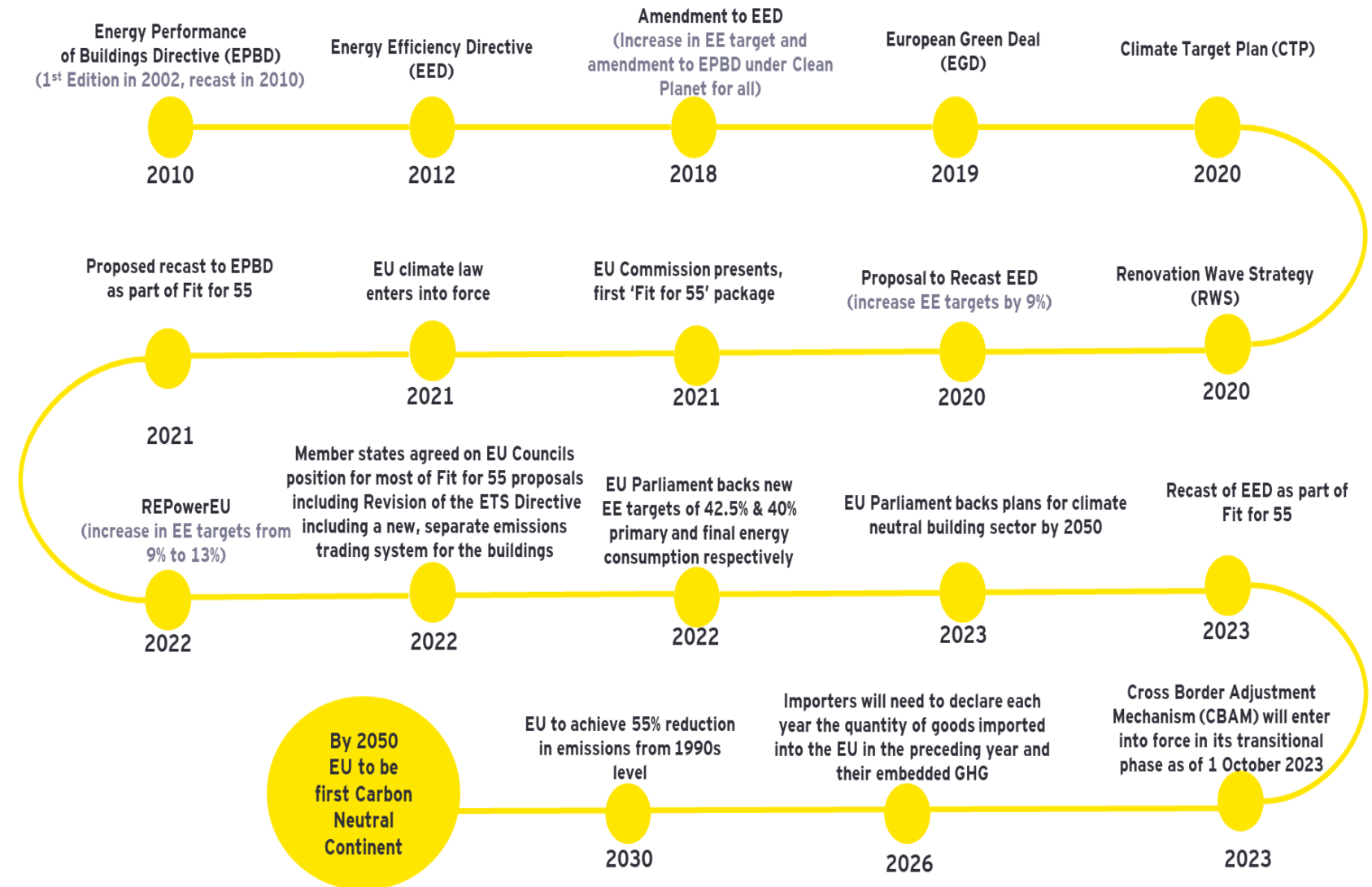
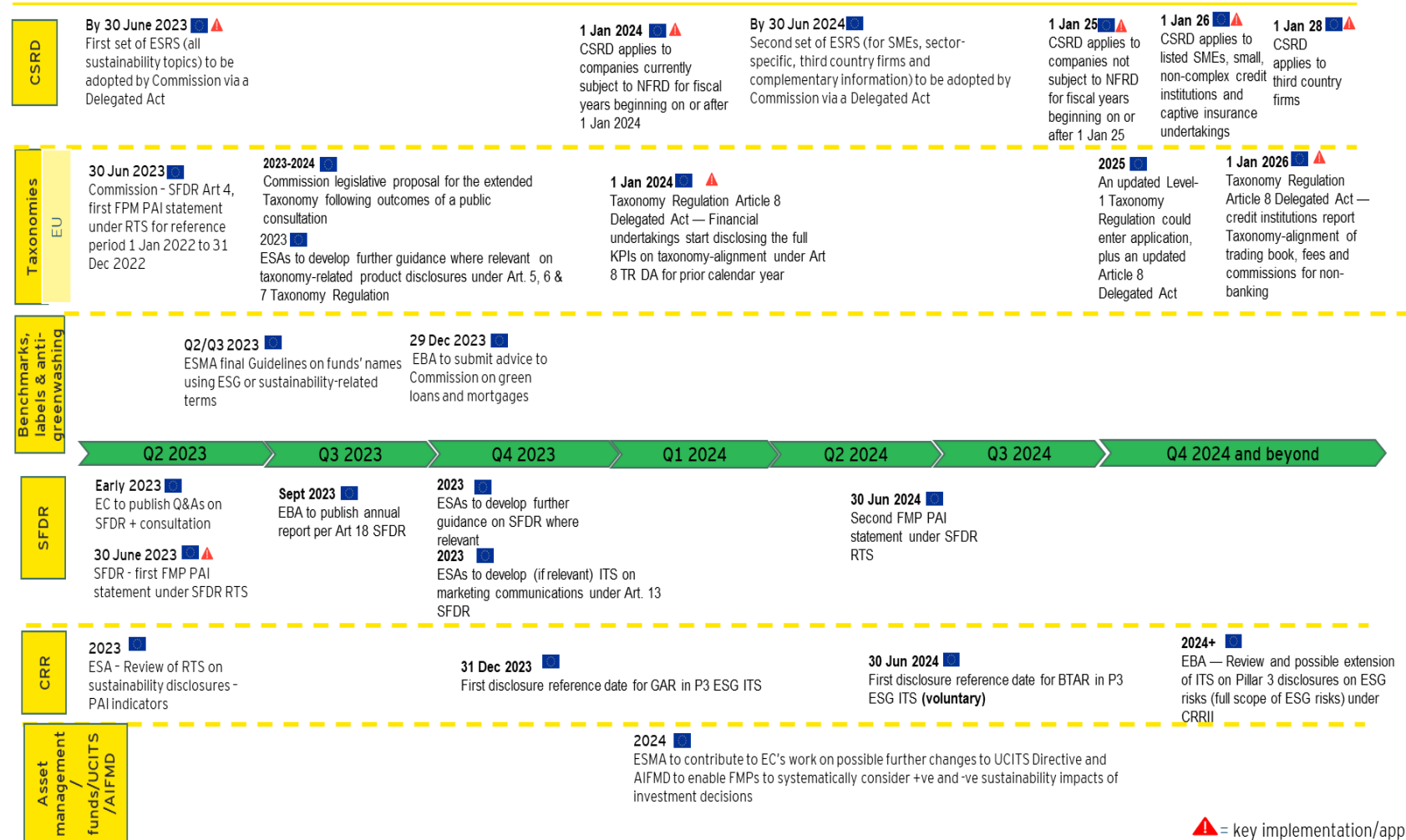


Fig 3: The EU Regulatory timeline to advance decarbonisation of the built environment in the EU

# Key financial regulatory drivers

- ▶ The EU taxonomy is perhaps the most important financial regulation to consider in the EU.
- ▶ EU Taxonomy is a framework created by the European Union to determine which economic activities can be considered environmentally sustainable.
- ▶ The taxonomy aims to provide clarity and transparency for investors, businesses, and consumers by creating a common language and classification system for sustainable investments.
- ▶ The Sustainable Finance Disclosure Regulation (SFDR), introduced in 2021 as part of the EU's Sustainable Finance Action Plan, requires financial institutions to disclose information about their sustainability practices and the sustainability of their products. It aims to make the financial system more sustainable and to help investors make informed decisions about their investments.
- ▶ The Corporate Sustainability Reporting Directive (CSRD) aims to ensure that companies publicly disclose adequate information about the risks, opportunities and impacts of their activities on people and the environment (i.e. principle of double materiality).
- ▶ The benchmarking labels and anti-greenwashing regulation are part of the EU's Sustainable Finance Action Plan, which aims to make the financial system more sustainable and to help investors make informed choices about their investments.
  - The regulation introduces two new labels for climate benchmarks: the EU Climate Transition Benchmark and the EU Paris-aligned Benchmark. These labels will help investors identify benchmarks that are aligned with their climate goals.
  - The regulation also introduces new rules to prevent companies from making misleading or unsubstantiated claims about the environmental sustainability of their products and services.
- ▶ The Capital Requirements Regulation (CRR) requires large banks with securities traded on a regulated market of any Member State to disclose information on ESG risks on an annual basis from June 2022.



▲ = key implementation/application date

Fig 4: The financial landscape of EU Regulations



## ESG drivers

- ▶ Transitional risks refer to the economic, regulatory and technological shifts that arise as industries adjust to a low-carbon world. In the real estate sector, transitional risks have direct implications for valuation, tenant demand, and investor interest
  - ▶ Regulatory Evolution: Ever changing ESG regulations can pose risks for carbon-intensive buildings as well as for properties connected to carbon-heavy grids or transportation systems.
  - ▶ Economic Realignments: The drive for decarbonisation affects industries differently, causing some to thrive and others to decline.
  - ▶ Investor and Tenant Behaviour: As investors and tenants become more climate-conscious, properties not aligning with sustainability standards may see diminished demand and, subsequently, reduced valuations.
- ▶ Physical risks are direct consequences of climate change, ranging from extreme weather events to longer-term shifts in climate patterns. Real estate, being inherently tied to location, is particularly vulnerable.
  - ▶ As per Climate Ireland, ~20% of Ireland's coast is currently at risk of coastal erosion.
  - ▶ National Adaptation Framework (NAF) sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change, and to avail of positive impacts.
- ▶ For real estate stakeholders, the risks posed by climate change necessitate proactive strategies.
- ▶ The real estate industry can create social impact investment opportunities like multi-tenant shared spaces or the transformation of underutilised buildings.

### Physical Risk: 2

Extreme weather, rising sea levels, property damage can lead to operational disruptions and higher insurance costs.

### Social Impacts 4

ESG is not limited to energy and sustainability but also includes considerations for social impacts, such as diversity and community impacts.

### 1 Transitional Risks

Shift to low-carbon economy, policy changes, market shifts, higher operating costs can lead to potential stranded assets.

### 3 Mitigation Strategies

Climate resilience measures, adaptive building design, energy efficiency improvements, renewable energy integration.

# Stranded assets

- ▶ Stranded assets are defined as assets that, prior to the end of their economic life, are unexpectedly devalued or face a decrease in earning capacity. This devaluation can be a consequence of a myriad of factors, ranging from regulatory changes to technological advancements. Historically, the term has strong roots in the energy sector, particularly around assets linked to fossil fuels. However, the ramifications of stranded assets are extensive, affecting a range of industries including real estate, technology, and manufacturing.

## Causes of stranded assets

- ▶ Regulatory changes: Government policies and regulations evolve in response to societal needs and global events. While they often serve to protect the environment or adjust to shifting societal values, they can inadvertently render certain assets obsolete or uneconomic.
- ▶ Technological advancements: Rapid technological evolution can, on the one hand propel industries forward, offering increased efficiency and innovative solutions but, on the other hand, it can also rapidly make existing technologies or processes obsolete. Companies heavily invested in now outdated technology may find significant portions of their assets stranded.
- ▶ Shifts in market demand: Global markets are dynamic. As consumer preferences shift, driven by awareness, global events, or generational changes, demand for certain products or services can wane.

## Potential solutions

- ▶ Retrofitting: From an Irish real estate perspective, over 80% of buildings that will exist in 2050 have already been built<sup>[1]</sup>, meaning that retrofitting will be pivotal in achieving net zero targets. Refurbishing a building creates far fewer emissions than constructing a new one. Older buildings refurbished to include modern and sustainable technologies will be the “real” sustainable buildings.
- ▶ Carbon risk real estate monitor (CRREM): CRREM allows investors and property owners to assess the exposure of their assets to stranding risks based on energy and emission data and the analysis of regulatory requirements.
- ▶ Asset diversification: Diversifying investments across different asset types and geographical regions can act as a safeguard against the risks associated with stranded assets.
- ▶ Active asset management: A periodic review of asset portfolios enables businesses to identify assets that are potentially at risk of stranding, facilitating swift corrective actions
- ▶ Technological innovation: Harnessing technological advancements offers remedies against stranded assets.
- ▶ Policy engagement and collaboration: Engagement with key stakeholders offers businesses insights into impending regulatory shifts that might influence asset values.
- ▶ Financial Instruments: The financial sector is progressively introducing instruments to counteract the risk of stranded assets. These span from insurance provisions covering potential devaluations to innovative investment mechanisms, allowing stakeholders to share risks.

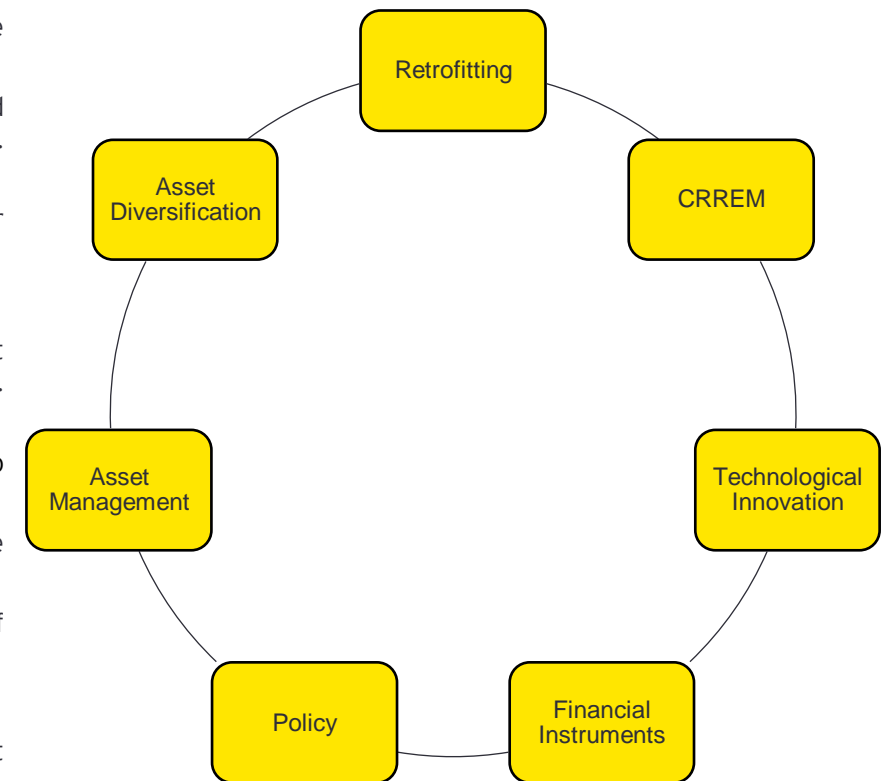


Fig 5: Potential Solutions for avoiding Stranded Assets

## Building a menu of solutions to reach Net-Zero carbon buildings

The EU has proposed to move from the current nearly zero-energy buildings to zero-emission buildings by 2030, and has also proposed revisions to the EPBD. While operational carbon accounts for the majority of emissions in a building life cycle, the embodied carbon of the building is equally important. It is important to consider both the embodied carbon and the operational carbon whilst developing a menu of solutions to reach net-zero carbon buildings.

Some of the key considerations while developing a menu of solutions for net zero carbon buildings are:

- ▶ **Reduce operational energy use:** One of the key steps towards achieving Whole-life Net Zero carbon is to ensure the operational energy of existing buildings is minimised, and new builds are designed in an energy efficient manner to lower energy demand and consumption, thereby reducing the amount of total electricity supplied, both from the electricity grid and from renewable energy sources. The building's in-use energy should be measured and reported on an annual basis to accurately address its carbon impacts.
- ▶ **Increased renewable energy deployment:** A building which has a considerable on-site renewable energy installation will help Ireland increase its renewable energy supply whilst simultaneously contributing to reducing the demand on the electricity grid. Additionally, this approach helps to support a decentralised energy system, resulting in reduced transmission and distribution losses for the electricity grid.
- ▶ **Reduce impact of construction:** Another vital part of the Whole-life Net Zero carbon building is to measure and mitigate the impact of carbon during the construction phase of the project. This assessment is valuable in informing early design decisions which aim to minimise the building's whole life carbon impacts.
- ▶ **Offset remaining carbon:** Carbon offsets, as a tool to achieve Net Zero Carbon Building, should only be used if all other feasible measures in reducing carbon impacts have been reasonably exhausted. The offsets purchased should be commensurate with any outstanding carbon to achieve a net zero carbon balance.

### Thoughts from IIP members on the menu of solutions and rationale

The menu of solutions for decarbonisation will vary for different sub-sectors. For residential, baselining will be vital to identify areas of improvement. Lighting retrofits is a quick win and can have an immediate impact on energy use. Building fabric changes and adding insulation can be a massive issue for apartment blocks as it may require the relocation of tenants. The use of low carbon construction materials for new builds has not picked up steam due to regulatory constraints. The use of low carbon materials, such as Cross Laminated Timber (CLT) in particular, poses regulatory barriers in the form of Part B of building regulations (fire regulations).

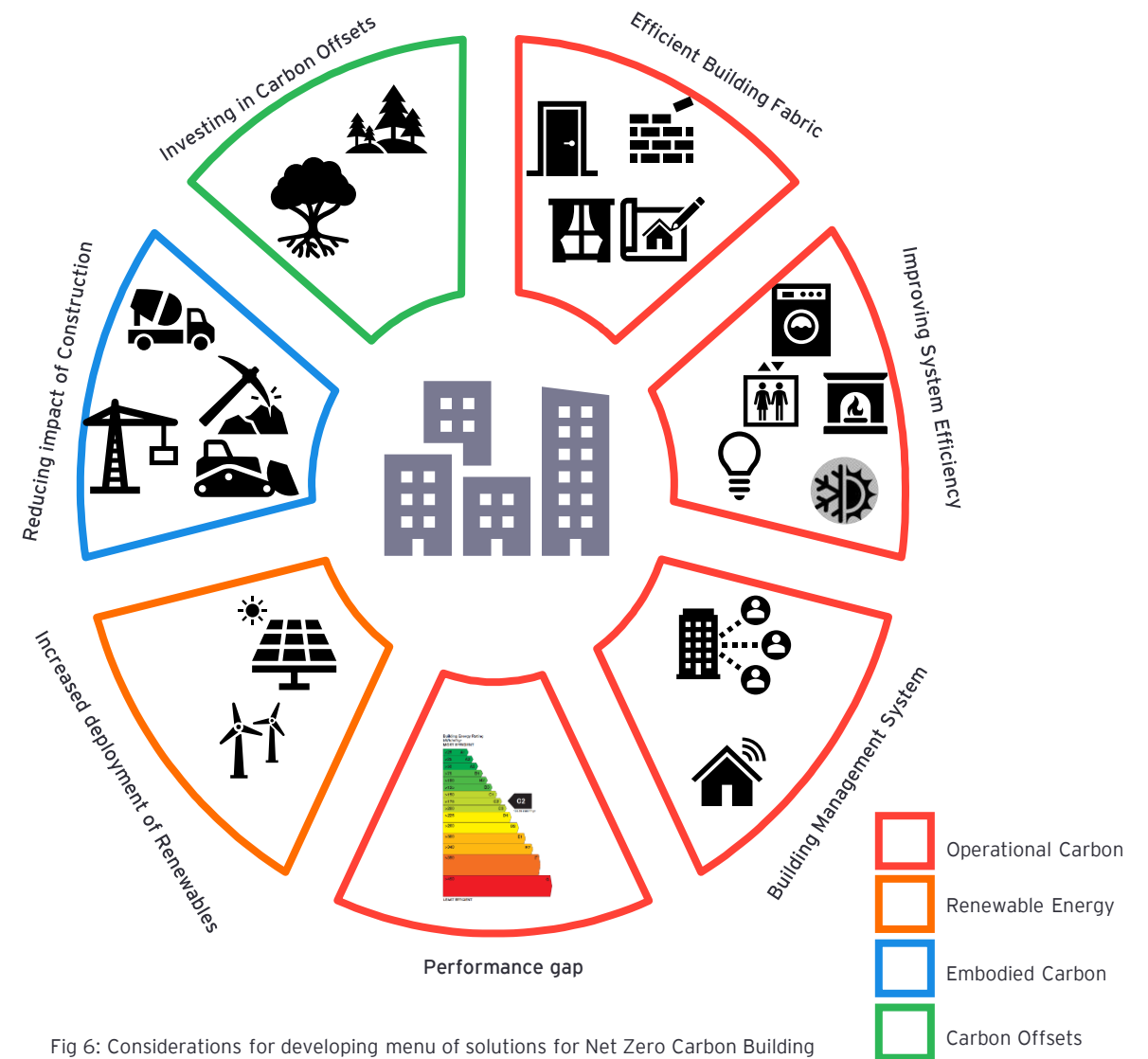
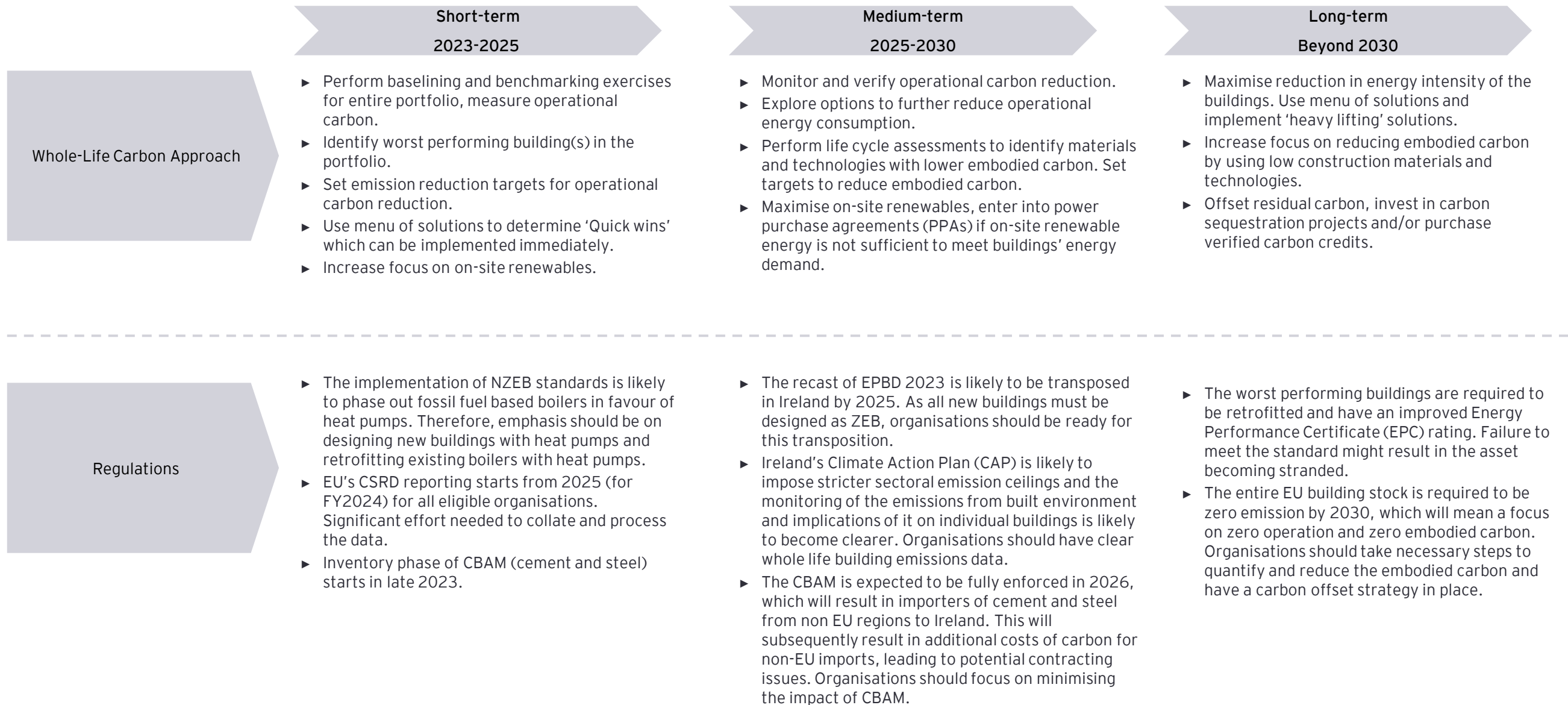


Fig 6: Considerations for developing menu of solutions for Net Zero Carbon Building

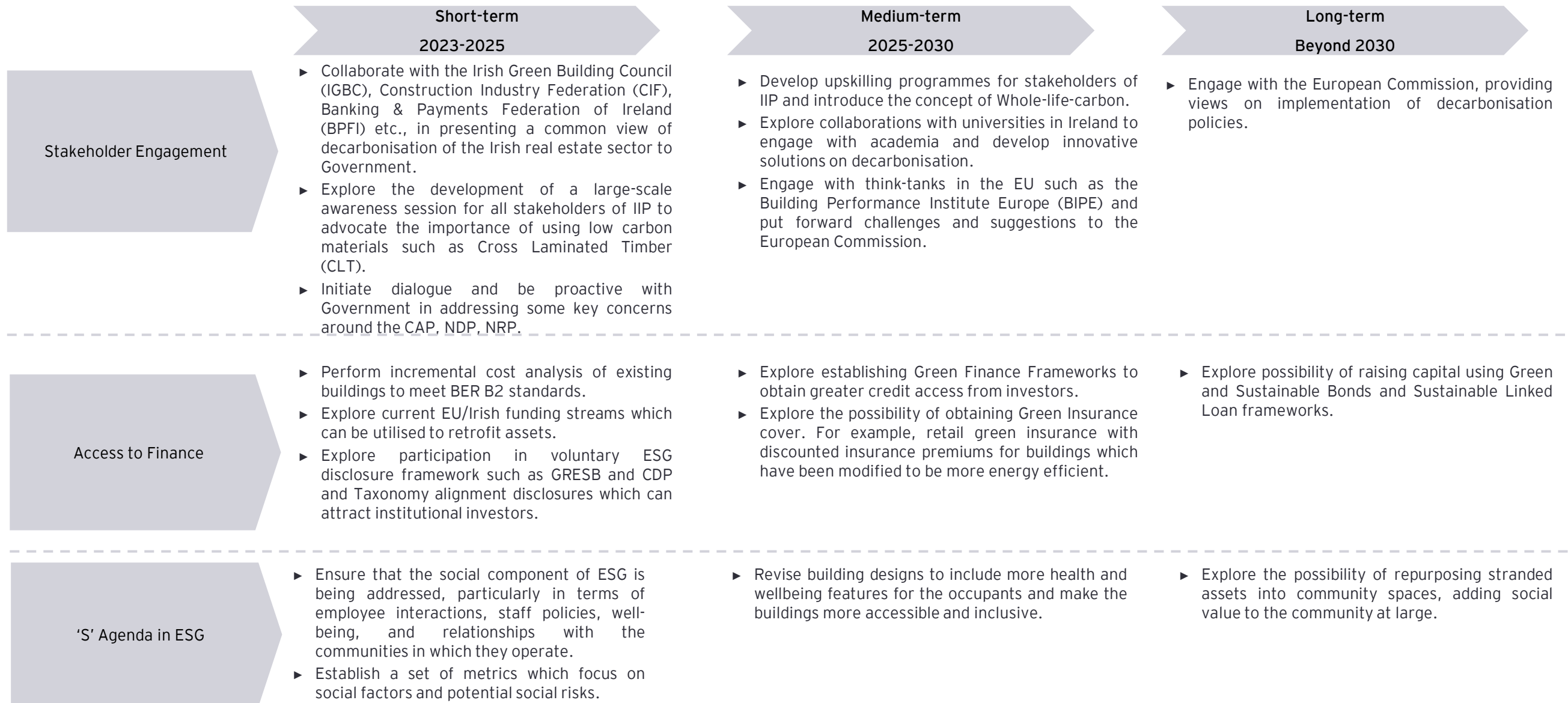
## Developing an implementation roadmap

This roadmap set out key actions for IIP and its members in the short, medium and long term to support them on their decarbonisation journey



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## Next steps and recommendations

### IIP can drive a solution led, best in class approach to the development of a sustainable real estate sector in Ireland

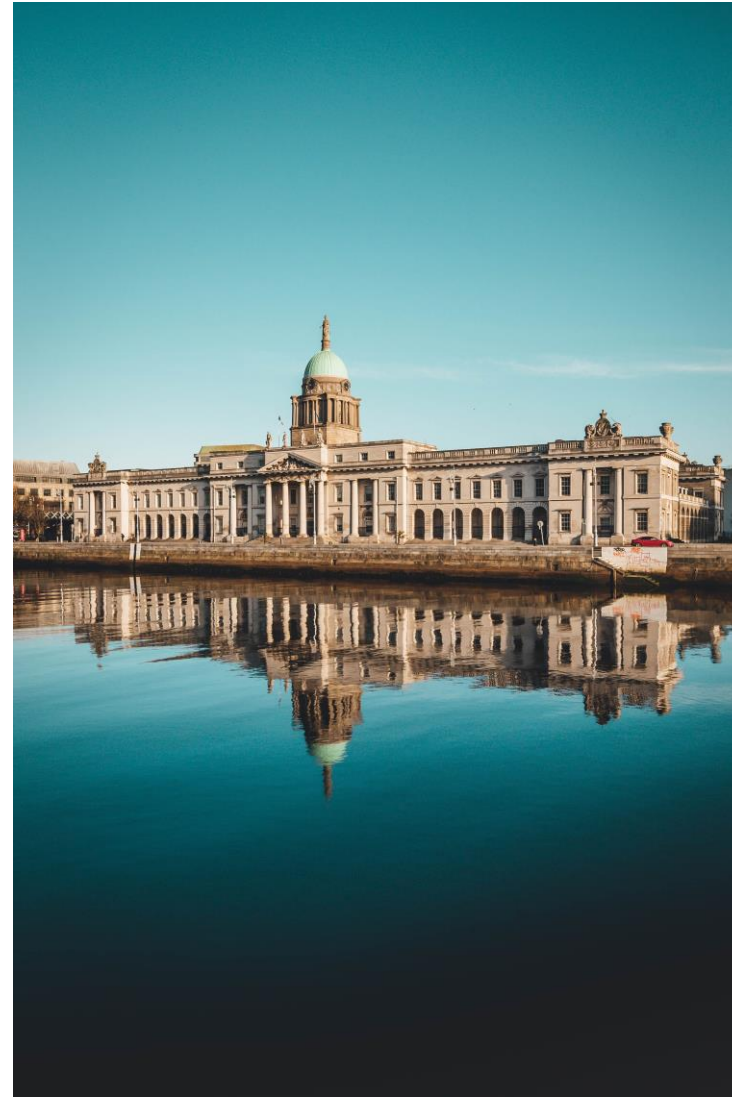
#### IIP in a pivotal position

The issue of climate change is serious and requires a concerted leadership effort to ensure that everyone understands their role in delivering our climate change ambitions, what must be done, and how to do it. The pressure on all organisations to adapt will increase over time. It is therefore important that IIP and its members act together to play a proactive and facilitator role, bridging the gap between policy makers, government, and legislators in delivering on the transition to a low carbon economy and real estate sector.

The IIP member survey supporting this research showed that 80% of respondents have an ESG/Sustainability Strategy in place with 70% stating they have a designated position for ESG in their organisation. ESG compliance is an essential consideration for real estate owners and investors and can help improve the sustainability of their businesses, by identifying and mitigating risks to ensure their businesses are more resilient in the medium to long term. There are also likely to be more opportunities for businesses pursuing a sustainability strategy as they can attract more environmentally conscious customers, tenants and investors.

Early and regular government engagement to align ESG and sustainability policies with the needs of the real estate sector is critical to driving positive change. By engaging with government and key stakeholders, IIP member businesses can gain insights into impending regulatory shifts that might influence asset values and financial performance.

In this regard, IIP is in a pivotal position to drive this positive change towards a less carbon intensive economy as it has the insights, capital and members who can bring their expertise and know-how, to help solve many of the key challenges facing the economy and society. These challenges include our climate ambitions with respect to delivering sustainable buildings, retrofitting our building stock, and reducing the risk of obsolescence, as well as delivering much needed housing supply.



#### Driving positive change

The following next steps are recommended for IIP and its members going forward:

- ▶ IIP should identify like-minded bodies with similar ESG aims, goals and objectives to drive positive change to explore a coordinated approach to Government. Such entities might include organisations from the construction and finance sectors, like Ibec (PII), CIF, BPF1, and the Irish Green Building Council (IGBC). Where interests are aligned, greater coordination would be beneficial. This would allow a deeper understanding of the issues by listening to other perspectives on the challenges for real estate and its supply chain, ensuring a more amplified message from a wider aligned group of stakeholders.
- ▶ IIP can play their role in making wider society aware of the issues, risks, and opportunities that the green agenda generates by engaging with media on the solutions for the built environment. Such solutions include building more efficiently, using modern methods of construction, and using more sustainable low carbon materials, such as Cross Laminated Timber (CLT).
- ▶ The European Union is playing a leading role in sustainable development and has taken concrete step towards ensuring that the Union's net-zero targets are legally binding for all member states of the EU, including Ireland. It is important that IIP starts to develop relationships at the European Commission level to enable members' views on forthcoming and existing European policies to be made known as these are normally transposed into national legislation.
- ▶ Key focus areas to be addressed by IIP and its members are set out on the next page.

## Next steps and recommendations

### IIP can drive a solution led, best in class approach to the development of a sustainable real estate sector in Ireland

#### Key focus areas

- ▶ **Ireland's reputation for FDI:** It is important to ensure that Ireland's position as a preferred location for capital investment is not adversely impacted by a lack of clarity for investors in regard to the legislation, or any disconnect between government policy and practical implementation.
- ▶ **Acceleration of use of CLT:** Specifically, the current review of Part B (Fire Safety) of the Building Regulations is considering, amongst other items, fire safety requirements and the use of innovative building materials. One such example is cross-laminated timber, which provides an opportunity for achieving lower embodied carbon in new construction. CLT is being used in low-rise residential projects and has proved to be cost-competitive with steel and concrete. It offers a means to quickly deliver housing, whilst also capturing and storing carbon. Many countries (e.g. Sweden, Norway, Denmark) have adopted prescribed routes of compliance for timber structures for high-rise buildings. CLT should be accelerated as an alternative to traditional building materials for multi-storey apartment construction, whilst also ensuring health and safety concerns are addressed.
- ▶ **ESG Data:** The need for reliable ESG is seen as important for attracting investors and tenants, as well as for approaching financial institutions. Data validation and better data monitoring to understand and manage energy consumption, building performance and the emissions from buildings as well as a consistent methodology to enable benchmarking, are critical for performing ESG due diligence for potential asset acquisitions.
- ▶ **Stranded assets:** With 80% of buildings that will exist in 2050 already built, retrofitting will play a pivotal role in achieving net zero buildings. A building which might be meeting efficiency requirements today may not be meeting the requirements in 5-7 years time. Guidance and clarity should be sought on which types of assessments (e.g. CREEM) are the most relevant to reduce the risk of buildings becoming stranded.  
  
Separately there is a need to manage property agents expectations and improve their education and awareness when letting existing buildings, as there is a view that some agents are quickly dismissing buildings because they are not 'best in class' (e.g. floor to ceiling heights are not the maximum expected).
- ▶ **Skills for renovation:** The skills shortage, particularly with respect to renovation of the older building stock, is an ongoing challenge given the scale of investment planned out to 2030 in regard to new housing and non-residential buildings and infrastructure in the National Development Plan.
- ▶ **Publicly owned buildings:** Large public sector bodies and sectoral groups with a large estate are expected to achieve a 51% reduction in their emissions by 2030, relative to a 2018 baseline. With between 12,500 and 13,700 non-residential buildings in the public sector, and around 140,000 social housing units, spread across several organisations, the public sector needs to lead by example. The private sector should leverage from the delivery of the public sector's decarbonisation objectives.
- ▶ **'Best in class' environment ecosystem:** Ireland should establish itself as a 'best in class' environment ecosystem. Government should be central to driving this as it may attract sources of global funding (e.g. pensions funds) to support our climate change ambitions. Institutional investors have global reach and could potentially divert investments to Ireland to supplement public funding. IIP members should explore this funding source with government.
- ▶ **Financial support:** There are financial supports allocated in the Climate Action Fund (€500m up to 2027) from the Exchequer for projects that help Ireland achieve its climate and energy targets. A total of €264m (€118m<sup>[1]</sup> from EU and €145m<sup>[2]</sup> co-financed by Govt of Ireland) has been allocated under European Regional Development Fund for energy efficient building retrofit works between 2021-2027. A further €40m<sup>[3]</sup> has been allocated under the recovery and resilience fund for low cost residential retrofit loan scheme. IIP and its members should ensure they are allocated their fair share of the public funding available. The channels for (e.g. SEAI) and the form of this financial support should be clarified. It is acknowledged that the targets and objectives in the Climate Action Plan will also require private sector capital.
- ▶ **Access to finance:** Significant capital is required by the real estate sector to deliver on the decarbonisation of the building stock. Accessing finance was an issue raised for the retrofitting of buildings as financial institutions are increasingly seeking ESG and other data relating to the performance of buildings when lending to the real estate sector. This has implications for existing portfolios and potential asset transactions in the real estate sector.
- ▶ **Clarity on legislation - clear policy guidance for stakeholders:** Given the considerable range of legislation in place and coming down the tracks, there is a need for clarity on the key policy requirements and on what the important regulations to adhere to are right now for owners, landlords, investors, developers, and tenants. IIP members should seek clear policy guidance for stakeholders when faced with unclear or contradictory legislation.

# 2

## Objective of the Research



## Objective of the research

### About IIP: vision and mission

Irish Institutional Property is the voice of institutionally financed investors and real estate providers with significant local and international backing. The mission of IIP is to promote the development of a progressive world class real estate sector in Ireland, which benefits members, the economy and wider society. IIP members are backed by a diverse group of investors, including Irish and international pension funds, among others. Following the Global Financial Crisis (“GFC”), institutional capital has become a significant component of both the global and Irish real estate markets, providing stable long-term funding to enable sustained delivery of the required supply of critical infrastructure, housing, and workplaces. Institutional capital has now largely re-structured and replaced the “highly leveraged” model of the past, supported by government policies which enabled the establishment of REITs and other tax transparent structures. These developments were necessary to put Ireland on par with other OECD countries that recognise capital intensive activities such as real estate, need stable and more conservative capital structures to avoid the debt fuelled financial volatility of the past. Since 2015, IIP members have collectively invested c.€20bn in the delivery of critical real estate in the Irish market as illustrated below:

- ▶ IIP members manage c.€20bn of Irish property
- ▶ IIP members directly employ over 6,000 people
- ▶ IIP members indirectly employ a further c.23,000 people
- ▶ IIP tenant companies employ more than 36,000 people
- ▶ IIP members include four of the largest 20 stocks on Euronext Dublin (formerly known as Irish Stock Exchange)
- ▶ IIP are on target to fund and/or deliver c.50% of the projected private market housing output in Ireland, including a significant amount of higher density apartment delivery



### IIP's ESG working group

IIP's ESG Working Group was set up in early 2022 to provide a forum to facilitate the promotion and development of best practice ESG policies across member firms through:

- ▶ Supporting networking, exchange of views, sharing of insight, and best practice between IIP member firm personnel with lead responsibility for ESG.
- ▶ Providing a forum for expert speakers on relevant ESG subject matter and themes.
- ▶ Assisting IIP's CEO and Board in managing engagement with and influencing government, its agencies, and other key stakeholders on relevant ESG priorities.

The ESG Working Group meets regularly and has investigated a broad range of topics such as timber construction, demolition best practice, the Corporate Sustainability Reporting Directive (CSRD) and others.

# Objective of the research

## Background

Since its formation in 2019, IIP has been gaining strong reputation in the market, the media, and among policy makers for providing very high-quality industry leading insights and reports.

The IIP commissions and publishes thought leadership articles and industry insight reports based on core themes. These core theme are selected by the research committee of IIP and the selected theme is relevant to the members of IIP and the Irish real estate at large.

Some of key thought leadership articles of IIP are



[The Role of Institutional Investor in Irish Real Estate Market, 2020](#)



[Towards a sustainable Rental Sector in Ireland, 2021](#)



[Exploring the Impact of Hybrid working on Irish Cities and Regions, 2022](#)

### Core theme for upcoming research

The IIP's working committee on ESG has been assessing the landscape surrounding ESG and decarbonisation. The regulatory landscape around ESG and decarbonisation has changed significantly in the last five years and additional stringent regulations are expected to be brought in over the years to meet the EU's carbon neutrality target. On the other hand, there has been significant pressure from the investors and tenants to develop ESG compliant buildings.

Navigating through the regulations on decarbonisation and understanding market demands can be daunting task for the stakeholders of the Irish real estate sector and IIP intends to develop a research report which will guide the stakeholders of Irish real estate with key regulations on decarbonisation and provide recommendations which will help them to be better prepared for their decarbonisation journey.

## Objective of the research

The objective of the research is to prepare a clear, easily digestible document on the decarbonisation roadmap and implications for the Irish real estate sector that can support practical strategic engagement by IIP. The report shall also contribute to the national conversations on decarbonisation, economic transformation implications, opportunities, and risks.

The key focus areas of the report are:

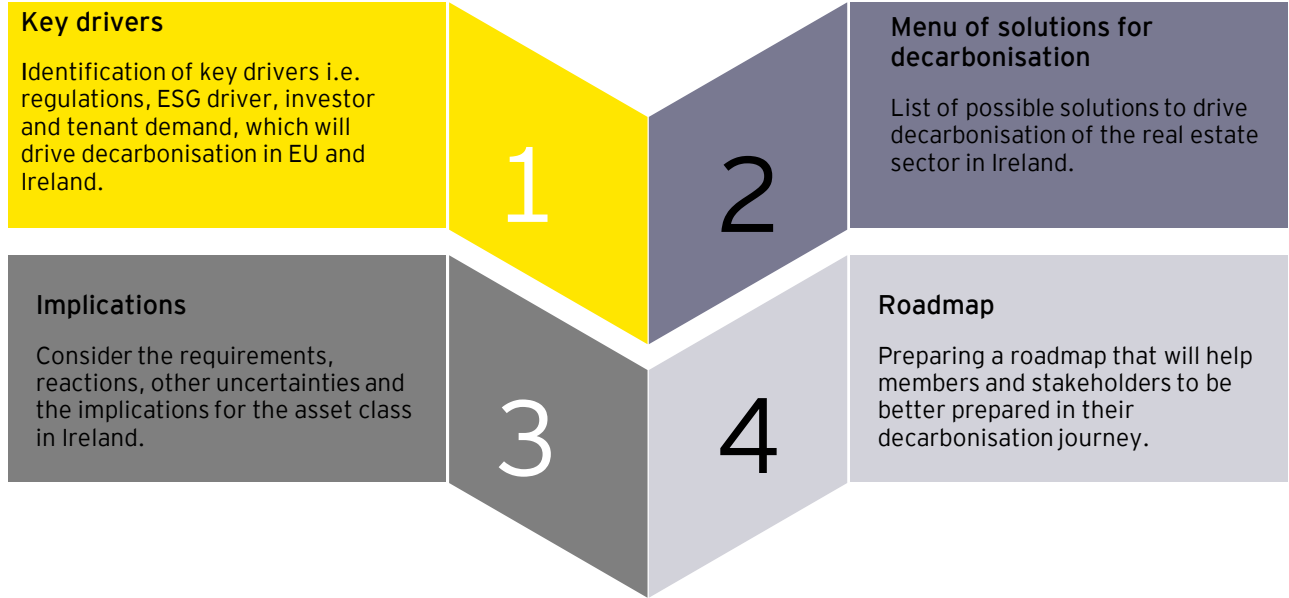


Fig 7: Objective of the research

# 3

## Approach and Methodology

# Approach and methodology

## Our approach and methodology

### Performing Current State Assessment

1

Carry out a ESG/Decarbonisation related survey with members of IIP to understand the current state of members.

### Stakeholder Engagement

2

Hold a stakeholder engagement with members of IIP and other key stakeholders of the Irish real estate sector to understand the key challenges and implications of regulatory changes, market demand due to decarbonisation and identify menu of solution for decarbonisation for various asset types.

### Secondary Research

3

Perform a secondary research to understand the key regulatory drivers of decarbonisation in the EU and Ireland. Perform a market scan to understand the key market drivers such as investor demand, tenant demand, and climate risk drivers for ESG and decarbonisation, and their implications in Ireland.

### Delivery of Research Report

4

Involve various EY subject matter experts to produce a report on the decarbonisation roadmap and implications for the Irish real estate sector.

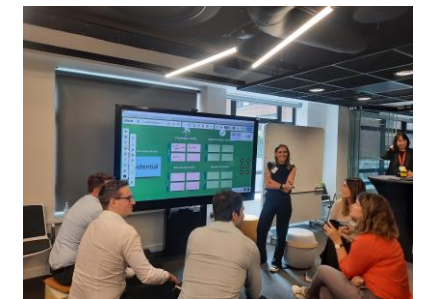
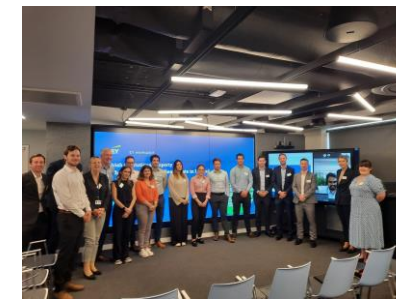


## EY WaveSpace™ Event

EY organised a collaborative “EY WaveSpace” session with members of IIP. The WaveSpace session was organised to inspire creativity, innovation, and bring together the lessons learnt which are needed to answer IIP’s biggest questions on decarbonisation of the real estate sector in Ireland.

The event had great participation from IIP members, broken into two sessions.

- ▶ **Discussion on key findings:** The members were presented with findings on the key regulatory drivers (e.g. Climate Action Plan, Energy Performance of Buildings Directive, Corporate Sustainability Reporting Directive), key climate risks (transitional risks and physical risks to assets), and investor and tenant demands (investor commitments to Net Zero, increased demand for ESG due diligence).
- ▶ **Identifying key risks and opportunities:** The session had a collaborative exercise to identify key risks, such as stranded assets, access to finance, and supply chain implications. The session also focussed on the identification of a menu of solutions for decarbonisation.



P2: (L-R) Members of IIP with EY team during the EY WaveSpace session, IIP members working on identifying key risks and opportunities of Decarbonisation

# 4

## Key Drivers of Decarbonisation

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Implications for Irish Real Estate	45

# Key drivers of decarbonisation for the real estate sector

## Background and EU context

The construction sector globally consumed an estimated 135 EJ of energy in 2021. This energy consumption resulted from electricity use, use of fuels (solid, liquid and gas) for building heating/cooling, lighting, equipment use etc. The sector is responsible for 27% (10Gt CO<sub>2</sub> of global operational related GHG emissions. When the building value chain is taken into consideration, i.e., the production of steel, concrete, aluminium, construction block, glass, a further 4% global energy use (in EJ) and a further 6-10% of global emissions are added. Therefore, the building sector and its value chain accounted for c. 37% of global energy and process related GHG emissions. For the real estate sector to be aligned with the Paris agreement, and to reach net-zero emissions by 2050, a significant drop (over 90%) in GHG emissions is needed. Decarbonisation of the real estate sector is therefore crucial for countries to meet their respective net-zero targets<sup>[1]</sup>.

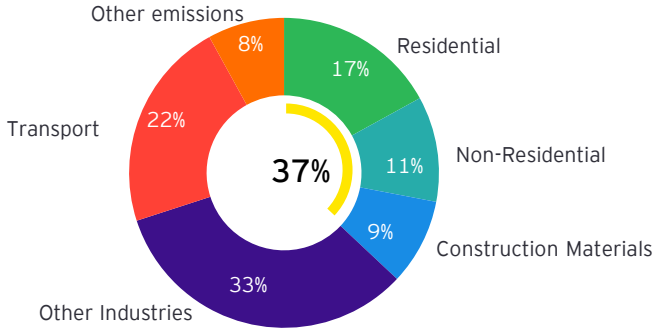


Fig 9: Share of building sector and value chain of global GHG emissions, 2021 (%)



Buildings in EU

36%

Of overall emissions

42%

Of overall energy consumption

### EU Context

In the EU, buildings are responsible for 40% of the energy consumption and 36% of greenhouse gas emissions. This is mainly the result of construction, usage, renovation, and demolition. Space and water heating are the two largest users, together representing ~80% of buildings' final energy consumption. Despite a growth in low-carbon energy consumption, direct use of fossil fuels still accounts for a large share of energy consumption in buildings<sup>[2]</sup>.

A large share of the European buildings stock are old, with c.40% of buildings built before 1970 when building energy standards were much less strict or non-existent. Almost 75% of the buildings stock is energy inefficient (not subject to energy standards and poor thermal performance) and less than 3% of the buildings stock qualifies for the A-label in energy performance certificates.

As a considerable share of the total stock in 2050 are already built, retrofitting and renovations of existing buildings would be crucial in making Europe climate-neutral by 2050<sup>[3]</sup>.

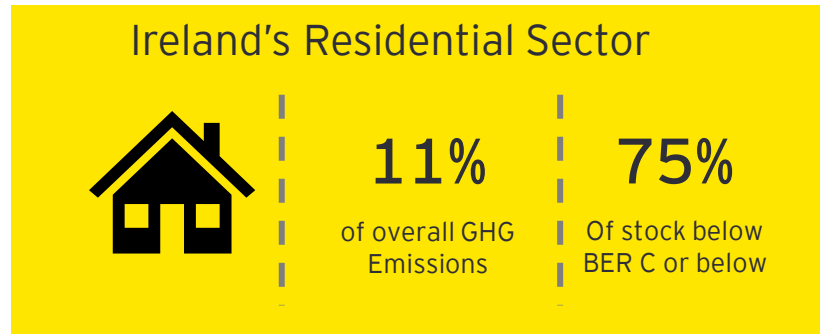
Source: [1] 2022 Global Status Report for Buildings and construction, UNEP, Global ABC [2] European Commission, Energy Efficiency in Buildings, 2020 [3] Energy Policy Review 2020: Europe, IEA [4] Climate Action Plan 2023 [5] Energy in Ireland, SEAI [6] Whole Life Carbon in Construction and Built Environment in Ireland, IGBC [7] Housing stock, CSO Ireland

## The Irish context

As per the CAP 23, the overall emissions from the built environment accounted for 13% of overall GHG emissions. The Irish residential sector contributed c.11% of the overall GHG emissions and c.82% of the emissions from the built environment<sup>[4]</sup>. While measures are being taken to reduce the emissions from the sector, the fossil fuel share in the residential sector continues to be high, with over c. 69% of energy required for the residential sector being fulfilled by oil, gas, coal and peat, with oil contributing close to 38% of the overall energy needs<sup>[5]</sup>.

The Irish Green Building Council report on whole life carbon in construction and built environment in Ireland<sup>[6]</sup>, indicates that c.75% of the housing stock in Ireland is not energy efficient and has a Building Energy Rating (BER) of BER C or below (i.e. it consumes > 150 kWh/Sq.m/year). The report also states that over 400,000 new homes will be built in Ireland between 2021-2030, in addition to the existing housing stock of c. 2 million<sup>[7]</sup>.

Decarbonisation of the residential sector (building net zero homes) and retrofitting the existing build stock to minimise the dependence on fossil fuels, will be vital for the Irish real estate sector to be Net-Zero by 2030.



# Key drivers of decarbonisation for the real estate sector

## Key drivers of decarbonisation

# 1

### Regulatory demand

Globally, over 600 ESG reporting provisions are driving ESG and Decarbonisation. The EU is a leader in Sustainability regulations.

# 3

### ESG drivers

Absent mitigating actions, climate risks could reduce annual returns toward the end of the decade by as much as 40 percent.<sup>[5]</sup>

# 2

### Investor and tenant demand

78% of investors want companies to focus on ESG activities, even if it reduces profits in the short term<sup>[3]</sup>.

43% of global consumers want to buy more from organisations that benefit society, even if products or services cost more<sup>[4]</sup>.

## Key drivers for decarbonisation

The COP21 held in Paris (2015) was a ground-breaking COP event where global leaders agreed to concentrate their efforts towards addressing climate change and work on decarbonisation. Since the Paris Agreement was announced, c.150 countries (including EU and 27 member States), 254 cities and c.1000 companies have pledged their commitment to reach Net-Zero by 2050. This means that c. 90% of the world's economy have some form of Net Zero commitment<sup>[1]</sup>. As various stakeholders of the Irish real estate sector have their individual commitments towards climate change, the decarbonisation of the Irish real estate sector has many key drivers which are advancing the movement, which are discussed briefly below:

- ▶ **Regulatory Drivers:** Regulations on decarbonisation are crucial to accelerate the Net-Zero movement. The EU has been a leader in sustainable development and has taken firm steps towards ensuring the Union's Net-Zero targets are legally binding to all member states of the EU. In the subsequent section (please refer to [Regulatory Drivers](#)), we discuss some of the key regulations in the EU and Ireland which will drive decarbonisation.
- ▶ **Investor and tenant demand:** Many investors are signatories to the Paris Agreement. Climate and ESG are an important part of their investment strategies. For example, the UN-convened Net Zero Asset Owner Alliance (NZAOA)<sup>[2]</sup>, with assets under management of \$5 trillion, is a member-led initiative of institutional investors committed to transitioning their investment portfolios to net-zero GHG emissions by 2050. On the other hand, large corporate tenants with Net Zero Carbon commitments are demanding real estate developers for Green Building/ESG compliant/Net Zero Buildings.
- ▶ **ESG Drivers:** Physical and transitional risk have direct and indirect impacts on revenue, operating and capital cost. Future proofing and having a social license to operate are, therefore, an important driver for decarbonisation.

# 4.1

## Regulatory Drivers





# EU Regulations timeline

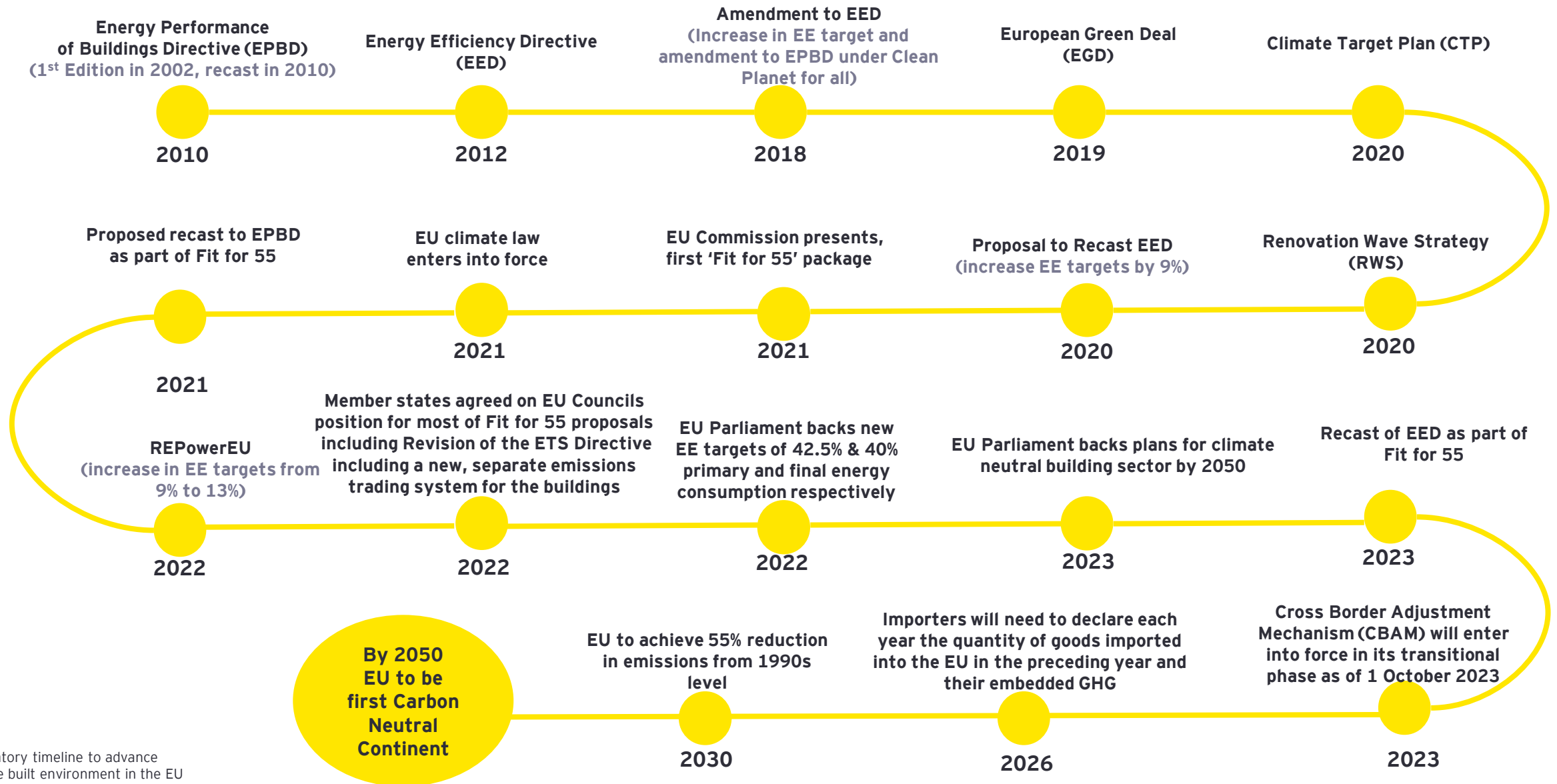


Fig 10: The EU Regulatory timeline to advance decarbonisation of the built environment in the EU

# Energy Performance of Building Directive (EPBD)

## Critical regulation on building decarbonisation in the EU



Energy Performance of Buildings Directive (EPBD)

### Summary

- ▶ The EPBD sets out the minimum energy performance standards that buildings need to achieve. Its first edition was released in 2002 and the revised directive in 2018 will help reach the building and renovation goals set out in the European Green Deal.
- ▶ Revision of EPBD is under consideration as part of the 'Fit for 55' package, with focus on new buildings being 'Zero Emission Buildings' and ensuring worst performing buildings are retrofitted.

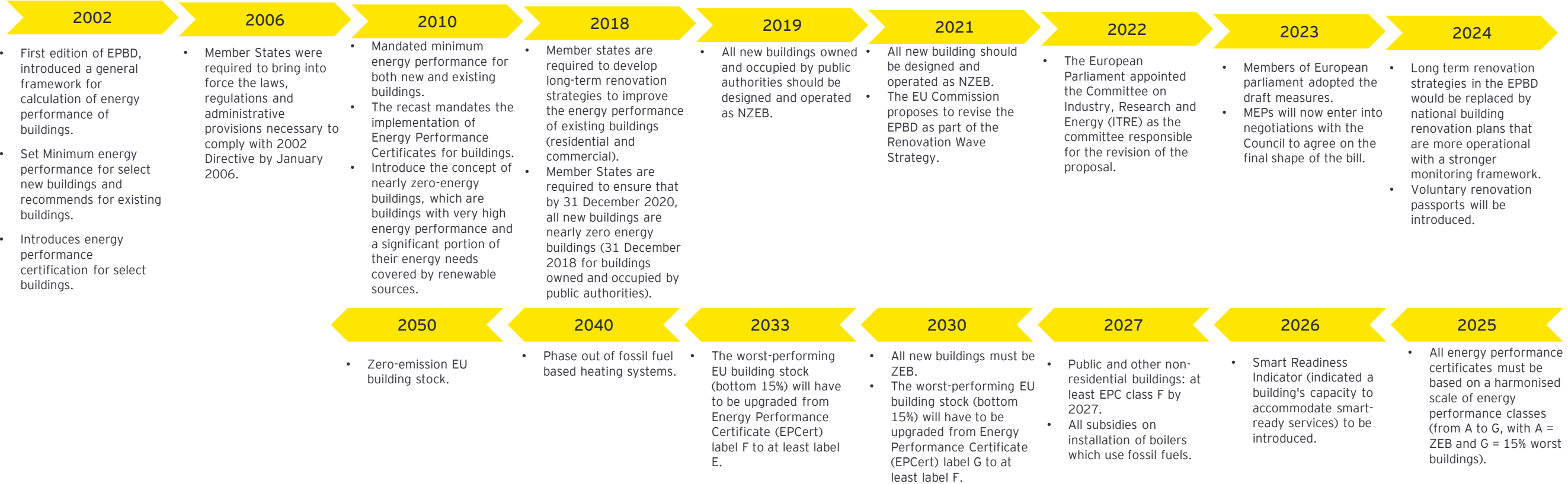
### Key Measures

- The 2018 amendment of the EPBD requires member States to:
- ▶ Establish long-term renovation strategies, aimed at decarbonising the national building stocks by 2050, with an indicative milestones for 2030 and 2040.
  - ▶ From 2021, all new buildings must be nearly zero-energy buildings (NZEB).

### Implications

- ▶ In line with the EPBD directive, Ireland carried out a cost optimal analysis to define Nearly Zero Energy Building Standards (NZEB) requirements. Part L of the Building Regulations defines the requirements in legislation.
- ▶ The implication of amendments to Part L of the building regulation will ensure that all new building after 1 November 2019 will have to comply with Nearly Zero Energy Building Standards.

### EPBD timeline





## Key regulatory drivers - other key EU regulations (1/2)



### The European Green Deal (EGD)

#### Summary

- ▶ The EU has taken action to consolidate all previously fragmented environmental, industry, energy, climate and other relevant policies into one integrated framework: the EU Green Deal (the EGD).
- ▶ The EGD is not a law in itself, but a general policy strategy, outlining the ambitions and goals in different policy sectors.

#### Key Measures

The overarching goal of EGD for buildings are:

- ▶ Lowering the GHG emissions from building by 60% and lowering overall energy consumption in buildings by 15% by 2030.
- ▶ Renovating 35 million buildings by 2030.
- ▶ Setting a benchmark of 49% of renewables in buildings by 2030.

#### Implications

- ▶ The Member States including Ireland have taken the necessary steps to prepare / revise plans, policies, directives, and other legislative framework to meet these targets.
- ▶ The Programme for Government (PfG) launched in June 2020, fully supports the EGD and has directed any relevant funding under the EGD towards decarbonising projects such as renewable energy, retrofits, ecosystem resilience and regeneration.



### European Climate Law

#### Summary

- ▶ The European Climate Law enshrines in law the goal set out in the European Green Deal for Europe's economy and society to become climate-neutral by 2050.
- ▶ The Climate Law legally binds the EU countries to meet both the 2030 and 2050 climate targets.

#### Key Measures

- ▶ The law also sets the intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.
- ▶ The law aims to ensure that all EU policies contribute to this goal and that all sectors of the economy and society play their part.

#### Implications

- ▶ Member States are required to adopt and implement national adaptation strategies and plans, taking into consideration the Unions' strategy on adaptation to climate change.



### Renovation Wave Strategy (RWS)

#### Summary

- ▶ The RWS aims to enhance the energy efficiency of buildings throughout Europe and double the current renovation rate of buildings in the EU, with the ultimate aim of achieving carbon neutrality in the building sector by 2050. The strategy includes a plan of action with specific regulatory, financial, and supportive measures to promote building renovation.

#### Key Measures

- ▶ Provides financing through accessing existing funding mechanisms such as the European Regional Development Fund (ERDF)<sup>[1]</sup> and the European Social Fund (ESF).
- ▶ Develop technical assistance programme to upscale retrofitting.
- ▶ Focus on tackling energy poverty and worst performing buildings, public buildings and decarbonising heating and cooling system of buildings.

#### Implications

- ▶ While the RWS is still in early stages in Ireland, the funding under ERDF and potential mobilisation of private funds is likely to trigger the wave of renovation in Ireland.
- ▶ Technical assistance programme like European Local Energy Assistance (ELENA)<sup>[2]</sup>, InvestEU Advisory Hub<sup>[3]</sup> are also expected to drive renovation in Ireland.



## Key regulatory drivers - other key EU regulations (2/2)



Eco Design Directive (EDD)

### Summary

- ▶ The EDD established a legal framework with an objective to improve the efficiency of energy related products such as heat pumps, air conditioning, etc. in order to reduce environmental impacts and save energy through better design, resulting in economic benefits for businesses and end-users.
- ▶ One of the key objective of EDD is to ensure that less energy efficient products are forced off the market.

### Key Measures

- ▶ This EDD sets out a minimum performance of plant such as heat pumps.
- ▶ The EDD includes comparison of performance across products and, thus, offers a degree of flexibility when choosing products to suit the requirements.

### Implications

- ▶ A EDD aligned product can be used in the Dwelling Energy Assessment Procedure (DEAP) which is used to calculate Building Energy Ratings (BER) in Ireland.
- ▶ The DEAP Manual lists the EDD as a source of accredited or certified data.



Fit for 55

### Summary

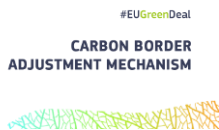
- ▶ The Fit for 55 package is a collection of proposals designed to revise and renew EU regulations and introduce new initiatives to ensure that EU policies align with the climate goals for 2030.
- ▶ The package proposed revision of the directives such as the Energy Efficiency Directive (EED), Energy Performance of Buildings Directive (EPBD), and Renewable Energy Directive (RED), that would impact the social housing sector.

The Council has adopted five laws that will enable the EU to cut GHG emissions within the main sectors of the economy, these laws are

- ▶ Revision of the ETS Directive including a new, separate emissions trading system for the buildings and regulation establishing a €72.2 billion Social Climate Fund,
- ▶ Amendment of the MRV shipping Regulation, revision of the ETS Aviation Directive, regulation establishing a Carbon Border Adjustment Mechanism.

### Implications

- ▶ The Social Climate Fund will be used by Member States to finance measures to support vulnerable households, and help them cope with the price impacts of an ETS for the buildings.
- ▶ The Irish Government has been incorporating the revised targets for primary and final energy consumption and renewable energy consumption as proposed by the EU as part of the Fit for 55 packages.



EU Carbon Border Adjustment Mechanism (CBAM))

### Summary

- ▶ The EU's Carbon Border Adjustment Mechanism (CBAM) is a tool to put a fair price on the carbon emitted during the production of carbon intensive goods (such as cement, iron, steel etc..) that are entering the EU, and to encourage cleaner industrial production in non-EU countries. The gradual introduction of the CBAM is aligned with the phase-out of the allocation of free allowances under the EU Emissions Trading System (ETS) to support the decarbonisation of EU industry.

### Key Measures

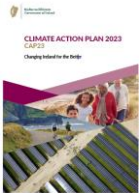
- ▶ By confirming that a price has been paid for the embedded carbon emissions generated in the production of certain goods imported into the EU, the CBAM will ensure the carbon price of imports is equivalent to the carbon price of domestic production.
- ▶ It will initially apply to imports of certain goods and selected precursors whose production at most significant risk of carbon leakage: cement, iron and steel, aluminium, fertilisers, electricity and hydrogen.

### Implications

- ▶ As per the IGBC<sup>(1)</sup>, embodied carbon accounts for close to 40% of overall emissions from built environment.
- ▶ The CBAM regulations will ensure that the importers of construction materials like cement, steel, aluminium etc., will opt for a manufacturer with lower emission intensity and this will ensure that the products/materials with low embodied carbon imported in the EU.
- ▶ It also ensures that the cost of carbon (domestic and imported) remains the same.

# Climate Action Plan (EPBD)

## Critical Regulation on Building Decarbonisation in Ireland



Climate Action Plan 2023

### Summary

- ▶ It sets out a wide range of measures to implement the carbon budgets and sectoral emissions ceilings and sets out a roadmap for taking decisive action to halve Ireland's emissions by 2030 and reach net zero no later than 2050.
- ▶ CAP23 sets out how Ireland can accelerate the actions that are required to respond to the climate crisis, putting climate solutions at the centre of social and economic development.

### Key Measures

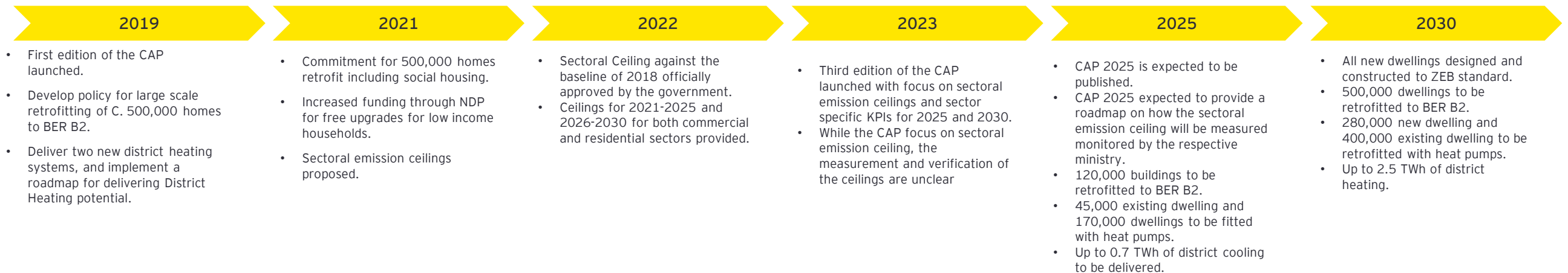
The key objectives of the CAP23 are as follows:

- ▶ All new dwellings designed and constructed to Nearly Zero Energy Building (NZEB) standard by 2025, and Zero Emission Building (ZEB) standard by 2030,
- ▶ Equivalent of 120,000 dwellings retrofitted to BER B2 or cost optimal equivalent by 2025, and 500,000 dwellings by 2030.

### Implications

- ▶ Sectoral emission ceiling for residential built environment of 29 MtCO<sub>2</sub>e for 2021-2025 and commercial built environment of 7 MtCO<sub>2</sub>e for 2021-2025.
- ▶ This will require an acceleration of retrofitting, coupled with sustained energy demand reductions, increased renewable heat supply in Buildings.

## CAP timeline





## Key regulatory drivers - Irish Regulations (1/2)



Number 32 of 2021

### Climate Action and Low Carbon Development Act (2021)

#### Summary

- ▶ The 2021 Act provides for a national climate objective, which commits to pursue and achieve no later than 2050, the transition to a climate resilient, biodiversity-rich, environmentally-sustainable and climate-neutral economy.

#### Key Measures

- ▶ The Act provides approval for establishing carbon budgets and a sectoral emissions ceiling to apply to different sectors of the economy.
- ▶ Actions for each sector will be detailed in the Climate Action Plan which must be updated annually.

#### Implications

- ▶ The amendment in the Act has made the respective Departments legally accountable to meet their annual and quarterly energy efficiency and decarbonization targets to thereby reach the Ireland's climate ambition.
- ▶ It requires regular reporting on progress towards emissions targets and the implementation of Climate Action Plans.



### Building Regulations Part L-Conservation of Fuel and Energy

#### Summary

- ▶ Part L of the Building Regulations sets out requirements in relation to the conservation of fuel and energy. Part L was updated in 2019 to include the Energy Performance in Buildings Directive (EPBD) requirement for Nearly Zero Energy Buildings.

#### Key Measures

- ▶ For new dwellings, NZEB is equivalent to a 25% improvement on the 2011 Building Regulations.
- ▶ Maximum Permitted Energy Performance Coefficient (MPEPC) of 0.3.
- ▶ Maximum Carbon Performance Coefficient (MPCPC) of 0.35.
- ▶ Renewable Energy Ratio (RER) of 20%.

#### Implications

- ▶ The Part L Building Regulations will ensure all new buildings meet the required minimum performance standards.



### National Energy and Climate Plan

#### Summary

- ▶ The document is a ten-year integrated plan mandated by the EU to each of its Member States for the EU to meet its overall GHG emissions targets.
- ▶ It includes all policies and measures that were identified up to the end of 2019, with the goal of achieving a 30% reduction in non-ETS GHG emissions by 2030 compared to 2005 levels.

#### Key Measures

- ▶ Effectively ban installation of oil boilers from 2022 and installation of gas boilers from 2025 in new dwellings through the introduction of new regulatory standards for home heating systems.
- ▶ 600,000 (400,000 of which in existing buildings) heat pumps to be installed over the period 2021-2030.
- ▶ Ensure a suitable policy framework is in place to support district heating.

#### Implications

- ▶ The NECP is expected to drive the decarbonisation of heating and cooling in Ireland. The measure is likely to have a major impact on both new buildings and retrofits of existing buildings.
- ▶ The NECP also brings about grants and incentives to encourage end users to adopt energy efficiency and retrofitting measures.



## Key regulatory drivers - Irish regulations (2/2)



National Development Plan (NDP)

### Summary

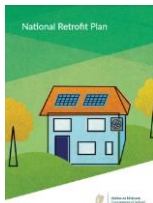
- ▶ National Development Plan (NDP) sets out the Government's overarching investment strategy and budget for the period 2021-2030. It is an ambitious plan that balances the significant demand for public investment across all sectors and regions of Ireland with a major focus on improving the delivery of infrastructure projects to ensure speed of delivery and value for money.

### Key Measures

- ▶ Publishing the National Retrofit Plan.
- ▶ Reviewing the existing and launching new SEAI grant schemes and resourcing the SEAI as our National Retrofit Delivery Body.
- ▶ Launching a redesigned Energy Efficiency Obligation Scheme (EEOS).
- ▶ Developing alternative funding mechanisms to support residential retrofit.

### Implications

- ▶ The NDP will provide an unprecedented level of investment in retrofit to be primarily used to fund the expansion and enhancement of SEAI retrofit schemes which include energy poverty schemes as well as other initiatives to support retrofit.



National Retrofit Plan (NRP)

### Summary

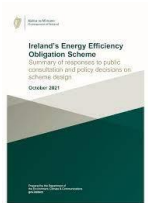
- ▶ The NRP, was published as part of the CAP21, sets out a range of measures designed to deliver on ambitious retrofit targets. The NRP aims to address barriers to retrofit across four key pillars: 1. Driving demand and activity; 2. Financing and funding; 3. Supply chain; and 4. Skills and standards; and governance.

### Key Measures

- ▶ Development of a network of registered one-stop-shops (OSSs) to simplify the customer journey as well as enhancing quality and confidence.
- ▶ Launch of a new Residential Retrofit Low-cost Loan Scheme - GoI worked with the Strategic Banking Corporation of Ireland (SBCI) and the EIB to develop a retrofit loan guarantee scheme and associated low-cost residential retrofit loans.

### Implications

- ▶ The NRP and SEAI's One-stop-shops could advance decarbonisation of the residential sector in Ireland as they offer a simplified retrofit solution to homeowners and also offer the homeowners access to finance for the retrofitting activities through grants and low cost loan schemes.



Energy Efficiency Obligation Scheme (EEOS)

### Summary

- ▶ The EEOS places a legal requirement on larger energy companies ("Obligated Parties") to help energy users save energy. This can be achieved by supporting the energy user (financially or otherwise) to implement energy saving practices or to carry out energy upgrades in their property. Obligated Parties work with energy users in the residential (including energy poor households), commercial, and public sectors to deliver the required energy savings.

### Key Measures

- ▶ The technical and financial services of the Obligated Parties are available to LAs, AHBs and, private homeowners.
- ▶ In order for an Obligated Party to claim energy credits, they must provide support for the installation in some manner and be involved prior to the implementation of the measures.

### Implications

- ▶ Between 2014 and 2020, Obligated Parties supported energy efficiency actions in more than 290,000 dwellings and over 3,000 businesses.
- ▶ The total EEOS target for the obligation period (2021-2027) is 36,424 GWh cumulative end-use energy savings and this is likely contribute to the net zero movement in Ireland in a large way.

# 4.2

## Financial Landscape



# EU regulation: financial landscape

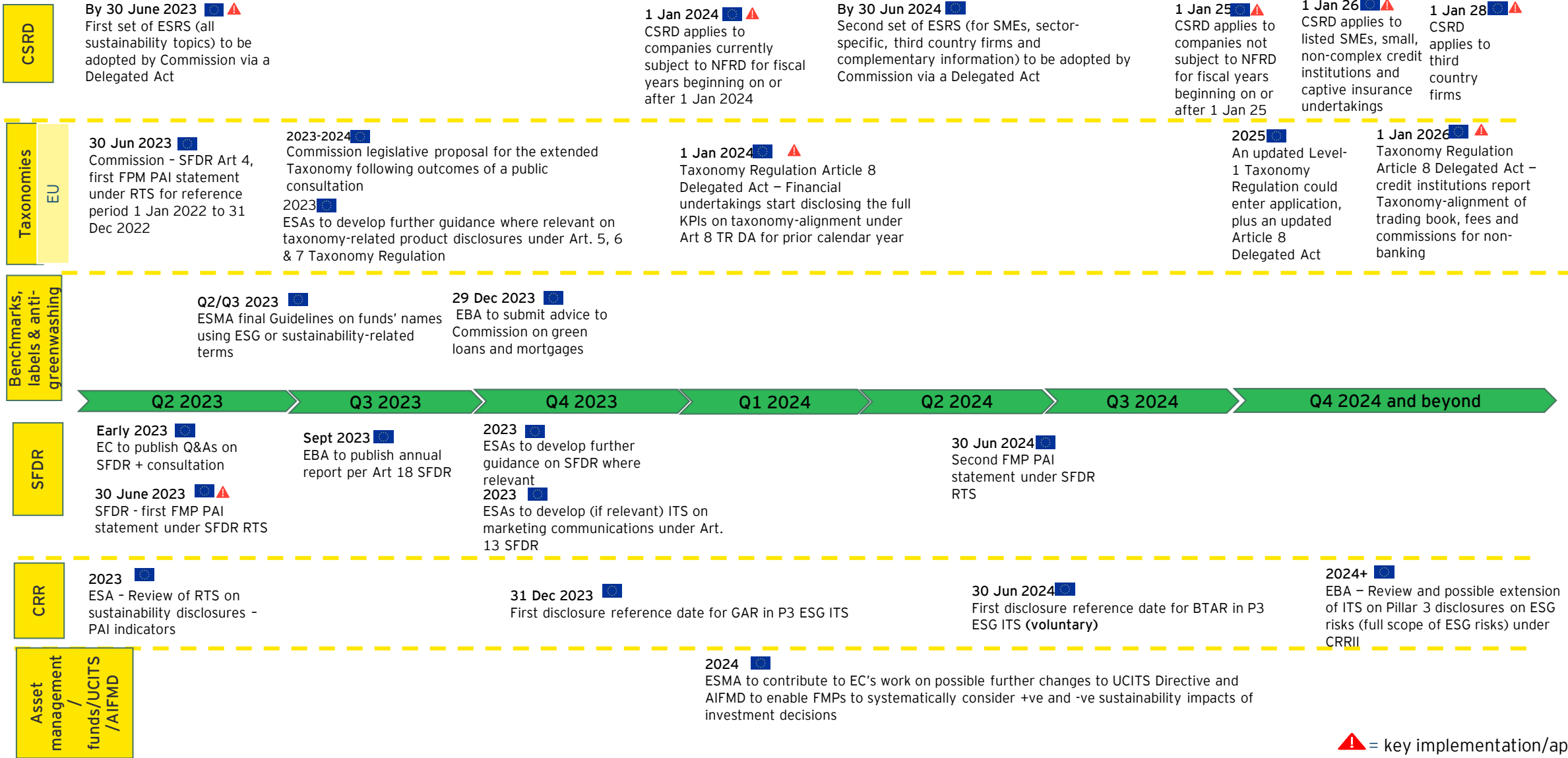
- ▶ The EU Taxonomy Regulation was adopted by the European Parliament in June 2021 and subsequently became binding throughout the EU.
- ▶ Under the EU Taxonomy Regulation, companies that fall under the scope of the NFRD will have to disclose the proportion of economic activities that are eligible and aligned to the taxonomy 'environmentally sustainable'.
- ▶ For certain companies in the financial sector (financial market participants and financial advisors as defined), the sustainability-linked disclosures for the financial services sector regulation (SFDR) will require them to disclose sustainability-related information on product and entity levels.
- ▶ Financial market participants are expected to disclose which products are offered that promote environmental or social characteristics (Article 8 products) as well as which products have a sustainable investment objective (Article 9 products).
- ▶ In February 2022, the European Commission issued a proposal for a Directive on corporate sustainability due diligence. The aim of this directive is to foster sustainable and responsible corporate behaviour and to anchor human rights and environmental considerations in companies' operations and corporate governance. The new rules will ensure that businesses address adverse impacts of their actions, including in their value chains inside and outside Europe.
- ▶ In December 2022, they introduced Corporate Sustainability Reporting Directive (CSRD) with an aim to ensure that companies publicly disclose adequate (relevant, reliable, and comparable) information on the sustainability risks they face and the impact they have on society and the environment.



Fig 11: The EU financial Regulations landscape

Source: [Key EU Actions on Finance & Reporting](#). Econsense

# EU regulation: financial landscape



! = key implementation/application date

# EU regulation: financial landscape - CSRD and ESRS



Corporate Sustainability Reporting Directive (CSRD)

### Summary

- ▶ The CSRD aims to ensure that companies publicly disclose adequate information about the risks, opportunities, and impacts of their activities on people and the environment (i.e., principle of double materiality).
- ▶ The directive will apply to all companies listed on the EU regulated markets.

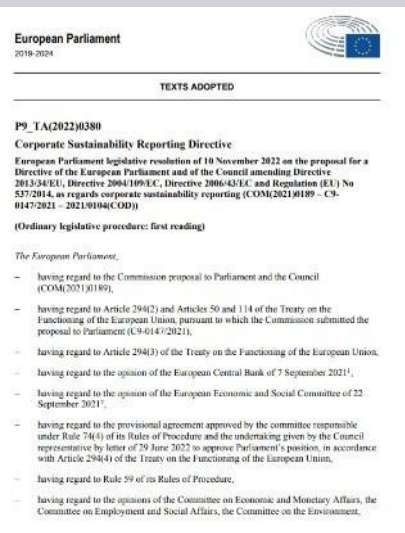
### Key Measures

- ▶ Description of business model and strategy, including the resilience in relation to risks and opportunities to sustainability matters.
- ▶ Time-bound targets (including GHG reduction targets for 2030 and 2050), progress toward achieving targets, and scientific evidence statement related to environmental factors.

### Implications

- ▶ Companies that fall within the scope of the CSRD will need to make some significant changes to how they prepare and disclose sustainability information.
- ▶ The CSRD makes it mandatory for companies to have an audit of the sustainability information that they report.

## Level 1 – Corporate Sustainability Reporting Directive (CSRD)



## Level 2 – European Sustainability Reporting Standards (ESRS)

### Cross-cutting



### Topical sector-agnostic



### Sector-specific

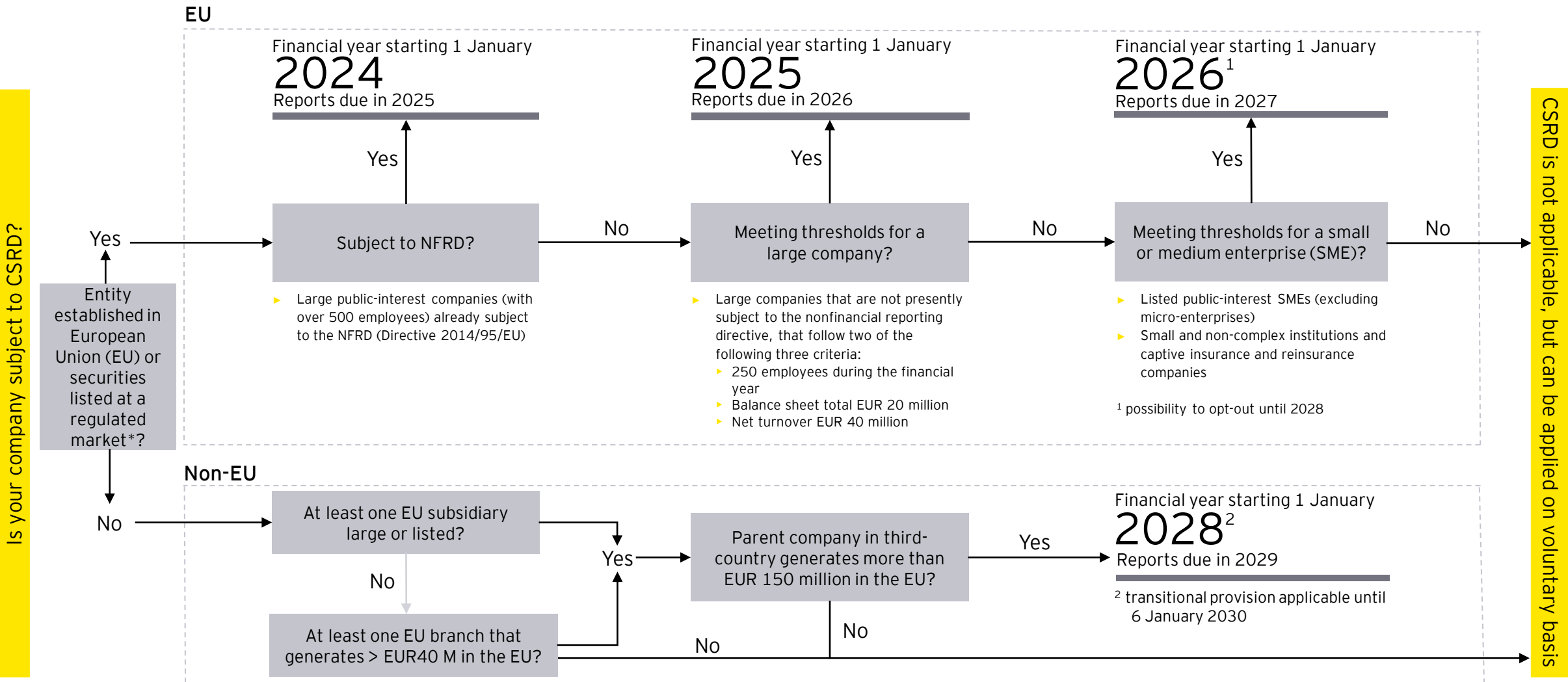
DRAFT EUROPEAN SUSTAINABILITY REPORTING STANDARDS  
**Standards under development scheduled for June 2024, but postponed**

### Entity-specific

DRAFT EUROPEAN SUSTAINABILITY REPORTING STANDARDS  
**Embedded in ESRS: Entity-specific topics to be disclosed**

Source: EFRAG

# EU regulation: financial landscape - CSRD decision tree



\* If the non-EU company has issued securities at a regulated market in the EU it is in scope of the transparency directive and therefore required to prepare a sustainability report under Art. 19b or 29b of the accounting directive. The reporting periods are in line with the above, if the company fulfills two of three criteria in two consecutive years.

Fig 12: CSRD decision tree

# 4.3

## ESG Drivers

# ESG drivers



- ▶ As per Climate Ireland, ~20% of Ireland's coast is currently at risk of coastal erosion.
- ▶ The Irish coast is projected to witness a sea-level raise of 2.2-4.8 mm per year (based on RCP2.6). This is a serious threat for Ireland, as most of Ireland's population and infrastructure are concentrated on the coast and in the coastal cities of Dublin, Cork, Limerick and Galway.
- ▶ National Adaptation Framework (NAF) sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts.
- ▶ The NAF provides guidance on Climate adaptation proofing of SEAI standards, EIA and also in revisions of building standards.

Source: <https://www.mckinsey.com/industries/real-estate/our-insights/climate-risk-and-the-opportunity-for-real-estate>

# ESG drivers

## 1. Transitional Risks on Real Estate

Transitional risks refer to the economic, regulatory, and technological shifts that arise as industries adjust to a low-carbon world. In the real estate sector, transitional risks have direct implications for valuation, tenant demand, and investor interest. Several key points highlight these transitional challenges:

- ▶ **Regulatory Evolution:** As governments work toward meeting climate goals, regulatory changes, such as carbon taxes or stringent energy efficiency standards, are becoming more prevalent. These regulations can pose risks for carbon-intensive buildings and also for properties connected to carbon-heavy grids or transportation systems.
- ▶ **Economic Realignments:** The decarbonisation drive affects industries differently, causing some to thrive and others to decline. For instance, the downturn of carbon-intensive industries can negatively impact real estate markets. The case of downtown Calgary, Canada is illustrative; influenced by a mix of oil price volatility and climate-related opposition to pipelines, the vacancy rates soared to around 30 percent by January 2021, significantly deflating asset value, albeit it is showing signs of recovery in 2023.
- ▶ **Investor and Tenant Behaviour:** As investors and tenants become more climate-conscious, properties not aligning with sustainability standards may see diminished demand and subsequently, reduced valuations.

## 2. Physical Risks of Climate Change on Real Estate

Physical risks are direct consequences of climate change, ranging from extreme weather events to longer-term shifts in climate patterns. Real estate, being inherently tied to location, is particularly vulnerable:

- ▶ **Acute and Chronic Threats:** While acute events like floods, wildfires, and storms can cause immediate damage to properties, chronic shifts, such as rising sea levels and changing temperatures, gradually erode property values and can render some locations uninhabitable.
- ▶ **Variability Across Portfolios:** Not all assets are affected equally. Depending on factors like location, carbon footprint, and tenant composition, some properties might actually benefit from climate transitions, while others could experience significant devaluation. Following Hurricane Sandy, properties in New York's flood zones saw up to an 8% reduction in housing prices by 2017.
- ▶ **Indirect Impacts:** Physical risks aren't always direct. For example, while a particular facility/building might be safe from floods, the transportation routes connecting it could be compromised, indirectly affecting the value and utility of the property.

## Mitigation Strategies

For real estate stakeholders, the risks posed by climate change necessitate proactive strategies. Here are key mitigation measures:

- ▶ **Incorporate Climate Risks in Valuation:** It is crucial for real estate players to integrate both physical and transitional risks into asset and portfolio valuations. This means developing capabilities to understand the depth and breadth of these risks and how they influence property values.
- ▶ **Decarbonise Real Estate:** The path to risk reduction is through decarbonisation. This entails several steps:
  - **Efficient Design and Retrofitting:** Upgrading buildings with energy-efficient lighting, better insulation, and low-carbon heating and cooling systems not only cuts emissions but also drives financial savings.
  - **Green Building Materials:** The use of sustainable construction materials, like green steel or tall timber, can reduce a building's carbon footprint while potentially reducing construction costs.
  - **Leverage New Value Streams:** Decarbonisation offers opportunities for revenue generation and value addition:
  - **Local Energy Production:** Properties can be fitted with solar panels and energy storage systems, offering a potential revenue stream while supporting grid stability.
  - **Green Buildings for Tenants:** Given the increasing demand for sustainable spaces, properties that adopt green standards can command premium rents and longer lease durations.
  - **On-Site Services:** Beyond mere accommodation, real estate can offer services like electric vehicle charging, green facilities management, and more, turning sustainability into a business advantage.

Source: <https://www.mckinsey.com/industries/real-estate/our-insights/climate-risk-and-the-opportunity-for-real-estate>

## Social impacts

ESG is not limited to energy and sustainability but also includes considerations for social impacts, such as diversity and community impact. The real estate industry can create social impact investment opportunities like multitenant shared spaces or the transformation of underutilised buildings. The challenge today, however, is for investors to adapt their traditional investment models to suit the requirements of the local community.

In a report on the social aspect of ESG in the real estate sector, Schroders identified five main ingredients that make for a strong local economy: a diversified economy, a highly educated labour force, well-developed physical infrastructure, good leadership, and liveability. Schroders' report highlights the relationship between real estate investment and the local economy. The perceived conflict between fiduciary duty and sustainable investment has evolved with the increasing prominence of social concerns in social and political agendas. The value of companies or assets is increasingly tied to the social benefit provided.

New investment strategies require pension funds and asset managers to incorporate sustainability and positive social impact into their decisions. Regeneration projects can have a significant impact on the local economy and the social benefit provided can be significant. Social and affordable housing is a low-risk investment that delivers stable financial returns. However, successful regeneration projects can take up to a decade to implement and generate capital returns.



Source: <https://www.schroders.com/en-gb/uk/institutional/insights/how-real-estate-investing-can-make-real-social-impact/>

ESG is an evolving field in real estate with investors looking for new ways to improve their social impact. The development of multitenant shared spaces can provide affordable workspace for SMEs and start-ups. High-quality coworking and flexible office spaces can help businesses find a place to thrive without having to cover the high costs of rent and overheads.

Revitalising underutilised buildings promotes social impact strategies. Through restoring rundown buildings and converting them into multipurpose spaces, such projects create a variety of activities and opportunities for multiple tenants and provide economic and social benefits for the local community.

ESG investing is an opportunity to generate income through positive local community and environmental impacts. Future innovations are likely to bring the importance of ESG even further to the forefront of real estate investment considerations, promoting sustainable investing and returning emphasis on more than simply financial returns.

### Kings Cross Redevelopment

The redevelopment of King's Cross in London is an excellent example of how social investment can pay off in financial and social returns. Argent, who developed the scheme, invested £100 million in infrastructure and attended over 300 public meetings, demonstrating how social investment can revive a neglected area and provide homes and jobs for local residents, boosting the local economy in the process.



The background image shows a cityscape at night. On the right, a large, white, cable-stayed bridge with a prominent arch spans across a body of water. The bridge's cables are illuminated. In the center, a building features a distinctive, curved facade with red neon lighting. To the left, another building is lit up with blue and white lights. The lights from the buildings and bridge are reflected in the water in the foreground. Overlaid on the left side of the image are large, semi-transparent grey numbers '44'.

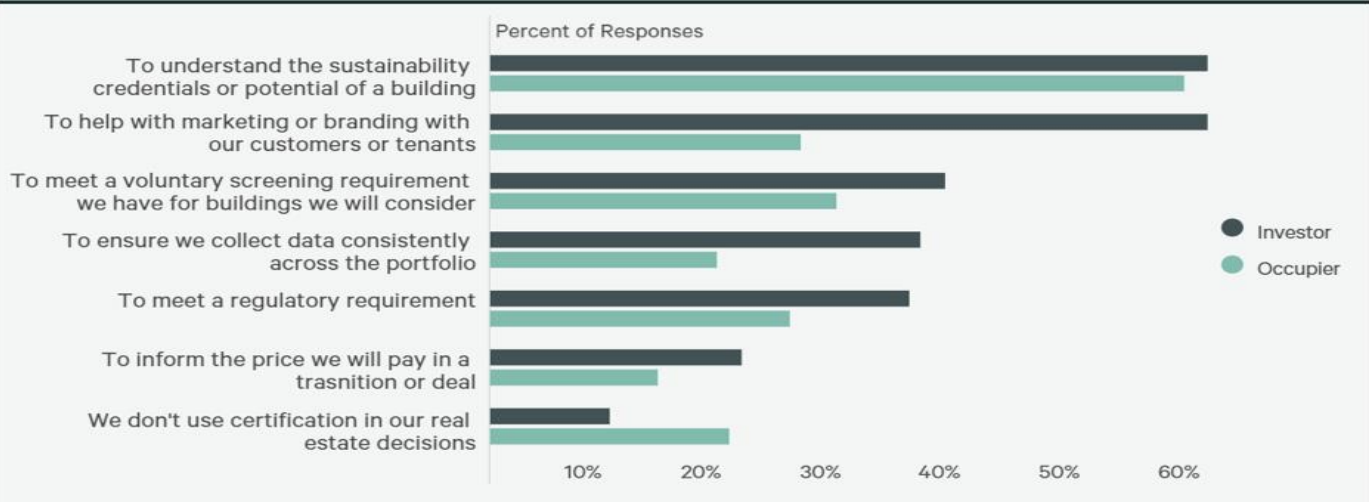
# 44 Investor and Tenant Demand

# Key factors driving investor and tenant demand

## Investor demand

- ▶ **Alignment with Investor Values and Goals**
  - ▶ Investors are integrating sustainability goals, net-zero targets and collaborative initiatives to drive impactful and environmentally responsible investments.
- ▶ **Market Demand and Competitive Advantage**
  - ▶ Sustainable buildings gain market value and tenant appeal as ESG becomes a standard measure for real estate.
- ▶ **Financial Performance and Long-Term Value Preservation**
  - ▶ Sustainable buildings provide financial advantages to investors through higher rental rates, reduced expenses, and improved revenue.
- ▶ **Risk Mitigation, ESG Importance and Regulatory Environment**
  - ▶ Green buildings minimise legislative and obsolescence risks, attracting investors seeking ESG alignment and climate risk mitigation.

How do you use sustainability certification programs (e.g., LEED, BREEAM) in your decisions?



Source: CBRE Global ESG Survey, November 2022

## Tenant demand

- ▶ **Financial Benefits**
  - ▶ Green buildings - ability to offset operating costs, offer value by attracting talent, improving employee satisfaction, and contributing to overall success.
- ▶ **Well-Being, Productivity, and Employee Retention**
  - ▶ Tenants recognise the positive impact of sustainable workspaces on employee well-being and performance.
- ▶ **Risk Mitigation and Alignment with Corporate Values**
  - ▶ Tenants focused on net-zero targets prioritise leasing green space, reducing vacancy risk and improving long-term asset performance.
  - ▶ Tenants prioritise sustainability in line with corporate values, seeking physical workspaces that reflect their commitment to environmental responsibility and social impact.

# Key factors driving investor and tenant demand

## Factors driving investor demand

### ESG Importance and Regulatory Environment

ESG (Environmental, Social, and Governance) issues have gained significant importance, with 82% of respondents considering it extremely important, according to a 2022 EY US CEO Survey. Regulatory bodies, such as the EU, are emphasising greater transparency in sustainability practices, including climate-related risks and greenhouse gas emissions disclosure.

### Financial Performance

Investors recognise that sustainable buildings offer financial benefits. Green buildings justify higher rental rates, offset operating expenses, and enhance the value of intangible assets. They demonstrate lower vacancy and collection losses, resulting in higher effective gross revenue and improved financial performance.

### Risk Mitigation

Green buildings significantly reduce legislative and obsolescence risks. Investors are attracted to buildings that align with ESG principles and mitigate climate-related risks. Tenants committed to net-zero targets and corporate values prioritise leasing green space, reducing the risk of vacancy and enhancing long-term asset performance.

### Market Demand and Competitive Advantage

The demand for sustainable buildings is expected to rise as ESG becomes a standard framework for measuring real estate value. Investors recognise the marketability of green buildings, with higher tenant demand, lower vacancy rates, and potential for premium rental rates. Sustainable properties have a competitive advantage in attracting and retaining tenants, enhancing the property's long-term value.

### Alignment with Investor Values and Goals

Many investors are incorporating sustainability goals and net-zero targets into their investment strategies. They prioritise investments that align with their values, meet regulatory requirements, and contribute to a more sustainable future. Investor commitment to sustainability is driving decisive action, forming climate initiatives, and alliances to ensure sustainable practices within their portfolios.

### Long-Term Value Preservation

Investors recognize the role of sustainability in preserving asset value. Buildings with strong environmental performance command higher rents and capital values, while weaker-performing buildings may face a "brown discount." Certifications like LEED, BREEAM, and CRREM tool usage remain important, along with initiatives such as the World Green Building Council's Net Zero Carbon Buildings Commitment.

# Key factors driving investor and tenant demand

## Factors driving tenant demand

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### Risk Reduction and Marketability

Green buildings significantly reduce legislative and obsolescence risks, making them more attractive to tenants. They prioritise leasing green space, leading to lower vacancy rates, increased tenant demand, and higher lease renewal probabilities.

### Financial Benefits

Tenants understand that green buildings justify higher rental rates by offsetting operating expenses. They recognise the value of a sustainable workspace in attracting and retaining talent, enhancing employee satisfaction, and contributing to their overall success.

### Alignment with Corporate Values

Tenants increasingly value sustainability as part of their corporate values. They want their physical workspace to reflect their commitment to environmental responsibility and social impact.

### Carbon Footprint Reduction

Tenants are conscious of reducing the carbon footprint of their leased spaces. They aim to align their operations with sustainability goals and prefer buildings that help them achieve their net-zero targets.

### Health and Well-being

Tenants prioritise buildings that contribute to their health, well-being, and corporate sustainability strategies. They seek features such as superior indoor air and water quality, ample natural light, and facilities supporting mental health. Tenants are aware that green buildings can facilitate these needs.

### Productivity and Employee Retention

Studies show that green buildings with improved ventilation and lighting design lead to productivity gains and higher employee retention rates. Tenants recognise the positive impact of sustainable workspaces on their employees' well-being and performance.

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## Implications for Irish Real Estate

# What are stranded assets?

Stranded assets are defined as assets that, prior to the end of their economic life, are unexpectedly devalued or face a decrease in earning capacity. This devaluation can be a consequence of myriad factors, ranging from regulatory changes to technological advancements. Historically, the term has strong roots in the energy sector, particularly around assets linked to fossil fuels. However, the ramifications of stranded assets are extensive, affecting a range of industries including real estate, technology, and manufacturing.

## Key causes of asset stranding

- ▶ **Regulatory Changes:** Government policies and regulations evolve in response to societal needs and global events. While they often serve to protect the environment or adjust to shifting societal values, they can inadvertently render certain assets obsolete or uneconomical. For instance, stricter environmental policies may place rigorous constraints on emissions, directly affecting industries reliant on specific manufacturing processes or raw materials.
- ▶ **Technological Advancements:** Rapid technological evolution is a double-edged sword. On one side, it propels industries forward, offering increased efficiency and innovative solutions. On the other, it can rapidly make existing technologies or processes obsolete. Companies heavily invested in now outdated technology can find significant portions of their assets stranded.
- ▶ **Shifts in Market Demand:** Global markets are dynamic. As consumer preferences shift, driven by awareness, global events, or generational changes, demand for certain products or services can wane. Companies not agile enough to pivot can find their assets, built to serve a once flourishing demand, become redundant.

## Implications for the real estate sector

Real estate, while tangible and often perceived as stable, isn't insulated from the implications of stranded assets. Several scenarios can result in property assets becoming stranded:

- ▶ **Zoning or Land Use Changes:** Regulatory bodies frequently adjust land use policies based on urban planning needs. An area once zoned for commercial activity might undergo rezoning for green spaces, cultural sites, or residential use. Such transitions can have profound impacts on property values, with assets often facing significant devaluation.
- ▶ **Environmental Regulations:** The global push towards sustainability has led to stringent environmental regulations in construction and property management. Properties that don't meet these standards, be it in terms of energy efficiency, water conservation, or the use of sustainable materials, risk obsolescence. They face potential legal liabilities or might require expensive retrofitting, leading to devaluation.
- ▶ **Societal Shifts:** Recent global events, notably the COVID-19 pandemic, highlighted how societal shifts can rapidly affect real estate. The surge in remote working and the shift towards decentralised workspaces have impacted demand for commercial real estate in prime urban locations. While some adjustments might be temporary, others could signal long-term trends, with certain real estate assets facing reduced income streams or depreciation.
- ▶ **Infrastructure Changes:** The rise or decline of infrastructure, be it transportation hubs, utilities, or digital infrastructure, can alter the attractiveness of a location. An area once considered prime due to its proximity to transit hubs might lose its appeal if that infrastructure is shifted or becomes defunct.

In the ever-evolving global landscape, the concept of stranded assets is gaining prominence across sectors, not just limited to energy. The real estate sector, with its massive capital involvement and long-term investment horizon, is particularly susceptible. Stakeholders, ranging from individual investors to multinational corporations, must be cognisant of the factors leading to assets becoming stranded. A comprehensive understanding, coupled with proactive measures, can mitigate risks and harness potential opportunities in an uncertain environment.

# Market overview of stranded assets in the UK and Ireland

Stranded assets have emerged as a critical concern in the global financial landscape, with such assets witnessing unexpected or premature write-downs, devaluations, or conversion to liabilities. Both the UK and Ireland, being pivotal economic entities in Europe, are witnessing the ramifications of stranded assets across sectors. This report offers an overview of the current market landscape of stranded assets in these two regions, highlighting the factors driving their evolution and the sectors most impacted.

## Contextualising stranded assets

Stranded assets are typically influenced by a multitude of external factors, ranging from changes in market dynamics and technological advancements to regulatory overhauls and environmental shifts. They represent investments that are no longer able to earn a return due to these external changes, and their impact can be felt both in terms of financial loss and reduced strategic flexibility for businesses.

## Stranded Assets in the UK

The UK, with its diverse economic portfolio and rapid technological advancements, has witnessed a variety of assets becoming stranded:

London, the country's financial hub, has seen fluctuations in property values due to economic uncertainties, including Brexit ramifications and the changing landscape of work post-pandemic. Certain commercial properties, especially in prime locations, face the risk of reduced returns as remote work gains traction and businesses re-evaluate the need for expansive office spaces.

## Stranded assets in Ireland

Ireland, though smaller in economic scale compared to the UK, is equally exposed to the dynamics of stranded assets. Dublin, like London, has been a hotspot for commercial real estate investments. However, with global businesses reimagining workspace dynamics and a move towards hybrid working models, certain commercial real estate assets in prime areas face an uncertain future.

In the banking sector, post the 2008 financial crisis, certain assets in Ireland's banking sector, particularly those linked to property loans, became significantly devalued, leading to them being termed as "stranded." While much of this has been addressed over the years, it serves as a reminder of how quickly assets can become stranded due to macroeconomic factors or factors outside the control of asset owners and developers.

The market landscape of stranded assets in the UK and Ireland is dynamic, shaped by a confluence of regulatory, technological, and societal factors. While certain sectors like energy and real estate seem more immediately impacted, the ripple effect of stranded assets is felt across the economic spectrum. Stakeholders, ranging from investors to policymakers, need to be cognisant of this evolving landscape, incorporating the dynamics of stranded assets into their strategic planning and decision-making processes. Awareness, coupled with proactive measures, is essential to navigate the complexities of this market segment and to ensure financial stability and growth in the coming years.

# Potential solutions

Stranded assets, facing potential devaluations due to evolving external factors, present significant challenges that necessitate strategic approaches. Solutions that not only address the immediate financial impact but also contribute to sustainable development are crucial.

## 1. Retrofitting

Retrofitting is the front-line defence against the risk of buildings becoming stranded assets. This process rejuvenates older structures to meet current energy efficiency and environmental standards.

Besides achieving energy savings, retrofitting enhances the overall asset lifespan, raises its market value, and diminishes the risk of asset stranding. Upgraded properties also lead to heightened comfort and functionality for its occupants.

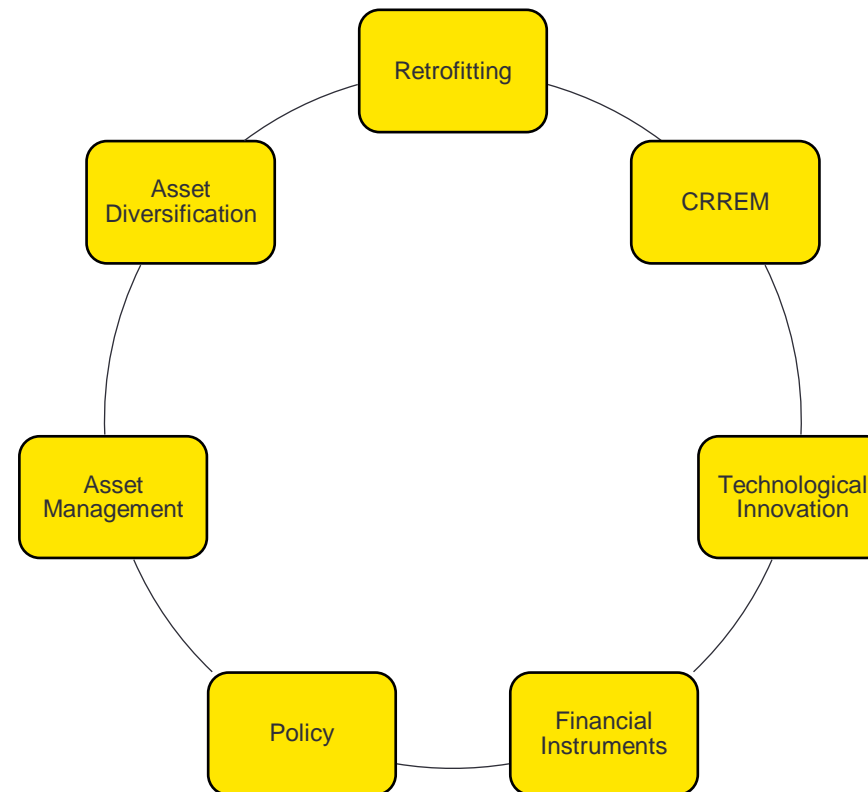
The scope of retrofitting can span from minor measures, such as the integration of energy-efficient lighting systems, to comprehensive modifications like overhauling HVAC systems, fortifying insulation in walls and roofs, and incorporating renewable energy solutions. The specific retrofitting solutions should be tailored based on the building's requirements and anticipated return on investment.

## 2. Carbon Risk Real Estate Monitor (CRREM)

Given the increasing consciousness about environmental sustainability, particularly in the real estate domain, tools like CRREM are indispensable.

The CRREM tool aids real estate stakeholders in discerning the implications of transitioning towards a low-carbon economy. It delineates the carbon reduction trajectories for varied building types across different regions, facilitating investors in assessing their real estate portfolios' carbon risk.

Utilising the CRREM tool, investors can devise strategies to curtail their assets' carbon footprints. Its data-driven modus operandi offers insights for targeted actions, ensuring assets are in alignment with emergent environmental standards and retain their value.



## 3. Asset diversification

Diversifying investments across different asset types and geographical regions can act as a safeguard against the risks associated with stranded assets. This strategy curtails vulnerability to specific sectoral or regional disruptions that may lead to asset stranding.

## 4. Active asset management

Regular evaluations and timely interventions, characteristic of active asset management, can be instrumental. A periodic review of asset portfolios enables businesses to identify assets that are potentially at risk of stranding, facilitating swift corrective actions.

## 5. Technological innovation

Harnessing technological advancements offers remedies against stranded assets. For instance, the energy sector's transition from coal-based systems to renewable technologies can avert asset obsolescence. In transport, investments in electric vehicle infrastructure can counterbalance the dwindling value of fossil fuel-tied assets.

## 6. Policy engagement and collaboration

Engagement with policymakers offers businesses insights into impending regulatory shifts that might influence asset values. Collaborative endeavours with industry contemporaries, non-governmental entities, and other stakeholders can lead to collective risk-mitigation strategies and solutions.

## 7. Financial instruments

The financial sector is progressively introducing instruments to counteract the risk of stranded assets. These span from insurance provisions covering potential devaluations to innovative investment mechanisms allowing stakeholders to share risks.



# The economic implications of retrofitting buildings: A look at the UK Green Building Council (UKGBC) initiatives

The retrofitting of buildings, an essential strategy for enhancing energy efficiency, stands as a central component in efforts to combat carbon emissions everywhere. Considering the ambitious target set for a net zero economy by 2050, understanding the economic implications of such projects becomes crucial. Using the UK Green Building Council (UKGBC) as an example, we can examine the economic dimensions of retrofitting initiatives.

## Benefits of retrofitting

- ▶ **Carbon Emission Reduction:** Buildings, particularly homes, contribute significantly to the UK's carbon footprint. Retrofitting can dramatically reduce these emissions, helping meet national and international climate targets.
- ▶ **Financial Savings:** A well-executed retrofit can lead to substantial savings on utility bills for homeowners and building operators. UKGBC's work with Leeds City Council is aimed at understanding real, measurable financial benefits through energy consumption reduction.
- ▶ **Economic Growth through Job Creation:** Retrofitting isn't just an environmental initiative; it's an economic one. As UKGBC's involvement suggests, these projects can generate local jobs, boosting the economy.
- ▶ **Health and Welfare Improvements:** Good retrofitting practices can lead to improved indoor air quality and thermal comfort. This not only enhances well-being but can also reduce the NHS burden, currently impacted by cold-home-related illnesses that cost up to £1.4 billion annually.
- ▶ **Property Value:** A recent study by JLL showed that sustainable buildings could see an increased rental value of between 6-11%. This makes retrofitting a valuable proposition for property owners and developers.
- ▶ **Reduced Future Costs:** Retrofitting now can offset future expenses. A report by Currie & Brown and Aecom for the Committee on Climate Change indicates that designing buildings with sustainability standards from the outset is considerably cheaper than retrofitting them later.
- ▶ **Addressing Energy Security and Poverty:** As the UKGBC's initiatives emphasize, retrofitting can reduce the dependence on gas, ensuring energy security. Moreover, better-insulated homes can mitigate the impact of rising energy prices, especially for economically disadvantaged sections of the society.

## Costs associated with retrofitting

- ▶ **Initial Financial Outlay:** The magnitude of the retrofitting challenge is vast. The UK needs to retrofit 1 million homes annually for the next three decades to reach its net zero target. This translates into an investment likely surpassing that of mega infrastructure projects like HS2.
- ▶ **Technological Costs:** Retrofitting projects often require the latest technology to achieve optimal energy efficiency. Technologies like air source heat pumps, advanced insulation materials, and solar installations come at a premium.
- ▶ **Labour and Skills:** As UKGBC's collaborations reveal, retrofitting projects can spur local employment opportunities. However, there exists a need to upskill the workforce to meet the specific demands of green retrofitting.
- ▶ **Data Collection and Monitoring:** The BU2 Framework, designed to measure the environmental, social, and economic impacts of retrofit initiatives, involves collecting and processing vast amounts of data. Costs include pre and post-retrofit assessments, weather data collection, contractor's data, and more.

## Cost-Benefit Implications: A Perspective

The upfront costs associated with retrofitting, from technology to labour, are undeniably challenging. However, the long-term economic, environmental, and social benefits far outweigh these initial investments.

Looking at the UKGBC's partnership with Leeds City Council, for instance, the data collected will provide a holistic view of the tangible benefits of retrofitting, encompassing energy savings, job creation, health improvements, and financial returns. Such data-driven insights could serve as a template for future projects, ensuring better cost management and enhanced benefits.

Moreover, the property market dynamics are evolving in favour of sustainability. As JLL's research indicates, sustainable buildings are not just an environmental or social proposition; they have a tangible economic value in the real estate market.

When comparing the retrofit costs with potential savings, the balance seems to tilt in favour of the latter. For instance, the cost uplift for redesigning a residential block for 2025 net-zero targets stood at a mere 3.5%, a margin likely to be recouped through increased rental or sale value and reduced operational costs.

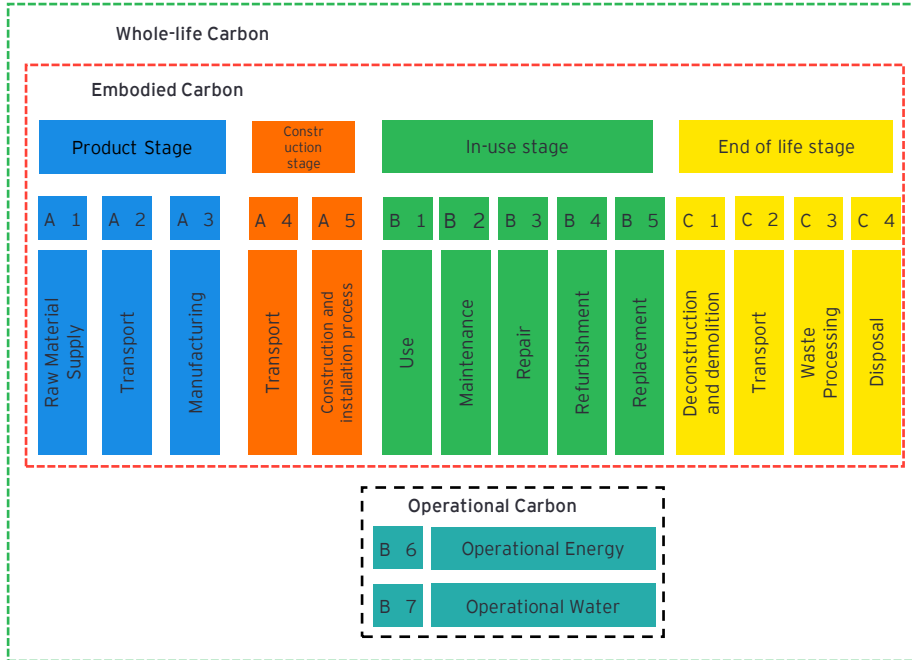
# 5

## Developing a Menu of Solution for Decarbonisation

# Net Zero carbon buildings

## Building life cycle stages

The EN 15978:2011<sup>[1]</sup> standards considers all life cycle stages of a project, from raw material extraction, product manufacturing, transport, and installation on site through to the operation, maintenance, and eventual material disposal. It also considers the future potential for recovery, reuse, and/or recycling. EN 15978 introduces a modular approach to a built asset's life cycle, breaking it down into different stages.



It is estimated that embodied carbon today typically contributes 10-20% of EU buildings' CO2 footprint<sup>[2]</sup>. However, the importance of embodied emissions will increase dramatically as more buildings are constructed and renovated to higher energy efficiency standards, which will greatly reduce operational emissions.

Source: [1] [Whole life carbon for built environment, RICS](#) [2] [Material Efficiency in clean transition, IEA](#) [3] [Definition of Net Zero Carbon Building](#) [4] [Zero Emissions Building, EU](#) [5] [Zero-carbon-ready buildings, IEA](#) [6] [Net-Zero-Carbon-Building, WGBC](#) [7] [Net-Zero-Carbon-Building](#)

## Definitions of Net Zero carbon buildings<sup>[3]</sup>

There are a range of terms used to describe buildings that are on a path to Net Zero. The World Green Building Council's calls for the industry to adopt the whole life carbon approach that addresses emissions from operational energy use in buildings, and the embodied carbon which comes from the building materials and construction or renovation processes.

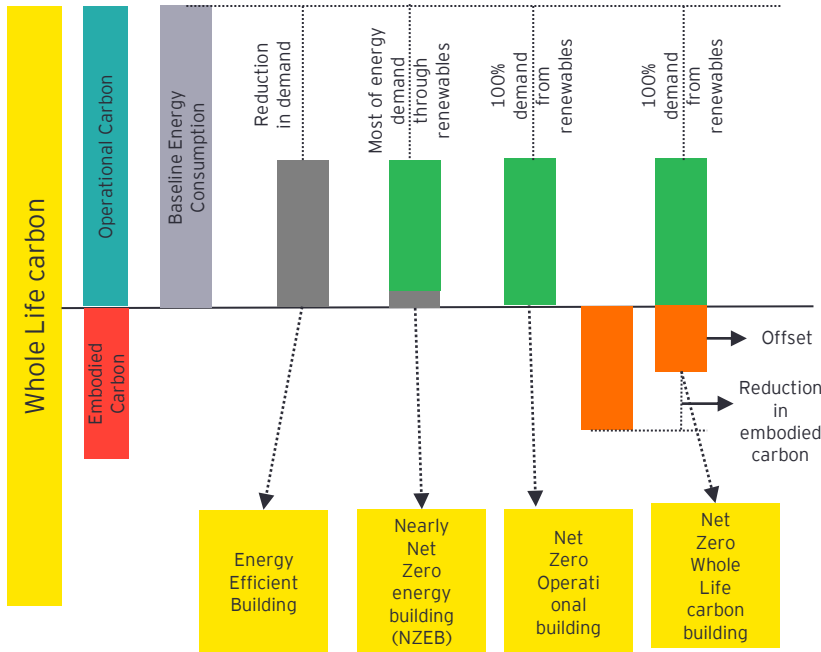


Fig 13 (L): EN 1578:2011 Whole-life carbon stage

Fig 14 (M): Definitions of Net Zero Carbon Buildings

## Definition of Zero-emission buildings

The EU has proposed to move from the current nearly zero-energy buildings to zero-emission buildings by 2030 and has proposed revisions to the EPBD. The EU defines<sup>[1]</sup> zero-emission buildings as 'a building that has a very high energy performance, while 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'.

Some other widely accepted definitions of zero-emission buildings are discussed below:

- ▶ **Zero-carbon-ready, IEA<sup>[2]</sup>:** A zero-carbon-ready building is highly energy efficient and uses either renewable energy directly or from an energy supply that will be fully decarbonised by 2050, such as electricity or district heat. This means that a zero-carbon-ready building will become a zero-carbon building by 2050, without any further changes to the building or its equipment.
- ▶ **Net-Zero-Carbon-Building, WGBC<sup>[3]</sup>:** A highly energy-efficient building with all remaining operational energy use from renewable energy, preferably produced on site but also off-site production, to achieve net zero carbon emissions annually in operation.
- ▶ **Net-Zero-Carbon-Building, UK Government<sup>[4]</sup>:**

For new buildings and renovation: The amount of carbon emissions associated with a building's product and construction stages up to practical completion is zero or negative, through the use of offsets or the net export of on-site renewable energy.

For all buildings in operation: The amount of carbon emissions associated with the building's operational energy on an annual basis is zero or negative. A net zero carbon building is highly energy efficient and powered from on-site and/or off-site renewable energy sources, with any remaining carbon balance offset.

# Building a menu of solutions to reach Net-Zero Carbon Buildings

## Considerations for developing menu of solutions

The EU requirement of Zero Emission Building (ZEB) by 2030 (see [4.1.3](#)) looks at a building achieving zero operational carbon. While operational carbon accounts to the majority of emissions in a building life cycle, the embodied carbon of the building is equally important. It is therefore important to consider both the embodied carbon and the operational carbon whilst developing a menu of solutions to reach Net-Zero Carbon Buildings.

Some of the key considerations in developing a menu of solutions for Net Zero Carbon Buildings are:

- 1. Reduce Operational Energy Use:** One of the key steps towards achieving Whole-life Net Zero carbon is to ensure that operational energy of existing buildings is minimised and new builds are designed in an energy efficient manner to lower energy demand and consumption, thereby reducing the amount of total electricity supplied, both from the electricity grid and from renewable energy sources. The options to reduce the energy demand and energy consumption will vary across building typologies. However, the following measures can be considered:
  - ▶ Building Fabric and Passive measures:** The building fabric includes walls, floors, roofs, windows and doors. An efficient building fabric will optimise the heat gain/loss of the building leading to better thermal performance of the building. This in turn reduces the heating/cooling demand. The building fabric also includes the building's overall airtightness, as well as the impact of thermal bridges where the insulation layer is not continuous. A building's orientation and efficient use of glazing ensures access to natural daylighting to reduce artificial lighting demand. Use of natural ventilation/mixed mode ventilation can also reduce HVAC demand and helps in appropriate sizing of building systems to limit over-engineering.
  - ▶ System Efficiency:** Increasing the energy efficiency of the building systems such as improvements to include highly energy efficient building systems - HVAC, lighting, vertical transport etc. can lead to substantial reductions in operational energy.
  - ▶ Energy management:** Having a robust energy management system can help in managing energy consumption of the building. Use of Building Management System (BMS) will help in managing the peak loads in the building. Achieving ISO 50001 accreditation can also help reduce the energy consumption.
  - ▶ Reducing the 'Performance Gap':** The building stock in Ireland is currently assessed based on a BER rating. The BER rating, whilst easy to understand and a good indicator of a buildings performance, in reality it is a modelled indicator used to denote the theoretical energy performance of a building and does not truly represent the actual energy performance of the building. This creates a gap in the market where building owners are simply unaware of the gap between modelled and measured results.

Source: [Net Zero Carbon Building Framework, UKGBC](#)

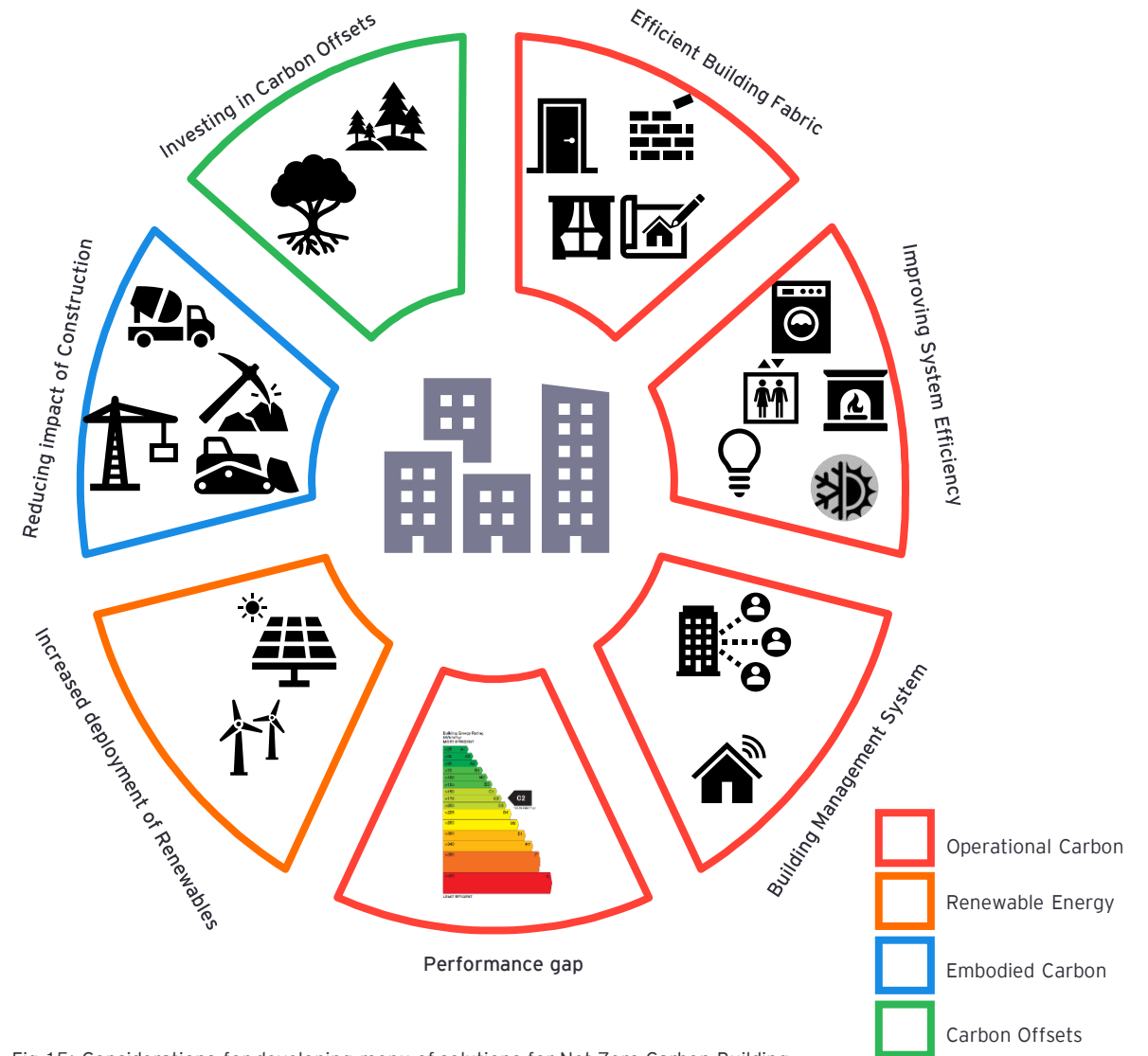


Fig 15: Considerations for developing menu of solutions for Net Zero Carbon Building

# Building a menu of solutions to reach Net-Zero Carbon Buildings

## Considerations for developing menu of solutions (Contd.)

A building's in-use energy should be measured and reported on an annual basis to accurately address its carbon impacts. Reporting on an annual basis considers seasonal variations and provides a standard comparative measure between buildings. The boundary of the energy scope should also be reported for transparency (e.g., base building, individual tenancy, whole building). It is recognised that different reporting scopes will reduce comparability between buildings, however, this should not limit a building owner or occupier from achieving net zero carbon for the complete energy scope under their control.

- Increased Renewable Energy Deployment:** A building which has considerable on-site renewable energy installation will help Ireland in increasing its renewable energy supply while simultaneously contributing to reducing the demand on the electricity grid. Additionally, this approach helps to support a decentralised energy system, resulting in reduced transmission and distribution losses for the electricity grid, and improved land uses with the reduction of renewable energy generation on greenfield sites.
  - Offsite Renewable energy:** Use of offsite renewable energy can also be explored if it provides additionality i.e., the demand of renewable energy from building developers/tenant leads to the energy suppliers generating a specific amount of renewable energy which otherwise would not have happened. This is also likely to reduce double-counting any off-site renewable energy. Power Purchase Agreements (PPAs) for electricity, certified low-carbon district heating/cooling and certified green gas (e.g. biogas from sustainable sources) will all achieve this aim and provide the most credible additionality.
- Reduce impact of construction:** Another vital part of the whole-life Net Zero carbon building is to measure and mitigate the impact of carbon during the construction phase of the project. While the reporting of in-use embodied carbon impacts in a building's lifecycle is currently challenging, a modelled assessment of impacts should still be carried out. This assessment is valuable to inform early design decisions which aim to minimise the building's whole life carbon impacts. Buildings aiming to achieve net zero carbon for construction should address all embodied impacts from the building's product and construction stages up to practical completion. The carbon to be offset should be determined through the whole life carbon assessment undertaken at the point of completion.
- Offset remaining carbon:** Carbon offsets as a tool to achieve Net Zero Carbon Building should only be used if all other feasible measures to reducing carbon impacts have been reasonably exhausted. The offsets purchased should be commensurate with any outstanding carbon to achieve a net zero carbon balance. For achieving Net Zero carbon for construction, offsets should be commensurate with the carbon impacts determined at practical completion of the project. For achieving Net-Zero Operational Carbon Building, offsets should be commensurate with the carbon impacts determined annually.

Source: [Net Zero Carbon Building Framework, UKGBC](#)

## Menu of solutions for decarbonisation: Irish context

The WaveSpace session for IIP members was organised to inspire creativity, innovation and bring together the lessons learnt which are needed to answer IIP's biggest questions on decarbonisation of the real estate sector in Ireland.

The WaveSpace included collaborative session with the members of IIP to identify a menu of solutions for decarbonisation for residential, commercial and hospitality building typologies. The summary of these is showcased below:

Residential Buildings		Commercial Buildings	
Quick Wins	Heavy Lifting	Quick Wins	Heavy Lifting
<ol style="list-style-type: none"> <li>Perform Baseline and Benchmarking</li> <li>Lighting Retrofits</li> <li>Enforce Green Leases</li> </ol>	<ol style="list-style-type: none"> <li>Building Fabric retrofit to include insulation</li> <li>HVAC retrofits</li> <li>Performing Life Cycle Assessment</li> </ol>	<ol style="list-style-type: none"> <li>Lighting Retrofits with building automation</li> <li>Enforce Green Leases for new builds</li> </ol>	<ol style="list-style-type: none"> <li>Building Fabric retrofit to include insulation</li> <li>HVAC retrofits</li> <li>Use of Low Carbon construction materials</li> </ol>
<b>Quick Wins</b> Measures which have medium to high impact on emission reduction with low cost of implementation, and need lower effort and shorter implementation time		<b>Heavy Lifting</b> Measures which have very high impact on emission reduction with high cost of implementation, and need greater effort and longer implementation time	

### IIP member view on the menu of solutions and rationale

The menu of solutions for decarbonisation will vary for the sub-sectors of real estate. For residential, baselining will be vital to identify areas of improvement. Lighting retrofits are a quick win and can have an immediate impact on energy use. Building fabric changes and adding insulation can be a massive issue for apartment blocks as it may require the relocation of tenants. Use of low carbon construction materials for new builds has not picked up steam due to regulatory constraints. Use of Low Carbon Materials, such as Cross Laminated Timber in particular, has major regulatory barriers in the form of Part B of building regulation (fire regulations).

# Building a menu of solutions to reach Net-Zero Carbon Buildings

## Creating a long list solutions for decarbonisation

The London Energy Transformation Initiative (LETI) has developed a Climate Emergency Guide<sup>[1]</sup> which offers a detailed guide providing recommendations on how new buildings needs to be developed and how existing buildings should be retrofitted (both residential and commercial) to achieve the UK's target on Net Zero Carbon Buildings focussing both on operational carbon and embodied carbon.

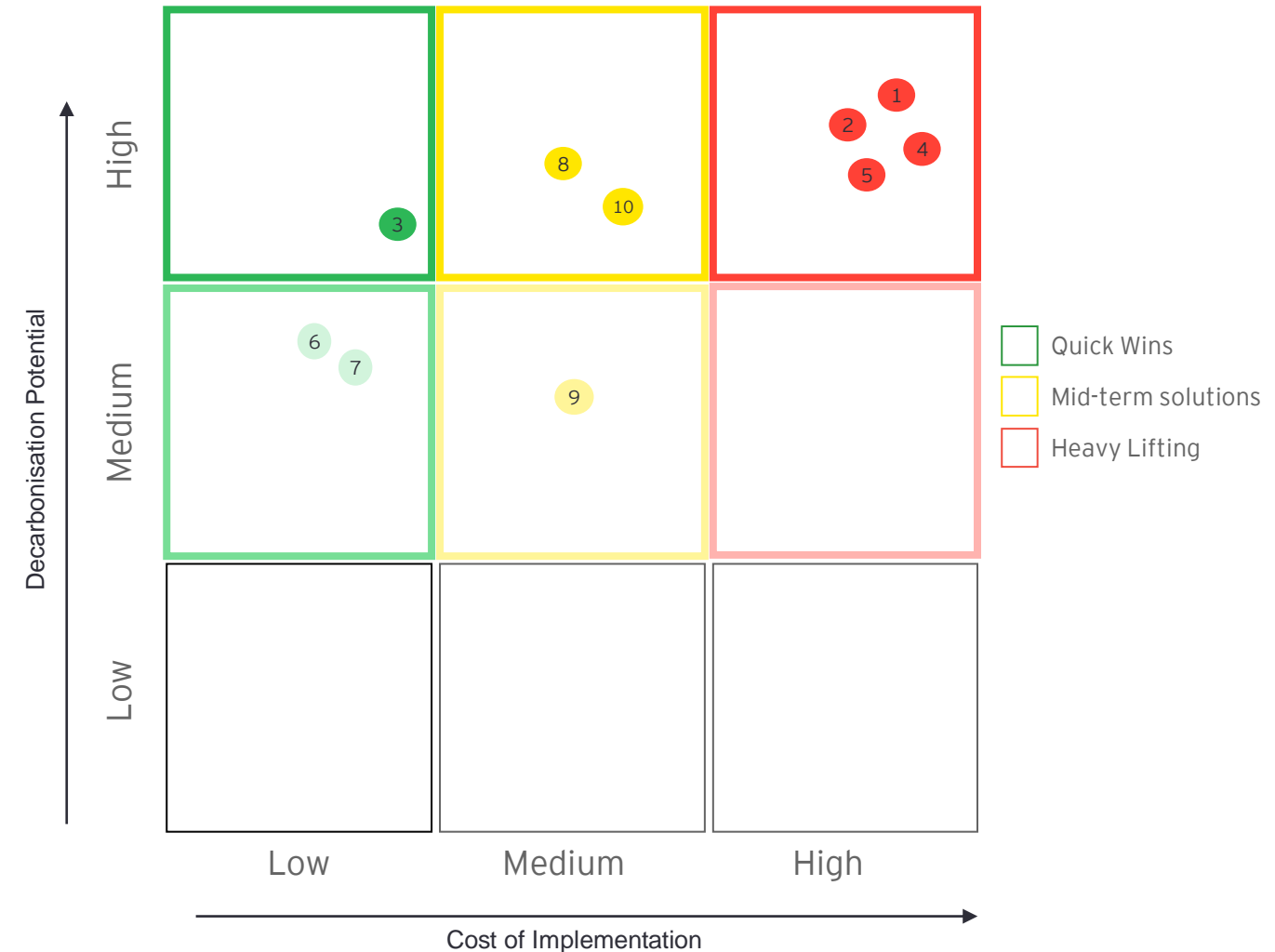
The guidance report presents a potential list of measures for decarbonisation and the decarbonisation capacity of these measures. The UK Green Building Council (UKGBC) has also published technical reports on building the case for Net Zero carbon buildings (residential and commercial). These reports document the cost required to cost required in delivering Net Zero Buildings.

Based on the output of EY's wavespace session with IIP members, and the reports from LETI and UKGBC, a list of measures, their decarbonisation potential, and the tentative cost expectations are summarized in the table below.

SI.No	Measure	Decarbonisation Potential	Cost of Implementation
1	Efficient HVAC	High	High
2	Building Fabric	High	High
3	Lighting	High	Low
4	Energy Efficient Equipment *	High	High
5	Low Carbon Materials (e.g. CLT)	High	High
6	Green Leases	Medium	Low
7	Building Management System (BMS)	Medium	Low
8	Renewable Energy	High	Medium
9	Passive Architecture	Medium	Medium
10	Building Ratings	High	Medium

\*Energy Efficient Equipment refers to electric appliances such as refrigerators, TVs, monitors, other plug loads and non process loads such as Transformers, lifts, elevators, pumps etc

## Identifying quick wins and heavy lifting

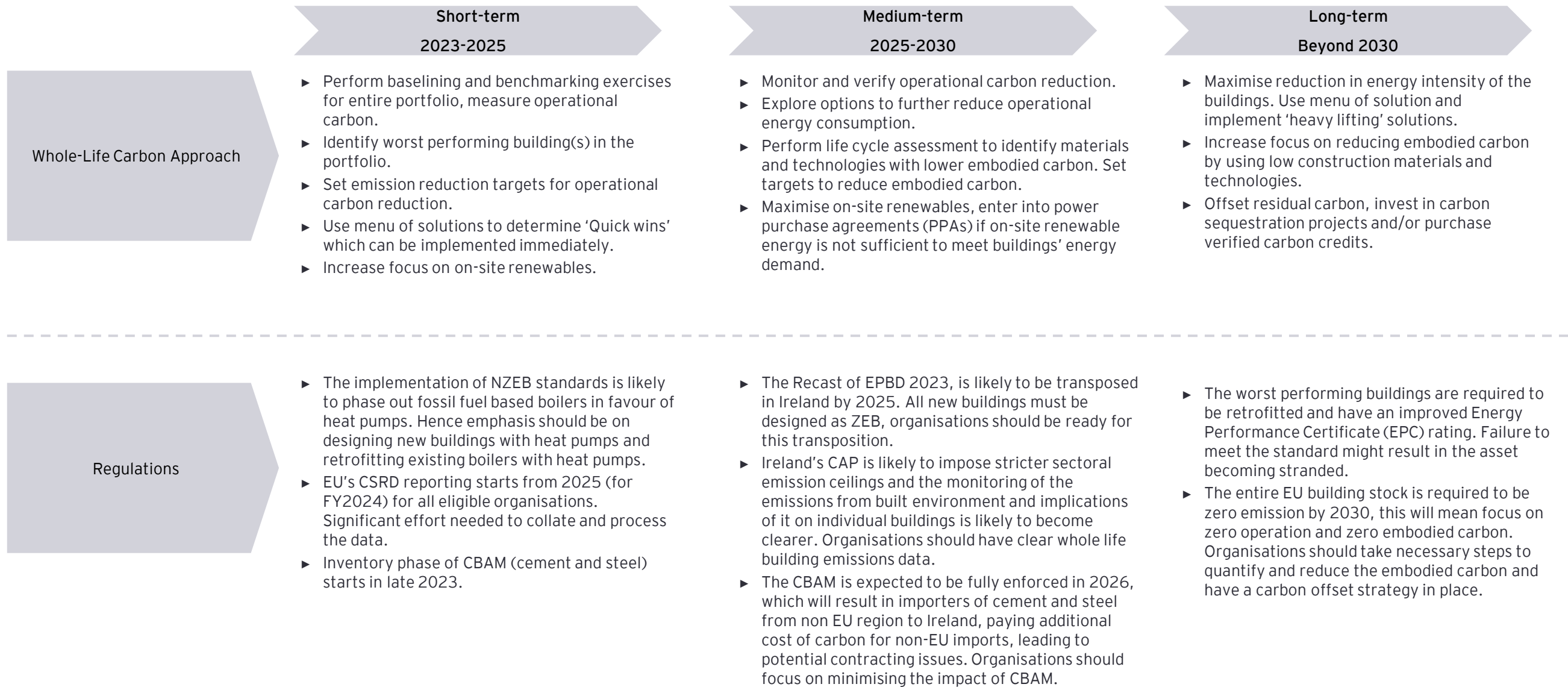


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## Implementation Roadmap

## Developing an implementation roadmap

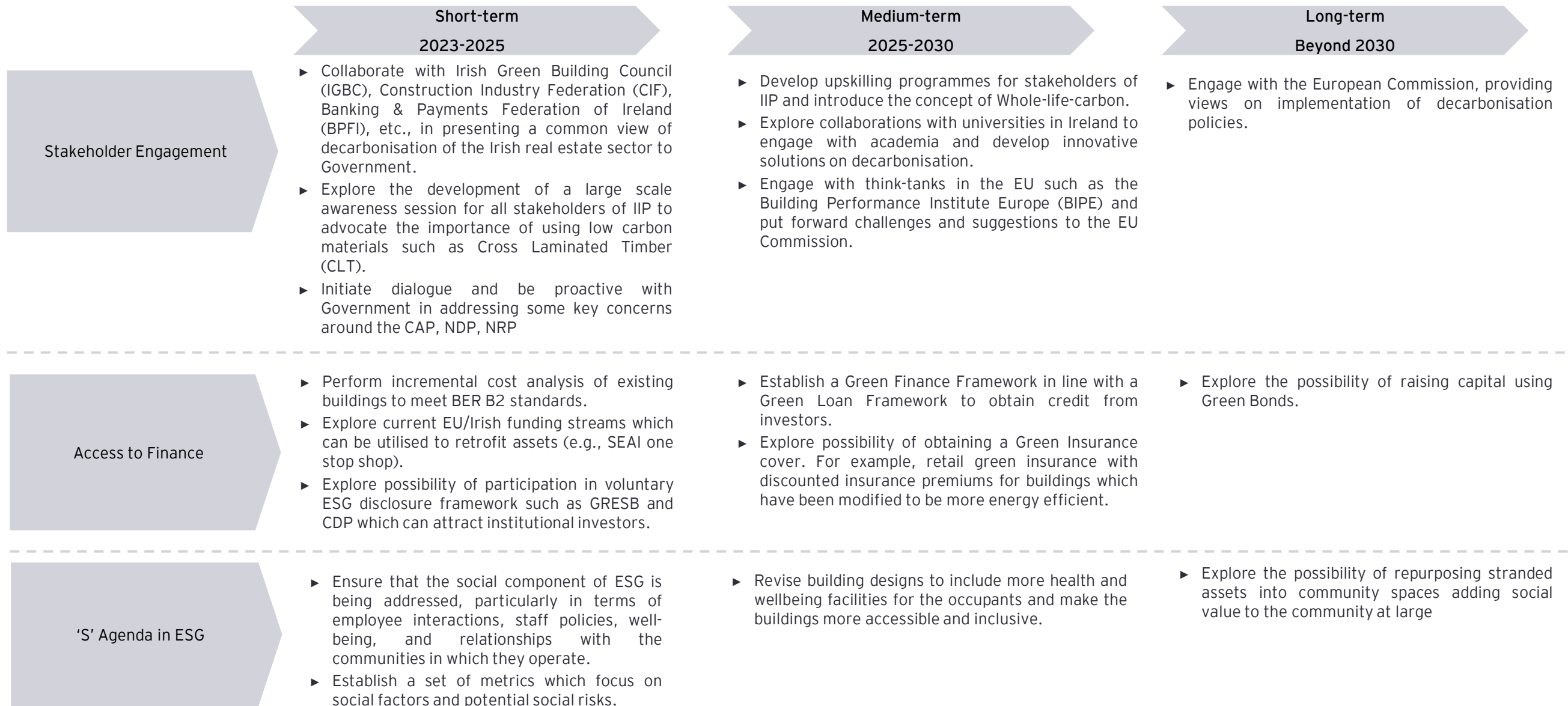
This roadmap set out key actions for IIP and its members in the short, medium and long term to support them on their decarbonisation journey





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# 7

## Appendix

EY-IIP ESG Readiness Survey

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Glossary of Terms

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# Members of IIP

Activate Capital

 Ardstone

AVESTUS CAPITAL PARTNERS

BCP CAPITAL

**CAIRN**

 CARYSFORT CAPITAL

 DALATA HOTEL GROUP PLC

 .Deka Immobilien

 FALCON AM REAL ESTATE

Glenveagh 

 Hammerson

HENDERSON PARK

hibernia

Hines

 I-RES

KENNEDY WILSON

 LRC Group

 ORANGE CAPITAL PARTNERS

PEMBROKE DAC

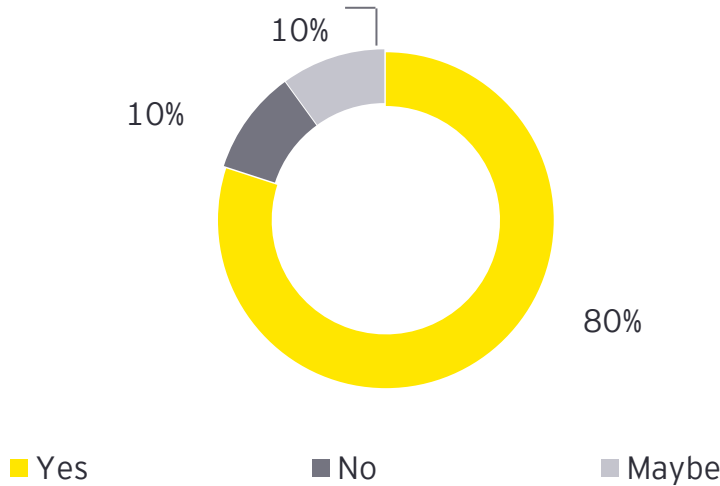
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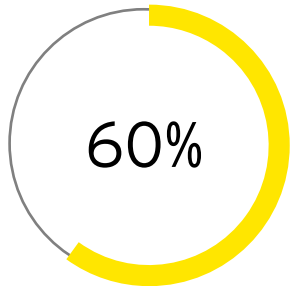
## EY-IIP ESG Readiness Survey

# We engaged IIP with a survey about ESG and Sustainability within their own businesses and these were the key findings.

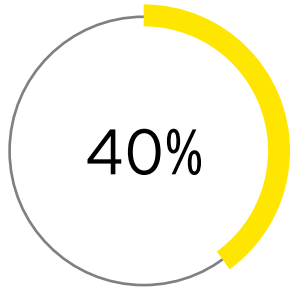
Do you have an ESG/Sustainability strategy?



- 80% of the responses stated that their ESG strategy is linked to their **corporate strategy** while 20% stated they are working on it.
- 70% responded **Yes** to having a designated position for ESG within their organisation.



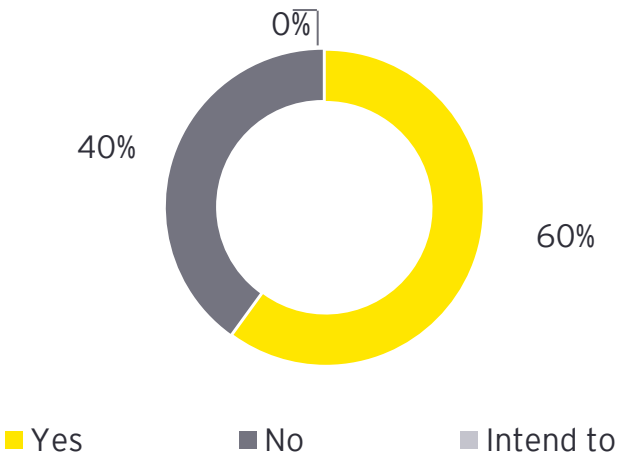
Responded **Yes** to performing an ESG materiality assessment



Responded **Yes** to publishing performance related to ESG as per GRI, SASB, IR etc.

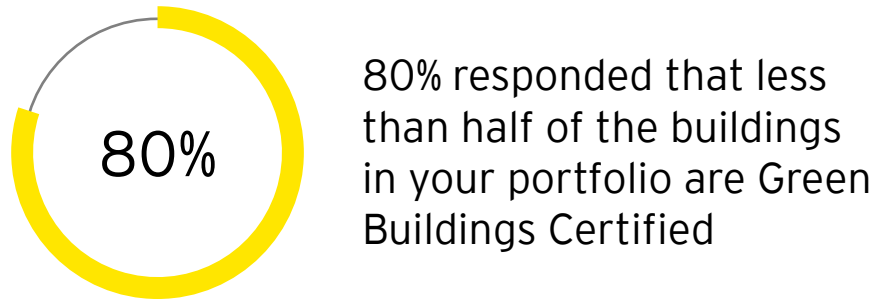
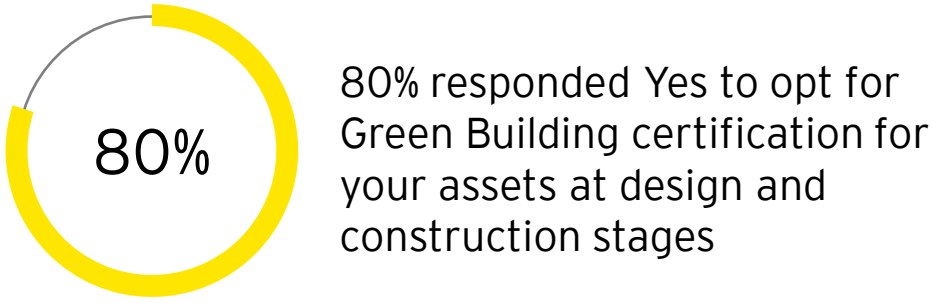
# We engaged IIP with a survey about ESG and Sustainability within their own businesses and these were the key findings.

Do you participate in GRESB rating?



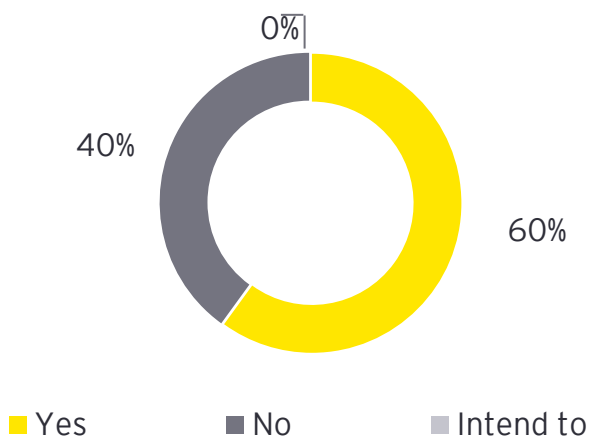
- 55%** Signed up to Taskforce on climate related Financial Disclosures
- 36%** Signed up for Principles of Responsible Investments.
- 8%** Signed up for WGBC Net Zero Buildings commitment.

*The survey showed that no one signed up for UN Global Compact or RE100*

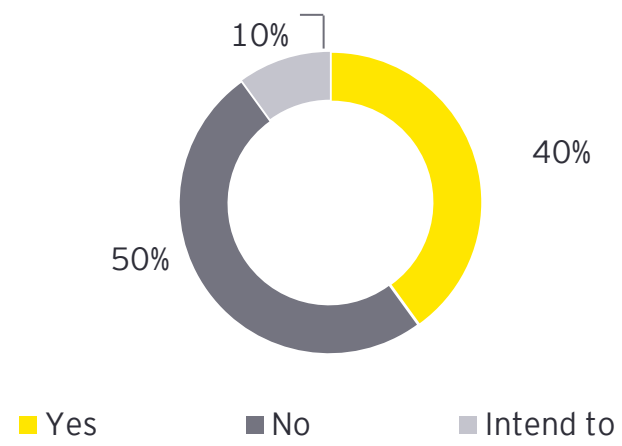


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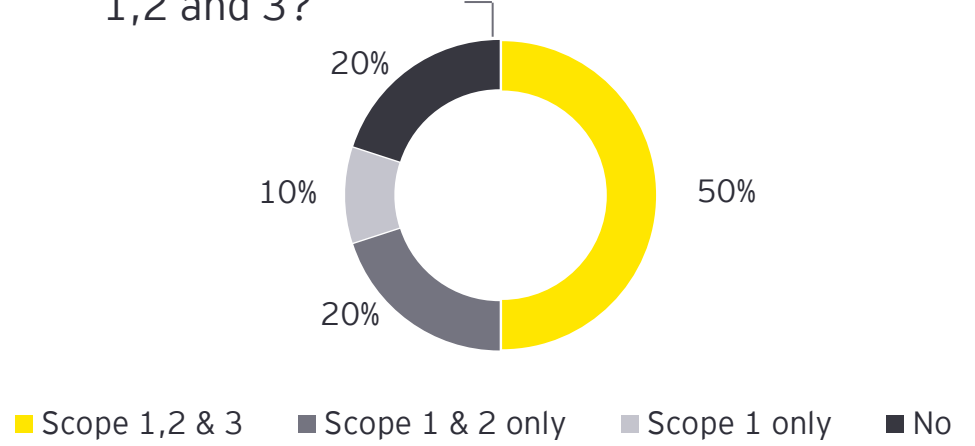
Do you participate in GRESB rating?



Do you participate in CDP's disclosure?

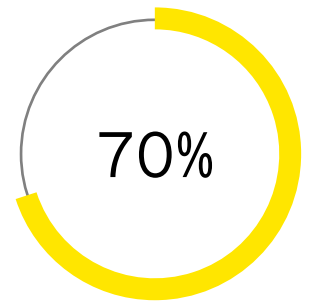
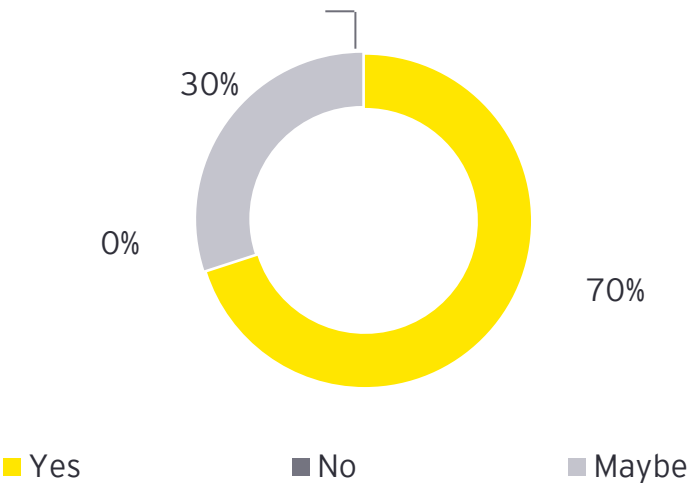


Do you measure GHG emissions across Scope 1,2 and 3?



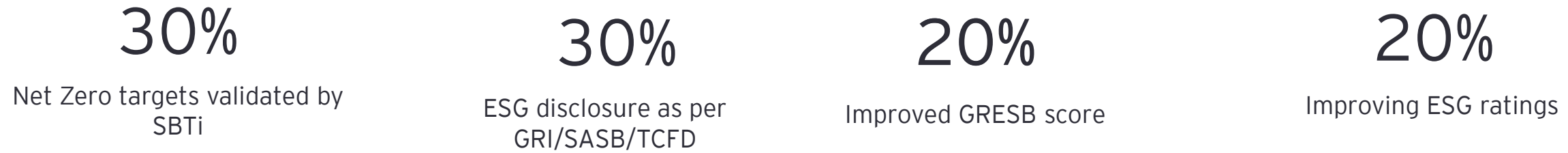
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Are your investors pushing ESG targets/goals?



**70%** of investors are requesting operational performance metrics and decarbonisation strategies as for assets as part of due diligence.

The ESG & decarbonisation targets Investors are focused on





# 7.2

## Glossary of Terms

# Glossary

Term	Definition
<b>BER</b>	A Building Energy Rating (BER) certificate rates your home's energy performance on a scale between A and G. A-rated homes are the most energy efficient while G-rated are the least energy efficient.
<b>BPFI</b>	Banking & Payments Federation Ireland
<b>BREEAM</b>	Assessment which uses recognised measures of performance, which are set against established benchmarks, to evaluate a building's specification, design, construction, and use.
<b>Carbon Neutrality</b>	Carbon neutrality means that an entity is not adding new carbon emissions to the atmosphere by balancing emissions with carbon removal or offsetting measures.
<b>Carbon Risk Real Estate Monitor (CRREM)</b>	CRREM allows investors and property owners to assess the exposure of their assets to stranding risks based on energy and emission data and the analysis of regulatory requirements.
<b>CBAM</b>	Carbon Border Adjustment Mechanism is a carbon tariff on carbon intensive products, such as cement and some electricity, imported by the European Union.
<b>CIF</b>	Construction Industry Federation
<b>Climate Action Plan</b>	Plan by Irish government implements the carbon budgets and sectoral emissions ceilings and sets out a roadmap for taking decisive action to halve our emissions by 2030 and reach net zero no later than 2050.
<b>COP 21</b>	The 2015 United Nations Climate Change Conference, COP 21 or CMP 11 was held in Paris, France, from 30 November to 12 December 2015.
<b>CSRD</b>	The Corporate Sustainability Reporting Directive (CSRD) arises from the European Green Deal's climate change action objectives, to further enhance the disclosure by companies on climate and environmental data.
<b>Decarbonisation</b>	Decarbonisation is the process of reducing carbon emissions.
<b>EED</b>	Energy Efficiency Directive 2012/27/EU is a European Union directive which mandates energy efficiency improvements within the European Union.
<b>EGD</b>	European Green Deal, approved in 2020, is a set of policy initiatives by the European Commission with the overarching aim of making the European Union climate neutral in 2050.
<b>Energy Efficiency Obligation Scheme (EEOS)</b>	Places obligations on energy suppliers and distributors to deliver energy savings. This applies to all energy types, including electricity, gas, and solid fuel.
<b>EPBD</b>	Energy Performance of Buildings Directive 2010 - European Union's main legislative instrument aiming to promote the improvement of the energy performance of buildings within the European Union.
<b>EPCert</b>	Energy performance certificates provide information to consumers on buildings they plan to purchase or rent. They include an energy performance rating and recommendations for cost-effective improvements.
<b>ESG</b>	ESG stands for Environmental, Social, and Governance and is used to assess the sustainability and ethical impact of investments or business decisions.

## Glossary (continued)

Term	Definition
EU	European Union
EU Climate Transition Benchmark	The EU Climate Transition Benchmarks Regulation empowers the Commission to adopt delegated and implementing acts to specify how competent authorities and market participants shall comply with the obligations laid down in the regulation.
EU Paris-aligned Benchmark	PAB indexes approximate a pathway for the index to achieve alignment with the 1.5°C goal of the Paris Agreement, measured against an initial base level for the index.
EU taxonomy for sustainable activities	The EU taxonomy for sustainable activities is a classification system established to clarify which investments are environmentally sustainable, in the context of the European Green Deal. The aim of the taxonomy is to prevent greenwashing and to help investors make greener choices.
European Ecodesign Directive	European Union's Ecodesign Directive establishes a framework to set mandatory ecological requirements for energy-using and energy-related products sold in all 27 member states.
European Social Fund (ESF)	Forms part of the European Structural and Investment Funds (ESIF) and aims to improve employment opportunities across the EU, raise living standards and assist people to get better skills and improve their job prospects.
Fit for 55	The Fit for 55 package is the European Union's proposed set of initiatives aimed at reducing greenhouse gas emissions by 55% by 2030 compared to 1990 levels.
GHG	Greenhouse Gas
IAIM	Irish Association of Investment Managers
IGBC	Irish Green Building Council
IIP	Irish Institutional Property
LEED (Leadership in Energy and Environmental Design)	World's most widely used green building rating system. LEED certification provides a framework for healthy, highly efficient, and cost-saving green buildings, which offer environmental, social and governance benefits.
NDP	National Development Plan was the title given by the Irish Government to a scheme of organised large-scale expenditure on national infrastructure.
Net Zero Asset Owner Alliance (NZAOA)	The UN-Convened Net Zero Asset Owner Alliance (NZAOA) is a member-led initiative of institutional investors committed to transitioning their investment portfolios to net-zero GHG emissions by 2050 - consistent with a maximum temperature rise of 1.5°C.
Net Zero Targets	Net zero targets refer to a goal of achieving a balance between greenhouse gas (GHG) emissions produced and GHG emissions removed or offset, resulting in a net-zero GHG footprint.
NRF	The National Retrofit Plan sets out how the Government will deliver on the Climate Action Plan targets of retrofitting the equivalent of 500,000 homes to a BER of B2/cost-optimal and installing 400,000 heat pumps in existing homes to replace older, less efficient heating systems by the end of 2030.

## Glossary (Continued)

Term	Definition
NZEB	Nearly Zero Energy Building
Renovation Wave Strategy	The Renovation Wave is part of the Green Deal, which sets the objective of climate-neutrality by 2050 at EU level. It aims to at least double the annual renovation rate by 2030, to foster deep energy renovation and mobilise forces at all levels towards these goals.
REPowerEU	REPowerEU is a European Commission proposal to end reliance on Russian fossil fuels before 2030 in response to the 2022 Russian invasion of Ukraine.
SEAI	Sustainable Energy Authority of Ireland
SFAP	The Sustainable Finance Action Plan (SFAP) is a major policy objective by the European Union which aims to promote sustainable investment across the 27-nation bloc.
SFDR	The Sustainable Finance Disclosure Regulation is a European regulation introduced to improve transparency in the market for sustainable investment products, to prevent greenwashing and to increase transparency around sustainability claims made by financial market participants.
The European Regional Development Fund (ERDF)	Provides funding to public and private bodies in all EU regions to reduce economic, social and territorial disparities. The Fund supports investments through dedicated national or regional programmes.
ZEB	Zero Emission Building

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