View from Private Markets:

The coming real estate renovation wave – and what it means for investors

Vincent Nobel
Head of Asset-Based Lending,
Federated Hermes Limited

Angela Sheahan
Strategy Analyst,
Real Estate Debt,
Federated Hermes Limited

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Federated Hermes Limited

www.hermes-investment.com
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The decarbonisation of the real estate sector is a challenge society must address to achieve a net-zero economy.

- Real estate accounts for 39% of global greenhouse gas emissions and beyond property owners and governments, lenders have a vital role to play in funding the carbon transition.
- Energy efficiency will drive retrofits and refurbishments to bring commercial property across Europe up to standard.
- Federated Hermes real estate pathway to net zero focuses on energy efficiency gains and energy usage reductions.

Real estate and climate change mitigation seemingly make for uneasy bedfellows. Real estate accounts for 39% of global greenhouse gas emissions; 28% from the operational emissions from day-to-day consumption in buildings and 11% from the embodied carbon associated with construction, refurbishment and demolition[1]. However, this large contribution to global greenhouse gas emissions offers great opportunities for significant structural contributions to the fight against climate change.

The decarbonisation of real estate is one of many important challenges society must solve if we are to achieve a net-zero economy. The responsibility for this transition rests with multiple stakeholders. Beyond real estate owners and governments, lenders also have an important role to play in funding the carbon transition. This short paper sets out Federated Hermes' approach to financing the carbon transition in commercial real estate.

Longevity goes a long way

The longevity of real estate assets is contingent on two main factors: the ongoing utility of the property to occupiers and the ability of the building materials to withstand the ravages of time. The utility to the occupier determines tenants' willingness to pay rent, which drives property value. The durability of building materials determines the level of capital expenditure required to keep the building operational, and thus also affects property value.

These two factors do not always work in unison. The flexibility that modern office buildings offer (steel and glass constructions with large open floors) comes at a cost. Steel and glass are nowhere near as durable as traditional stone or brick buildings. The traditional masonry and lime mortar construction, which has been the most popular over the past centuries, may last significantly longer than modern construction, but it has fallen out of favour in commercial applications.

Brick office buildings are therefore routinely replaced with modern steel frame buildings, not because the building requires unaffordable repair, but because the layout of the space no longer suits the desires and needs of modern occupiers. A clear advantage of newer buildings is that they are built to higher standards of operational energy efficiency.

The energy efficiency of a building is increasingly important to tenants and as long as the main structure is solid, this gives plenty of opportunity to improve existing assets to meet the environmental standards of the future.

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A transition at scale

The majority of existing building stock was not designed with energy efficiency in mind. The European Union estimates that 85% of the EU's building stock was built before 2001[2].

If a sizable proportion of these buildings are built to the standard specifications of 'modern' late 20th century construction, they may soon reach the end of their useful economic life. Because demolition and new construction has a large carbon footprint, we cannot rebuild our way towards net zero. Significant capital expenditure will be required to ensure the long-term durability of such buildings. The EU has set up a commission to look at bringing in measures to upgrade energy efficiency in buildings across Europe.

[1] World Green Building Council 2019

[2] EUR-Lex – 52020DC0662 – EN – EUR-Lex (europa.eu)

Federated Hermes' approach

At Federated Hermes we use a variety of criteria and proxies to estimate which buildings are most suited to the energy transition and have sufficient energy efficiency measures or plans in place to meet energy usage targets today or in the near future.

The key to the Federated Hermes real estate pathway to net zero is energy efficiency gains and energy usage reductions, before switching completely to renewable energy sources (see Box A).

Both energy efficiency gains and demand reduction are crucial. While the share of renewable energy has more than doubled over the past 15 years, we are still highly dependent on fossil fuels[3]. As demand increases, with the supply of renewable energy already struggling to keep up, it is essential that energy efficiency is improved.

Failure to make the necessary investments increases the risk of real estate assets becoming stranded. Real estate unable to attract tenants will no longer be commercially viable. This risk has significantly increased with the toughening of environmental regulations across Europe. The risk of obsolescence is high in some properties where failure to meet basic environmental standards will make it illegal to let out a property. As an active lender into the real estate sector we welcome tighter regulation on environmental standards, even though it requires higher capital expenditure in the medium term. Higher investment will safeguard long-term investment returns.

The regulatory environment

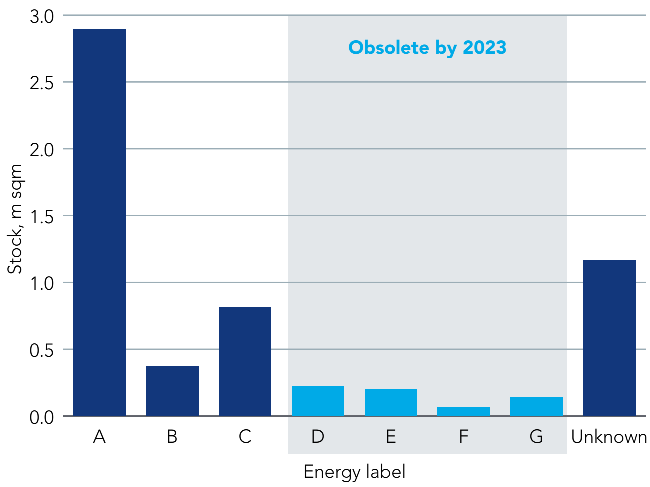
The EU has proposed a Climate Target Plan for 2030, which includes a strategy to trigger a 'renovation wave' across Europe which it hopes will double the annual energy renovation rate of residential and non-residential buildings by 2030. Maintaining this rate will help the union achieve region-wide climate neutrality by 2050[4]. Clear targets like these can benefit the industry significantly as it aims to shed the burden of a high carbon footprint.

Energy Performance Certificates (EPCs) score properties with a grade from A-G and are used across Europe. In the Netherlands, regulation will make it illegal to let offices with an EPC grade below C from 2023. Savills estimate that in Amsterdam alone around 650,000 square metres of office space could be subject to this enforcement by the end of next year, equivalent to around 10% of the available stock. Moreover, office buildings rated B or C will be redundant from 2030[5].

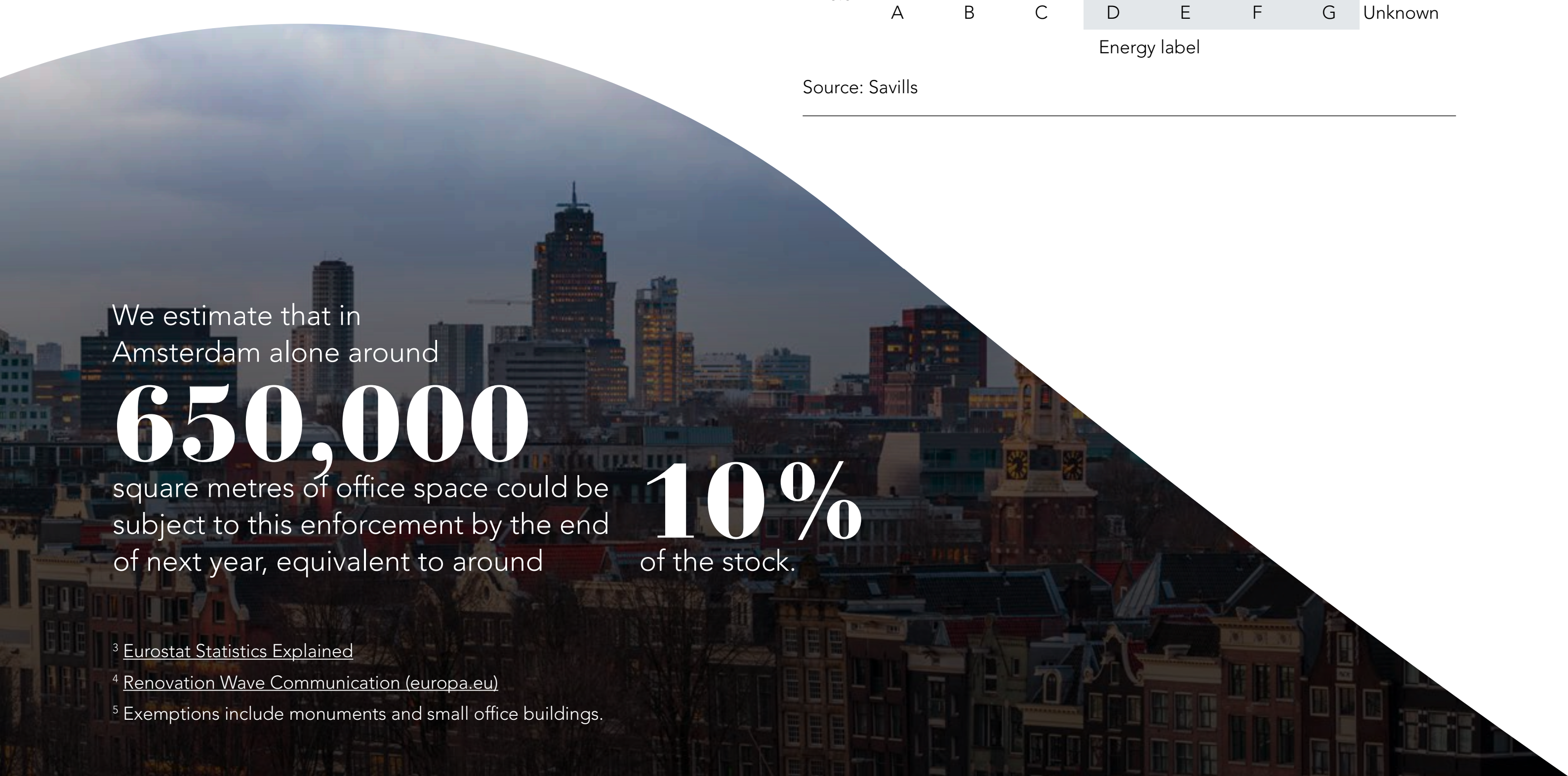
Figure 1 shows the grades of available stock in Amsterdam offices, and, at present, only a small amount of availability remains in those lower EPC grades. Available stock is likely to be newer on average than total stock, so we expect the picture for total stock to include a higher proportion of lower-rated buildings.

The requirement to achieve an EPC grade of C by 2023 was only introduced in 2018. In line with this, domestic banks have changed their lending criteria, and this, in turn, has had a significant impact on the Dutch market.

Figure 1: Energy Performance Certificates (EPCs) in Amsterdam



Source: Savills



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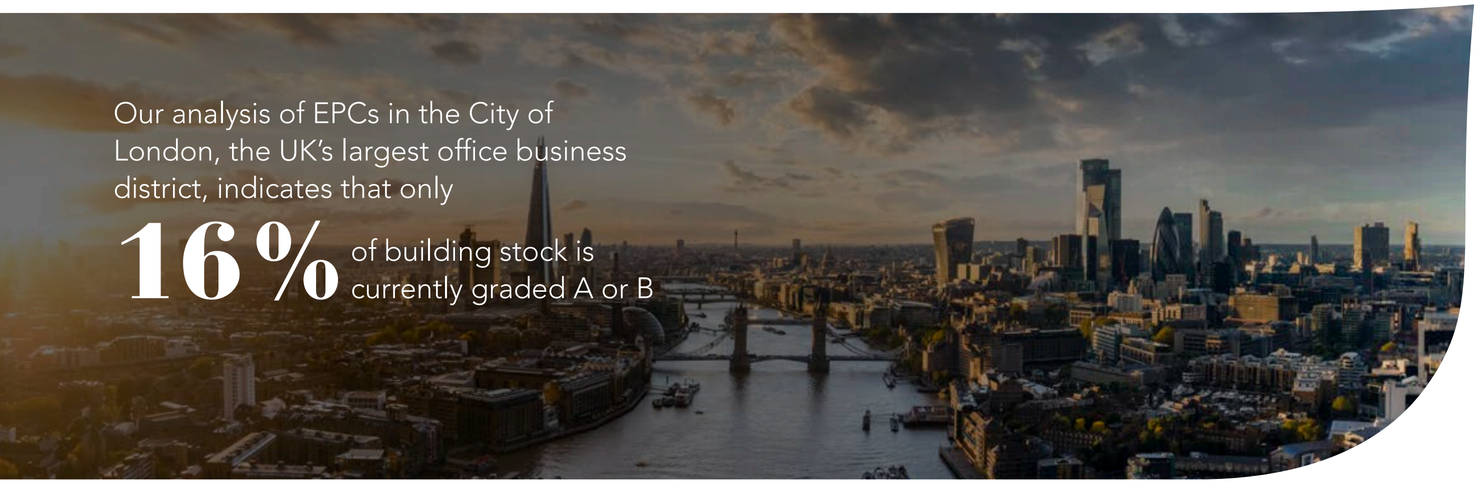
[3] Eurostat Statistics Explained

[4] Renovation Wave Communication (europa.eu)

[5] Exemptions include monuments and small office buildings.



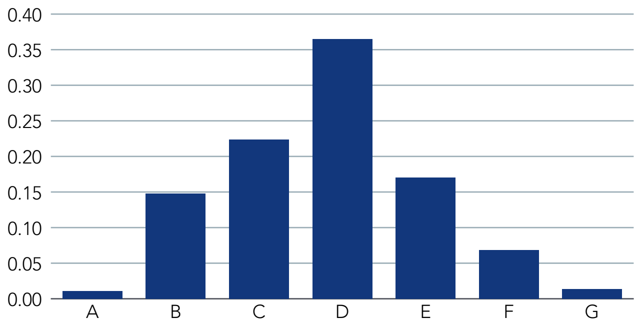
UK regulation also uses the EPCs as a proxy for the suitability of buildings to weather the carbon transition. This is despite the fact that EPC ratings are not an ideal measure of energy efficiency and have been shown to have a low correlation with energy usage intensity, mainly because they take no account of the activities within the building.

There are proposals to overhaul this system by giving properties a grade based on energy usage. Nonetheless, EPCs do measure the makeup of buildings and potential energy efficiency improvements to be made. Flawed as they are, EPCs are mandatory for most buildings to be let or sold and are therefore widely available. As a result, EPCs are used as a proxy for the energy efficiency of a building. Box B shows the criteria used by Federated Hermes to indicate a building's suitability to meet net-zero targets.

New regulation in the UK requires all lettable buildings to achieve an EPC rating of B or above by 2030. A recent study by CBRE estimates that only 31% of the stock of buildings in England and Wales will be at this level by 2030[6]. Significantly more effort will be required to get properties to the required standard. Our analysis of EPCs in the City of London, the UK's largest office business district, indicates that only 16% of building stock is currently graded A or B (see Figure 2).

The regulatory focus on EPCs, which look at the likely energy requirement for the use of the building, ignores embodied carbon, and could therefore inadvertently incentivise demolition and rebuilding to a high standard, which in some cases may actually be detrimental to overall carbon emissions, certainly in the short-to-medium term.

Figure 2: EPC grades in the City of London by floor area (2021)



Source Federated Hermes Limited

Across the rest of Europe, EPCs are generally mandatory for properties that are let or sold, although there are no minimum requirements. In many jurisdictions, tighter rules are being contemplated, particularly after the successful roll out of tougher regulations in the Netherlands.

> **Across the rest of Europe, EPCs are generally mandatory for properties that are let or sold but minimum requirements vary across different countries.**

At Federated Hermes we are dedicated to funding the transition and to going above and beyond the regulatory requirements. We analyse the existing energy efficiency of all buildings our loans are secured in line with the criteria in Box B. We also have Carbon Risk Real Estate Monitor (CRREM) targets written into our loan agreements so sponsors make best endeavours to improve energy usage intensity (EUI) in line with the designated CRREM targets through the term of the loan.[7] We believe alignment with the CRREM targets is essential to address the supply/demand issues with renewable energy.

Retrofits and refurbishments

This analysis illustrates the scale of investment required to bring our building stock across all sectors up to standard to facilitate the energy transition. There are many examples of new buildings, particularly offices, being built to very high energy efficiency standards. But what is now required is a wave of energy efficiency retrofits and refurbishments and significant capital to fund them. The political focus needs to be matched by the ambitions of private market participants. The investment risk of not bringing stock up to standard is too high.

The impact of greenhouse gas emissions does not discriminate between the polluter and the rest of society. Everybody is affected by high levels of carbon dioxide in the atmosphere. Shifting the burden onto others, by merely divesting or allocating to green buildings only, does nothing to help solve it. Therefore, a responsible lender needs a pro-active approach to dealing with properties that are at risk of falling behind required standards. At Federated Hermes we work with borrowers to help them keep their assets on track to meet ever tightening regulations, and to ensure they continue to appeal to an ever more discriminating tenant demographic.

[6] To B or not to B, CBRE

[7] https://www.crrem.eu/about-crrem/#:~:text=CRREM%20aims%20at%20developing%20a,the%20analysis%20of%20regulatory%20requirements.

Box A: Steps to achieving a net-zero carbon building:

1 Establish net-zero carbon scope

1.1 Net-zero carbon – **construction**

1.2 Net-zero carbon – **operational energy**

2 Reduce construction impacts

2.1 A whole life carbon assessment should be undertaken and disclosed for all construction projects to drive carbon reductions

2.2 The embodied carbon impacts from the product and construction stages should be measured and offser at practical completion

3 Reduce operational energy use

3.1 Reductions in energy demand and consumption should be prioritised over all other measures.

3.2 In-use energy consumption should be calculated and publicly disclosed on an annual basis.

4 Increase renewable energy supply

4.1 On-site renewable energy source should be prioritised

4.2 Off-site renewables should demonstrate additionality

5 Offset any remaining carbon

5.1 Any remaining carbon should be offset using a recognised offsetting framework

5.2 The amount of offsets used should be publicly disclosed

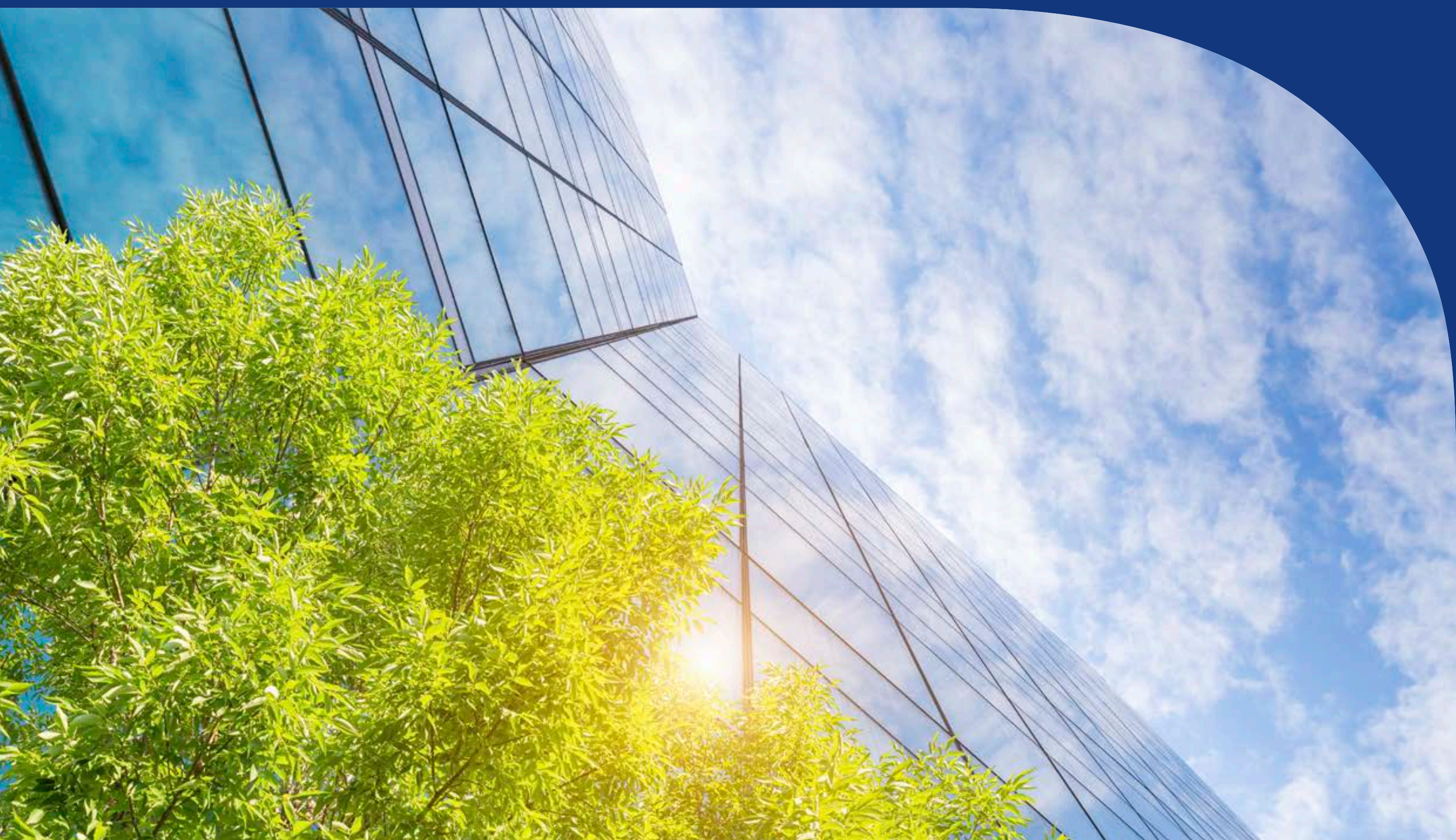
Source: UK Green Building Council

Box B: Criteria used by Federated Hermes to indicate a building's suitability to meet net-zero targets

Our real estate investment boundary includes assets at different stags of their lifecycle.
The key considerations for net-zero alignment are:

- It achieves an EUI below the CRREM target for the appropriate market segment and location.
- It achieves EPC of B or higher; and
- It meets embodied carbon targets in new development and refurbishments;
- It does not use fossil-fuel energy sources;
- It incorporates on-site renewables energy generation, where feasible;
- It operates on verified zero-carbon electricity tariffs, including tenant areas;

Source: Federated Hermes real estate pathway to net zero



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