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FROM THE GROUND UP: FINANCING SUSTAINABLE AND AFFORDABLE HOMES

LESSONS FROM POLAND AND DENMARK FOR THE EU

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The transition of Europe's building stock is not just an environmental necessity, but also a social and an economic imperative. Our research in Denmark and Poland shows that delivering homes that are both affordable and sustainable is feasible. Moreover, far from being a blocker, EU regulation is one of the factors driving positive movement. The EU, governments and public banks have the opportunity to turn this momentum into a real solution for the housing crisis.

With the appointment of the EU's first Commissioner for Housing in the 2024–2029 institutional cycle (a portfolio shared with energy) there is a welcome opportunity to integrate sustainability into the heart of Europe's housing policy. The question is: will policymakers seize it? Looking at evidence of what is happening on the ground shows the sector is already turning in that direction.

Key findings: Financial and real estate actors are embracing sustainability

We engaged with over 40 public and private stakeholders from the financial and real estate sectors in Poland and Denmark. The findings from these two countries – different in size, regional context and economy – offer insights that can inform action across the EU.

> **Stakeholders are already building sustainable investment approaches into their real estate portfolios.** Financial institutions and real estate developers are working together to develop criteria and guidance to align investments

with the EU Taxonomy and other regulations. More harmonised guidance from the EU will help actors navigate the regulations more easily.

> **Homes that are both affordable and sustainable are already being built.** Some financial and real estate stakeholders have embraced sustainability – out of economic interest, as well as in response to EU regulations. Both countries provide successful examples to learn from, including in Poland's coal region.

> **Public funds used effectively can de-risk investment in new sustainable buildings and retrofits.** Innovative building practices have a higher cost of capital due to higher perceived risk. Retrofitting existing homes can be unaffordable for low-income households. Given constraints on public finances, deploying funds effectively – including as a guarantee to secure private finance – is essential.

Key policy recommendations

The positive trends identified in Poland and Denmark should be supported at the national and EU level and considered by policymakers in other member states.

EU co-legislators: Provide regulatory stability and clarity to support the transition

Policies such as the EU Taxonomy are driving positive change in the housing sector. Weakening these tools through proposed measures to "simplify" legislation would risk market confusion and slow progress.

Member state governments: Learn from and support successful projects

Engage constructively in regulatory processes, drawing insights from real estate actors who are already seeking to align with policies such as the EU Taxonomy. In collaboration with these stakeholders, support or facilitate the development of guidance tools to help businesses successfully navigate regulatory requirements. Seek to engage with and learn from public actors that have been active in developing sustainable and affordable housing. In parallel, recognise the potential of existing public schemes or government-led initiatives to accelerate the flow of investments into affordable and sustainable housing.

The EIB and EBRD: Ensure effective deployment of public finance

Strengthen collaboration with national stakeholders and explore additional mechanisms to unlock investment in buildings decarbonisation, with a particular focus on small-scale projects and social housing.

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Background to the study

In 2019, the EU presented the European Green Deal, its vision for Europe to become the first climate-neutral continent by 2050 through a fair and sustainable transition. It has since introduced ambitious legislative measures to drive changes in the real economy and to channel the necessary finance to support this transformation – with success. Recent regulatory initiatives have encouraged new corporate standards, led businesses to integrate climate-risk measures, and contributed to harmonised approaches that are emerging across sectors. More importantly, they have played a part in driving real economic change – steering capital towards sustainable projects, fostering innovation, and strengthening the resilience of key industries.

While financial and real estate actors alone cannot deliver the transition to a net zero future, their decisions can determine the pace and scale of change. Their scale means that even incremental shifts in investment strategies or building practices can create systemic change.

Across the EU, stakeholders and government-regulated initiatives are contributing to social wellbeing as they deliver more sustainable buildings – both existing and new builds. This increased integration of climate and environmental considerations into real estate investment decisions is often incentivised by EU legislation, as well as an inherent business case.

The link between sustainable finance and real estate

As a major source of emissions, the transition of Europe's building stock is an environmental necessity. But it is also an economic imperative, given the increasing vulnerability of buildings to climate risks. As the world's largest asset class, representing two-thirds of global wealth,[1] real estate is central to Europe's economic and social fabric. Affordability challenges moreover make access to housing a pressing social issue.

Three key factors illustrate the interdependence of finance and real estate:

[1] WBCSD, November 2023, **Finance and Built Environment primer: Accelerating the decarbonization of the built environment through finance sector engagement**

- **Buildings underpin social wellbeing**. People spend most of their lives indoors, making buildings central to health, comfort, and quality of life. For most households, the home is also the largest financial asset.[2]
- **Real estate is a financial powerhouse.** EU legislation, such as the EU Taxonomy and the capital requirements rules, increasingly requires financial actors to direct capital toward green activities. Valued at nearly four times global GDP,[3] the real estate sector is central to investment strategies. As a result, real estate is becoming a primary focus for aligning investment portfolios with sustainability goals.
- **Buildings are at the heart of the climate and environmental crisis.** Construction and operation of buildings account for around 40% of global greenhouse gas emissions and nearly 50% of raw material use.[4] Simultaneously, the sector faces rising climate-related risks, from flooding to extreme heat, driving up insurance costs and financial liabilities.[5]

Understanding the buildings transition on the ground

Given the environmental and economic importance of buildings decarbonisation, it is important to understand how things are progressing, and what approaches are working to secure the investment needed. E3G undertook a year-long research effort in 2024 to uncover these dynamics on the ground, in particular how stakeholders may be responding to the European Green Deal framework. In the research we engaged with over 40 public and private stakeholders from the financial and real estate sectors in Poland and Denmark.

Why Poland and Denmark?

Poland and Denmark, as two different economies in different regions of the EU, offer distinct perspectives that can resonate across diverse member states. Their experiences can therefore shape high-level political debates on sustainable and affordable housing.

[2] European Central Bank, 2025, **Working Paper Series Households wealth across countries: the role expectations, institutions and preferences**

[3] Savills News, 25 September 2023, **Total global value of real estate estimated at $379.7 trillion – almost four times the value of global GDP**

[4] Clean Energy Wire, 22 February 2024, **Dirty construction habits block paths to truly climate-friendly buildings**

[5] The implications of physical risks from climate events on the insurance sector are emphasised in the **2024 EU climate risk impact assessment**.

Denmark boasts a deep, diversified, and dynamic financial sector that is proactively aligning with EU legislation. In parallel, there is a clear drive to innovate in the housing sector, demonstrated by the many pilot projects in low-carbon construction. This push is reflected in ambitious building policies for the reduction of carbon emissions embodied in construction materials.[6]

Poland is a compelling example of a country where three key elements come together to drive sustainability investments in the real estate sector: public–private partnership efforts by diverse actors, the need to address core societal concerns such as air quality, and the use of EU funds such as the Recovery and Resilience Fund to fuel multiple workstreams aimed at increasing the energy efficiency of buildings.

Pioneering the transition to sustainable and affordable housing: insights from Poland and Denmark

Our research shows that the EU legislation relevant to the real estate sector[7] is already shaping investment decisions in a positive direction. Financial and real estate actors in Poland and Denmark are turning sustainability commitments into action, proving that the shift to sustainable buildings is not only feasible but also economically viable. In addition, the research sheds light on how certain longstanding government-led initiatives appear to be effective levers for the delivery of affordable and sustainable homes.

The trends identified in each country are reflective of their financial systems being at different stages of development from bank-based to market-based, and the countries being at different positions the path towards a just transition. Nevertheless, there are also striking similarities in some of the approaches adopted by stakeholders.

While systemic challenges remain, our findings illustrate how financial institutions and developers are actively overcoming barriers – offering three main lessons that can be scaled across the EU:

[6] See the **Reduction Roadmap** initiative.

[7] Such as the Corporate Sustainability Reporting Directive and the Energy Performance of Buildings Directive.

1. Support positive market dynamics that emerge from regulatory implementation and compliance.
2. Support national actors and leverage best practice at EU level.
3. Ensure effective deployment of funds.

1. Support positive market dynamics that emerge from regulatory implementation and compliance

Observed dynamic
Finance and real estate stakeholders co-developing sustainability guidance.

Common barriers to overcome

> Data gaps undermine market confidence.

> Fragmented sustainability standards make regulatory implementation complex.

Spurred in part by the need to respond to disclosure requirements in the EU's sustainable finance rules, stakeholders in Denmark and Poland have been developing new ways to collect sustainability information and build a sustainable investment approach into their real estate portfolios. These initiatives show that when financial institutions and real estate stakeholders take ownership of implementing sustainability rules, they can create tools that simplify compliance and unlock green investment.

Denmark's RealESG initiative,[8] a coalition of 30 financial institutions including major mortgage lenders and pension funds, has been developing shared sustainability assessment criteria for real estate investments. By aligning with the EU Taxonomy and Corporate Sustainability Reporting Directive, the initiative makes such data comparable, transparent, and actionable – helping investors make informed decisions.

In Poland, the banking and real estate sectors have started collaborating together.[9] The Polish Banking Association and Polish Association of Developers

[8] Ejendom Danmark, **Real ESG – The real estate reporting framework** (webpage, accessed 31 March 2025)

[9] ZBL, 2024, **Good practice for using EU taxonomy to qualify the property as a environmentally sustainable investment**

jointly published case studies and technical guidance on applying the EU Taxonomy to real estate financing. This partnership has helped banks and developers navigate and implement the regulatory framework and align projects with sustainability goals.

These approaches are fostering market solutions that contribute to overcoming barriers that usually slow investments in sustainable buildings. One such barrier is the long-standing challenge for banks of collecting credible data on the energy performance of their clients' real estate portfolios, for instance as energy performance certificates have been issued for only a small proportion of the building stock in both Poland and Denmark. Another barrier is the lack of clear, harmonised guidance on how to apply sustainability reporting rules required by the EU legislation. This is especially pertinent to the real estate sector, where investors at times have to navigate up to ten different frameworks and standards to capture all the sustainability issues related to their investments.

The above examples demonstrate that the European Green Deal framework has been giving the intended market signals. Boosting competitiveness means providing the market with stability, especially in the current uncertain economic and political times.

2. Support national actors and leverage best practice at EU level

Observed dynamic
Pushing for affordable and sustainable housing models:

> Public–private partnerships for social housing.

> Social housing as a testing ground for low-carbon innovation.

Common barriers to overcome
An uneven playing field; policy uncertainty rewards delay over action.

In addition to supporting private actors, national governments in the EU can learn from and promote the work of public actors that have been active in developing sustainable housing, sometimes for decades. Both Poland and Denmark have positive examples of sustainable social housing. While there is no common definition at EU level on what constitutes social housing, all examples showcased provide below market-rate housing units that are accessible by low-income populations.

The Danish social housing sector is a best-in-class example globally, with a financing system that allows the sector to make low-interest loans and invest in further redevelopments. With one in five homes run by non-profit housing associations, the sector acts as a large market stabiliser (see **next section**). However, this hallmark of Danish welfare society is not making up for the issues exacerbating the housing crisis in both rural and urban areas. The low land value of rural properties affects the ability of homeowners to access cheap financing for renovation, with low-income homeowners facing energy poverty. In urban areas, population concentration, a drop in social housing construction, and housing speculation by investments funds, combine to restrict access to affordable and decent housing.[10]

While the picture is more limited in Poland, a handful of Polish municipalities are pioneering new financial and legal structures to increase the supply of affordable, energy-efficient housing through private partners. The examples below from Żory and Katowice are particularly striking given the cities' connections to the country's coal industry.

Poland

Żory launched a social housing partnership in September 2024. The city partnered with private developers to finance and construct 405 energy-efficient social housing units while securing long-term maintenance at a fixed cost. The city wanted a developer that could deliver high-quality construction compliant with the latest environmental regulations, while providing stability and certainty by overseeing the maintenance of the building at a fixed cost for 20 years. The project is part of the "Future with Żory" strategy, which aims to increase the supply of social housing by using different financial models.

KTBS, the social housing association of Katowice, is developing Poland's first social housing project with high ecological requirements,[11] which is also a first involving private and public developers in the coal region of Silesia. At the architectural competition stage, submissions were required to comply with the newly introduced "Green House" certificate,[12] the first certificate in Poland for

[10] Institute for Human Rights and Business, 2023, **Behind the Green Curtain: An exploration of social justice**
[11] Mad White, June 2024, **First ecological TBS housing estate in Poland.**
[12] Certyfikat Zielony Dom, **https://zielonydom.plgbc.org.pl**

green residential buildings. The certificate includes an analysis of the carbon footprint of the materials used, which KTBS also commissioned. The integration of sustainability requirements in the design phase greatly facilitated their implementation during the construction phase. The units are supplied with geothermal energy combined with heat pumps.

The development is financed by a combination of KTBS's own funds, bank loans, and a mix of national subsidies, including from a fund dedicated to housing development. KTBS undertook this exceptional investment despite the higher cost compared to conventional construction, with many of the solutions being implemented for the first time. This was in part facilitated by considering long-term operational costs. Based on the positive experience from this pioneering project, KTBS is planning to introduce sustainability requirements in other investments.

Denmark

Denmark's social housing sector has a long tradition of pioneering sustainable construction methods – often at cost parity with conventional building techniques. Since the 1990s, Danish social housing projects have experimented with using recycled materials to reduce embedded carbon and construction costs. Other new developments recycle construction materials,[13] or use low-carbon materials such as wood.[14] The houses with the lowest carbon footprint in Denmark are now social houses built to the same cost as conventional homes.

The Circular Construction (Recycled Houses[15]) project is one of these exemplary projects. Another example comes from one of Denmark's largest social housing providers, KAB. Its SocialHousing Plus initiative[16] developed low-carbon passive houses where rents are 30% lower than conventional new housing due to standardised design, efficient materials, and streamlined construction processes.

While these initiatives in both countries are encouraging, they are still limited in number overall. Broader scale-up of investment and implementation of affordable and sustainable housing across the EU has been partly affected by regulatory uncertainty and an uneven playing field. In Poland, rule of law

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[13] AlmenNet, **Genanvendelse af overskudsjod og betonaffald lokalt** (Recycling of surplus soil and concrete waste locally) (webpage, accessed 28 March 2025)

[14] Andersen et al., 2023, **Whole life carbon impact of 45 timber buildings** (PDF)

[15] World Green Building Council, **The Recycled Houses** (webpage, accessed 28 March 2025)

[16] Jensen, J. O. and Stensgaard, A. G., 2017, **Affordable housing as a niche product: The case of the Danish "SocialHousing Plus"** (PDF)

concerns have caused delays in the distribution of EU funds while historical distrust hinders broader participation of market players in public–private partnerships. On the private sector side, scaling such projects requires investor confidence in their long-term economic viability and regulatory and policy certainty. With the EU's simplification agenda, there is a risk that significant changes to the sustainable finance regulatory framework are seen as a shift away from the existing policy direction on the transition – undermining investor confidence and creating market uncertainty.

3. Ensure effective deployment of funds

Observed dynamic
Leveraging public funds to de-risk private capital (blended finance).

Common barriers to overcome

> Financing constraints perpetuate high-carbon lock-in.

> Capacity shortages stall implementation.

> Lack of profitability and excessive risk of some innovative affordable and sustainable housing projects.

Upfront costs and other financing constraints are a key challenge that deter social housing associations and market innovators from developing sustainable buildings. The lack of suitable public finance support also prevents low-income households from accessing the funds necessary to renovate their home. Using public funds as a guarantee to secure private finance is therefore essential – it can help secure early-stage capital for small projects, and by attracting long-term investors could contribute to scaling sustainable construction over time.

There is not yet a seamless flow of secure funding for projects – ranging from venture capital to institutional investment, supported by public funding – from early stages to maturity. The recent Polish initiative, as part of the finance ministry's work on a roadmap for sustainable finance, to unlock capital markets for small innovative projects, has not been met with sufficient uptake.

The European Investment Bank (EIB) has recently launched a pan-EU investment platform for affordable and sustainable housing and a related action plan to mobilise €10bn – up to €35bn with private investments – in housing and renovations. This could be a promising step towards addressing the funding gap, particularly for small-scale and social housing projects. However, ensuring its success will require tailoring support to local needs, strong coordination with national stakeholders and robust sustainability methodology and criteria for fund accessibility.[17]

In Poland, financial institutions have blended public and private finance to make green building investments more attractive. BNP Paribas Poland was one of three Polish commercial banks that used grants from the EIB[18] to provide technical assistance for energy audits before issuing loans for building retrofits. By combining this with other financial schemes from the EU and the Polish Development Bank (BGK), BNP effectively reduced investment risk and scaled up funding for renovations. Combining these various solutions, it created a "one-stop-shop" service that supported over 820 renovation projects.

Another example is the Thermal Modernisation Fund, a government-backed financing scheme that has provided low-interest loans for residential energy efficiency upgrades since 1999 benefiting over 45,000 buildings, primarily multi-family housing. Variations of the program have crowded in private capital from commercial banks by using public finance to lower costs and improve risk-sharing.[19]

The financing challenges in the social housing sector are linked to the overall difficulty of accessing financing. Denmark established a unique financing model back in 1960s that enables the sector to overcome this barrier. The National Building Fund is one of the largest funds in Denmark, entirely funded by a portion of the rent from tenants living in social housing. It shelters social housing associations from investment cycles and reliance on public funding. It also serves as a guarantee that enables social housing associations to easily borrow money from mortgage banks at lower interest rates. These combined factors enable social housing associations to finance renovations and further developments. This fund plays a key role in the large supply of affordable housing in the country, where about one in five units is social housing. This significant amount of

[17] European Investment Bank, 6 March 2025, **European Commission and EIB Group lay foundations for a new pan-European investment platform for affordable and sustainable housing**

[18] European Investment Bank, 16 December 2024, **ELENA completed project factsheet – Energy Efficiency Finance Facility for Residential Buildings** (PDF)

[19] European Construction Sector Observatory, December 2019, **Poland: Thermal Modernisation & Renovation Fund**

housing stock being sheltered from price fluctuations of the rental market serves as a crucial market stabiliser.

These approaches highlight the potential of targeted public and private financing mechanisms to reduce uncertainty and mobilise capital for green real estate. This is essential, since even when real estate actors want to invest in sustainable buildings, financial constraints often lock them into conventional choices:

> **Higher upfront costs** for low-carbon materials and technologies discourage developers. The higher perceived risk of projects that use new materials, technologies or business models leads to a higher cost of capital.

> **Spending caps on local authorities** and social housing providers limit public investment.

> **Limited financing options** for high-impact, low-return projects (e.g., deep renovation of existing buildings) leave gaps in funding.

Furthermore, real estate decarbonisation requires specialised expertise – from banks restructuring loan portfolios to municipalities designing effective policies. Yet many institutions lack the internal capacity to implement sustainability strategies at scale, creating bottlenecks in project development and finance.

The above examples show that with the right financing and policy support, sustainable housing can also be affordable – offering valuable lessons for EU-wide housing policy.

A defining moment for policymakers

Delivering affordable and sustainable homes at scale across Europe is feasible. Many of the solutions already exist – they need to be deployed through policy and investment at the EU and national levels. Effective financing of decarbonisation in the buildings sector will only happen with sufficient private and public capital, within a structurally sound system that combines the right legal and institutional measures.

Clear signals to the market through EU sustainability policies since 2018 have already encouraged real estate actors to embark on the sustainable transition journey, laying the groundwork for aligning finance with sustainability in the real estate sector. Both real estate developers and financial institutions have been investing in a transition that requires mobilising significant additional funding[20] along with “a pipeline of suitable projects, a clear business case and a favourable regulatory environment”.[21]

What is needed now is the political will to implement the available solutions at scale. Sustainable housing will need to move from niche to norm and become mainstream in housing projects at various scales, from small innovative constructions to large-scale renovation or social housing projects, and attract funding accordingly, from venture capital to concessional funds to institutional investment capital.

To ensure that frontrunners are not acting in isolation but leading a systemic shift, and to leverage relevant existing government-led initiatives, policymakers at EU and member state levels, and European multilateral development banks, should take coordinated action.

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[20] Bruegel, July 2024, **How to finance the European Union’s building decarbonisation plan**

[21] Mike Batley, 2024, **Timber in real estate: Understanding investors perception**

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About E3G

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We drive systemic action on climate by identifying barriers and constructing coalitions to advance the solutions needed. We create spaces for honest dialogue, and help guide governments, businesses and the public on how to deliver change at the pace the planet demands.

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