Climate KIC's Response to the EU Open Public Consultation on the European Affordable Housing Plan - Efficient, Circular, and Affordable (ECA) Housing

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Introduction

Europe's housing and building sectors sit at the intersection of converging crises: affordability and sustainability. Globally, buildings account for roughly 39 % of carbon emissions, and in the EU, this challenge is intensified by the age and inefficiency of the building stock – around 35 % of buildings are over 50 years old and nearly three-quarters are energy-inefficient. Housing also drives resource use: according to the European Environment Agency, roughly 52 % of the EU's material footprint is linked to housing and the built environment, underscoring its centrality to any resource-efficiency or circular-economy strategy. Yet renovation rates remain critically low, at only 0.4–1.2 % per year, well below the roughly 3 % annual rate required to place the Union on track for a net-zero building stock by 2050 (Finamore and Oltean-Dumbrava, 2024).

At the same time, **affordability has sharply deteriorated.** Between 2010 and 2023, EU housing prices rose by 48 %, with far steeper increases in some Member States – 173 % in Hungary since 2015, and in Ireland, where prices were 101 % above the EU average in 2023 (Jacques Delors Institute, 2024). These prices reflect the fact, as the *Call for Evidence for the European Affordable Housing Plan* notes, that Europe is 'suffering critical housing shortages, in particular in major cities' (European Commission, 2025). Rising construction costs, limited renovation capacity, and insufficient supply of efficient, affordable homes compound these pressures.

Delivering enough efficient, circular, and affordable (ECA) housing for Europe's needs is thus imperative. However, it is a challenge with myriad, cross-cutting dimensions. It is not enough for it to be technically feasible, if the regulatory framework that would enable these construction innovations to be implemented is not in place. It is not enough for smart, incentive-building regulations to be in place if appropriate financial instruments are not primed to capitalise on

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them. Nor is it enough for accessible, targeted financing to be primed if crucial, transformative technology is not yet market ready. **No approach to the challenge can be considered serious unless it integrates all dimensions into a systemic transformation with place-based but scalable approaches**.

There is, however, already a mechanism available to stakeholders across the Union. The EU Missions are designed as integrated frameworks through which multiple elements can advance together – catalysing large-scale, place-based action and structured implementation. In the housing context in particular, Missions play a crucial role in demonstrating the tangible benefits of Europe's commitments to sustainability and a just transition within the everyday environments that citizens and businesses care about most.

Housing inevitably involves local governments, developers, financial institutions, utilities, and residents – all groups prone to operating in silos. The most relevant instrument for overcoming this fragmentation is the Climate-Neutral and Smart Cities Mission, whose framework establishes structured partnerships through Climate City Contracts and ensuing Investment Plans [1] that align stakeholders around shared commitments, governance, and iterative learning. These contracts provide the platform within which a portfolio approach can be deployed, combining innovations in finance, materials, digital tools, and more, into a coherent delivery strategy. Mission Cities activities thus become living labs for implementation and scaling of novel solutions and lead markets for innovation, enabling successful approaches and effective technologies to diffuse throughout the Union. They thereby address the issue, rightly identified in the *Call for Evidence,* of 'a lack of technical expertise and operational capacity needed to design and implement projects at the local level' (European Commission, 2025).

Moreover, as the *Call for Evidence for the European Affordable Housing Plan* notes, the evidence and knowledge required to support action at European level 'needs to be gathered and, where possible, broken down by EU country and by relevant regional and local situation' (European Commission, 2025). **Mission Cities are uniquely positioned to generate this evidence, combining local experimentation with systematic data collection through their Climate City Contracts.** By building on the existing Mission framework – where housing and the built environment are already central to cities' climate-neutrality pathways – and purposefully extending its elements to support implementation of the forthcoming European Affordable Housing Plan, the Commission can both strengthen the evidence base for its policy making and ensure that affordable and sustainable housing solutions are grounded in the real capacities and conditions of Europe's cities, including the multilevel governance.

Methodology

This report is based on three complementary sources of evidence: the ECA Housing Policy Labs, background research, and targeted stakeholder interviews. The Labs formed the primary evidence base, bringing together city representatives, industry, financial institutions, and policymakers to explore several cross-cutting themes key to ECA housing, including finance, materials, regulation, governance etc. Through structured, facilitated discussions,

[1] Investment Plans under the Climate-Neutral and Smart Cities (CCC) Mission are strategic blueprints that aim to translate each city's Climate City Contract into concrete, bankable projects and financing pathways, linking decarbonization and resilience goals with public, private, and EU funding sources to accelerate implementation.

participants identified shared barriers to scaling efficient, circular, and affordable housing and outlined practical pathways for coordination between local delivery and EU frameworks. Background research and one-on-one interviews provided additional depth, clarifying the technical, institutional, and financial issues underlying those barriers.

This approach highlights the systemic nature of Europe's housing challenge – where progress in one area depends on alignment across other – generating evidence for coherent, mission-oriented action. The five recommendations that follow build directly on this process: they translate stakeholder insights into proposals for coordinated innovation in standards, procurement, research and innovation, digitalisation, and finance, anchored in the Cities Mission and its Climate City Contracts as an efficient framework for implementation.

Definition

What is efficient, circular, and affordable housing? This is, to a significant extent, an academic question and multiple competing definitions exist of its constituent concepts (see for example Silva et al., 2024; Finamore and Oltean-Dumbrava, 2024; Nußholz et al., 2023; Mrad and Ribeiro, 2022). A single, precise definition is thus beyond our scope here. **Rather than defining with laborious precision what ECA housing is, this report is primarily concerned with how it can be achieved.** Moreover, few definitions rule out the solutions discussed below.

Working definitions will thus suffice. Efficient housing minimises energy consumption per unit of use (e.g. per square meter, heating degree-day, or service delivered) through building envelope improvements, optimized systems, and better use of materials, such that the same or better living standard is maintained with lower input of energy, resources, and waste (BPIE, 2023). Circularity is more debated (see for instance Nußholz et al., 2023), but is broadly a system of design, construction, use, and end-of-life practices in which materials, components, and products remain in use for as long as possible through reuse, repair, refurbishment, remanufacture, and recycling (BUILD UP, 2024; ECESP 2021). Affordability is probably best captured households spending no more than 30–40% of their income on housing expenditure and housing-related costs, such as mobility (EESC 2024).

Crucially, affordability and circularity are not in tension but mutually reinforcing: resource-efficient, resilient homes reduce lifetime costs for occupants and public budgets alike, making sustainability an essential component of long-term affordability rather than a competing objective (WRI, 2025). ECA housing therefore seeks to integrate these dimensions, achieving an optimal balance between efficiency, circularity, and affordability. In practice, the nature of this balance is subject to reasonable interpretation and genuine constraints.

Recommendations

1. EU Standards, materials flows and regulatory sandboxes

The European Affordable Housing Plan should set out a framework for the Commission, in cooperation with CEN/CENELEC and Member States, to modernise and expand harmonised European standards under the Construction Products Regulation (CPR) and the Eurocodes for structural design, reflecting advances in innovative, modular, and low-carbon housing construction. Coordination should be ensured with the Ecodesign for Sustainable Products Regulation (ESPR) and the Energy Performance of Buildings Directive (EPBD) to align product-level performance data, lifecycle assessment requirements, and building-level sustainability frameworks such as Level(s).

This work should prioritise the development of harmonised technical specifications that enable affordable and sustainable housing solutions – including bio-based, recycled, and hybrid materials use of high-quality secondary materials recovered from construction and demolition waste (CDW) – to enter the market safely and at scale, while maintaining interoperability and reliability within the single market. Pilot testing through **regulatory sandboxes** in Climate City Contracts, under national supervision and EU coordination, could generate the evidence needed to update and align standards, accelerating innovation while maintaining safety and interoperability.

2. Innovative construction methods and public procurement as a leverage

Especially with Recommendation One in place, the European Affordable Housing Plan should support cities that are implementing and iterating Climate City Contracts under the EU Mission on Climate Neutral and Smart Cities to prioritise modular, prefabricated, and design-for-disassembly construction methods in their housing and renovation strategies, using public procurement as a lever to stimulate demand and create lead markets for innovative, low-carbon solutions[2].

Green and innovative procurement practices and project pipelines developed under the Contracts can be used to promote compliance with evolving European standards, as indicators of technical quality and cross-border interoperability. Such alignment would enable EU and national funding to reward cities that adopt scalable, resource-efficient construction approaches consistent with affordability and the Union's climate-neutrality objectives.

[2] Oslo's 'Climate Budget' Is Building a Cleaner City | World Resources Institute - example of public procurement used as a tool for building a sustainable and therefore competitive construction lead market

3. Full cycle innovation funding accelerating lead markets based on the EU's existing competitive advantages

The European Affordable Housing Plan should promote coordination across EU research and innovation programmes – including Horizon Europe, its successor FP10, and relevant partnerships such as Built4People – to better address the more incremental innovation and implementation needs of the construction and housing sector. Current EU funding focuses largely on breakthrough technologies, yet affordable, low-carbon housing depends on steady advances in modular, prefabricated, and design-for-disassembly methods, which require an initial push and deployment funding for the existing pilot projects to scale across the Single Market.

Future work programmes should therefore prioritise applied research and demonstration that improve standardisation, digital interoperability (BIM), and sustainable material development, in coordination with CEN/CENELEC and cities engaged in the Cities Mission and working through Climate City Contracts as their governance innovation tool. Such alignment would ensure that EU-supported research delivers market-ready solutions consistent with the Energy Performance of Buildings Directive, the Construction Products Regulation, and the Union's climate-neutrality objectives.

4. Digitalisation and data

The European Affordable Housing Plan should recognise and further encourage Mission Cities to act as frontrunners in the digital transition of the built environment, supporting the adoption of Building Information Modelling (BIM), Building Material Passports (BMPs), and digital permitting systems. Building on ongoing EU initiatives to digitalise construction, these tools can improve data exchange, material traceability, and planning efficiency, enabling Design for Disassembly, greater circularity in construction and demolition waste (CDW) management, and long-term affordability.

In line with the EU's emerging Digital Product Passport framework and updates to the Construction Products Regulation (CPR) and Energy Performance of Buildings Directive (EPBD), cities should pilot interoperable, voluntary approaches to digitalisation in cooperation with national authorities. EU support through programmes such as Digital Europe and Cohesion Policy technical assistance should strengthen municipal capacity and ensure open data standards as well as help pilot and scale EU based data governance cases[3]. Through Climate City Contracts, the cities can demonstrate how digital tools accelerate efficient, circular, and affordable housing while respecting subsidiarity and local competences.

5. Financing for aggregated demand and supply across the EU

To align existing EU policy, financial, and technical instruments, the European Affordable Housing Plan can start utilising Climate City Contracts to accelerate investment in affordable, sustainable housing. Supported by the

[3] WEnnovate — Sustainable Scale-Up Foundation and ensuing data governance pilot in the Netherlands

NetZeroCities platform, Climate City Contracts already provide a governance and delivery framework through which cities can identify and structure investment-ready housing pipelines consistent with their climate-neutrality and renovation goals.

To unlock financing for these projects, the Plan should foster the connections between the Mission's city pipelines and the EU–EIB Affordable Housing Investment Platform, underpinned by the InvestEU guarantee. By aggregating municipal projects into investable, standardised portfolios and blending EU and national public funds with private capital, this approach would enable institutional investors to participate confidently in affordable and sustainable housing while maintaining affordability and reducing transaction costs. It would also open participation to Energy Service Companies (ESCOs) and similar aggregators, whose energy-performance and renovation contracts remain underused despite their potential to deliver scalable, investment-ready projects within Climate City Contracts.

Through coordination between the EIB Advisory Hub, national promotional banks, and the InvestEU Social Investment and Skills window, cities preparing projects under Climate City Contracts could access the technical support, structuring expertise, and risk-sharing tools already available within the EU system. This alignment would help turn the Mission framework into a ready-made pipeline for InvestEU and EIB financing – demonstrating how the EU's existing financial and technical instruments can be combined to close the affordable-housing investment gap and deliver both climate-neutral and socially inclusive outcomes.

Evidence Base: Deeper insights from the City–Industry Policy Labs

Standards, Innovative Construction Methods and Materials

Moving from expensive materials that are poorly suited to reuse and recycling, or which contain a large amount of embedded carbon through either the creation or construction processes, is a vital part of delivering ECA housing. All our policy lab tables agreed **that there exists a myriad of non-traditional materials, and associated novel construction methods, with great promise to assist in this. Most tables also cited construction standards as a major delay factor** for the development and penetration of such circular innovations.

Pre-fabricated materials, such as Prefab Floor Slabs and Sequential Wooden Roofs, are a case in point (Nußholz et al., 2023). Deployed under the right conditions, pre-fabrication offers substantial savings in both emissions and financial outlay from the construction of a unit of housing. By combining previously disparate components into a single product, economies of scale are achieved in manufacturing and waste is reduced (Aghasizadeh et al, 2022). Moreover, other things being equal, the subsequent speed of assembly on site reduces the overall energy consumption and cost of the development. With automated prefabrication buildings, defect costs fall substantially compared to traditional on-site construction (Johnsson and Meiling, 2009). The Nidus Modular Home is a prominent example of such structures.

Alternatively, one of the innovators who took part in our policy lab heads a company making **light weight concrete**. With current equipment, the company has an output capacity of 15 cubic meters per hour for this foam concrete – a mineral-based material filled with air bubbles. The density can be adjusted depending on application, and at around 400 kg per cubic meter, it is both insulating and fully load-bearing. Crucially, the material can be poured quickly, reducing the need for extensive manual labour, eliminating multiple conventional building steps, and thereby reducing unit costs. Even within traditional methods of concrete use, innovations in the cement constituent, such Ecocem's Advanced Cement Technology (ACT), can reduce carbon-intensive clinker component of cement by more than 70%.

What is preventing innovations in both materials and associated construction techniques, such as those above, from being deployed at scale? Innovators participating in our policy lab emphasised varying building regulations as central. For example, prefabricated products certified for use across Flanders and Brussels cannot be deployed in similar EU climates, like Germany, northern France, or the Netherlands, because of fragmented housing policies and regulatory inconsistencies. For concrete certification, moving from current composition-based standards to harmonised performance-based standards could transform its uptake. But member states differ tremendously in their standards and, according to multiple innovator participants, are very conservative in approving new standards (EESC 2024). In some Member States, notably Germany, approvals must still be obtained separately in different Länder. This patchwork of policies prevents circular housing innovations from reaching scale.

This has the knock-on effect of reducing total financing take-up and the efficiency of the financing that is deployed. For a start, national funders are limited to companies using nationally certified methods, which limits desirable competition for financing between multiple enterprises. Moreover, pooled or blended finance mechanisms work best when projects are standardized. Fragmentation prevents aggregation of projects into larger, investable portfolios, which would otherwise attract development banks, green bonds, and pension funds. The cost of capital for the projects that do go ahead are thus greater and due diligence costs for sustainable finance providers higher – both of which end up hitting affordability.

Both of these elements also prevent companies from scaling and block methods and materials from spreading across the European market. As a result, acceptance of these innovations is slow to take hold among citizens and within the industry, with the latter, according to both our participants and the literature, tending already towards conservativism in methods and materials (EESC 2024). Limited awareness and demand then suppress competition, which in turn dampens innovation and keeps costs higher. This contributes to the relatively low levels of innovation and productivity growth in the construction sector (see figure 1.0). Together, these failures prevent the market signals that would prompt workers to train in sustainable construction methods. As a result, the workforce never begins to build the skills required – such as energy-efficient retrofit techniques – leaving both current and future capacity to deliver sustainable housing critically short on skills. This entrenched shortage drives up labour costs, causes delays, and ultimately undermines affordability. Thus, regulatory fragmentation around construction methods and materials creates cascading negative effects across the housing system, constraining the capacity of other stakeholders to pursue more ambitious measures in turn.

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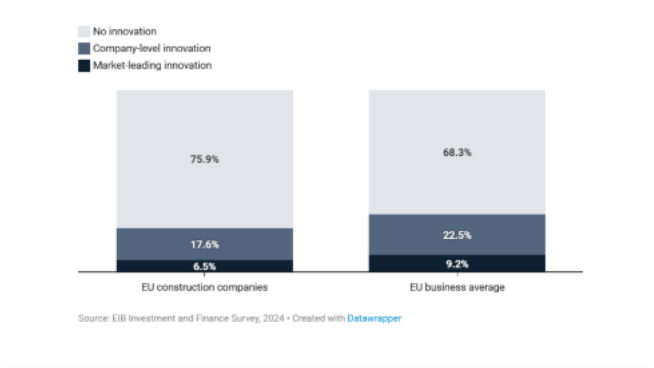

Figure 3: Innovation Gap in the Construction Sector (EIB 2025)

Digitalisation, Data, and Construction and Demolition Waste

How can we affordably lower the quantity of construction and demolition waste (CDW) and ensure that the largest proportion possible is reused or recycled? This waste component of the ECA housing challenge demands similarly systemic analysis. The EU Waste Framework Directive (WFD) set at 70% the EU target for aggregate CDW recovery and recycling across the waste management chain, to be achieved by 2020. While this was realised, the extent of CDW recovery and recycling varies greatly across the EU, from less than 10% in some member states, to over 90% in others (EU ENVIRO, 2025). Policy implementation has thus been fragmented, with Member States showing widely differing levels of success.

As our policy lab demonstrated, there is significant potential for gains in this area. **A key finding was the need for the full application of existing digital tools to the problem.** Central to this are Building Material Passports (BMP), which document construction components for future recovery, and Building Information Modelling (BIM), a 3D model of a building containing a wealth of information. BIM can integrate BMP and life-cycle analysis (LCA) data, so stakeholders know what is in the building, where it is, and how it can be reused or recycled at end-of-life (EoL). If adopted across member states, these tools offer to dramatically increase the success of existing policies, such as the WFD and the European Performance of Buildings Directive (EPBD), as well as making legislative strengthening more feasible, for example regarding maintenance schedules, renovation cycles, etc.

It is also a vital enabler for other techniques and technologies to thrive. For instance, the upcycling of materials - perhaps best exemplified by Upcycle House, depends on reliable information not only about the availability of materials, but also about their location, condition, performance history, and the timing of when they will become available. The CHARM project (2018–22) demonstrates this at scale. Led by Woonbedrijf, a Dutch social housing organisation in Mission City Eindhoven, the project tested circular housing strategies by designing 18 new dwellings with 35% reused materials and components. This was supported by regional material inventories and pilot exchange mechanisms, which helped map available stocks from demolition and renovation and match them to new-build demand. The project produced the estimate that around 59 tonnes of additional material could be recovered per

dwelling compared with standard practice. A more advanced digital infrastructure, integrating these inventories with BIM and material passports, would have further enhanced this component by providing real-time traceability and higher-value reuse options.

Digital tools, when supported by appropriate materials regulation, can also boost the attractiveness of circular construction techniques. Appropriately designed modular buildings plan for the reuse and remounting of parts, a technique called design-for-disassembly (DfD) (Finamore and Oltean-Dumbrava 2024). More broadly, construction can emphasise reversible connections, such as screws or brackets, over permanent ones, like welds and adhesives. By recording the specifications, assembly methods, and material compositions of components, digital tools provide future users with the information needed to dismantle, reuse, and remount parts more efficiently. Digitalisation thus reduces key information barriers and creates the traceability and transparency that make high-value reuse technically and economically more feasible.

These tools should be central to the Circular Economy Act's proposed effort to harmonise end-of-waste criteria across member states for those categories of products the WFD left to national standards, including most CDW. Reliable digital traceability of material composition, origin, and performance would allow regulators to verify compliance with harmonised standards in real time, reducing administrative complexity and delays. It would also build the transparency and confidence needed for secondary materials to circulate freely across borders, enabling a genuine single market for recovered construction materials. In this way, digitalisation is not only a technical enabler but a precondition for the legal and market coherence the Circular Economy Act seeks to achieve.

Financing for Renovation and Aggregated Housing Investment

Even with improved DfD materials and methods, and even when employing pre-demolition audits and state-of-the-art recovery techniques, **there is no prospect of recovered and recycled materials satisfying more than a fraction of the current demand for building materials.** As was pointed out in our policy lab, recycled concrete can provide, at best, 10% of current EU concrete demand. Thus major sustainability gains must come primarily through construction and renovation, as recognised by the EU's Renovation Wave.

For all levels of governance, the economic case is clear. The European Foundation for the Improvement of Living and Working Conditions (Eurofound) estimated that inadequate housing costs EU societies around €194 billion each year. It further projected that addressing the problem – at an estimated cost of €295 billion – would likely pay for itself within 18 months through savings in healthcare spending and gains in social well-being.

Thus renovation is key to achieving sustainability gains: through energy efficiency and long-term affordability gains; through lower energy bills and improved health. It must be deployed, as our policy lab observed, to bring buildings well beyond the fifty-year standard accounting lifespan. For example, in Mission City Paris, the award-winning Caserne de Reuilly redevelopment project, centred on a 17th century military barracks, achieved on-site recovery and reuse of more than 600 tonnes of materials, including elements such as doors, timber beams, radiators, stone paving, and complete staircases.

Neither renovation nor new builds can, however, be achieved at the desired scale with traditional financing methods. The EU estimates over €300 billion per annum is required to deliver on 2030 building renovation targets, yet an annual investment gap of at least €165 billion persists. Moreover, what options are available for novel,

circular construction business models in the sector to overcome challenges like the following? A developer who invests in a highly durable, modular building might not be around in 30 years when components have reuse value – so the investment case is hard to make.

A systemic view is key here to enable, as the EU suggests, cross-sectoral project partnerships. Our policy lab identified linking EU level funds with local actors, especially municipalities, as the key weakness in the funding chain. Traditional financing from national banks is proving unable to deliver the required scale or flexibility of finance needed. As our policy lab participant from the Sustainable Energy Finance Association (SEFA) argued, many cities want to renovate buildings but lack the matching finance from their budgets needed to unlock EU structural funds. As a result, much of that funding goes unused.

Through, for example, the EIB's *European Local ENergy Assistance* program (ELENA) or its new *Action Plan for Affordable and Sustainable Housing*, launched in June 2025, substantial European level financing is now available for sustainable, social housing initiatives and renovations. Unlocking this funding requires the diffusion of new partnership arrangements, however. Cities need help connecting these EU funds with other sources of finance, such as private investors. To do this, SEFA propose developing networks of certified investors and advisors to design, finance, and manage major renovation projects through procurement reforms that extend contract durations, fast-track sustainable tenders, integrate Green Public Procurement criteria, and enable regional one-stop-shops to aggregate demand (SEFA, 2025). As a participant from the Green Finance Institute (GFI) noted, local climate bonds can also help municipalities – particularly medium-sized ones – raise funds directly from their communities. Through campaigns of this kind in the UK and Spain, the GFI has built structured engagement between municipalities, institutional investors, and the EIB, enabling a critical mass of co-investment at the local level.

Large-scale renovation becomes easier and cheaper when housing ownership is consolidated, but in many countries, fragmented ownership and high public debt block investment. As our participant from Gävle, a Swedish Mission City, argued, the EIB could help by providing project-based financing mechanisms that encourage collective renovation approaches instead of relying on speculative or individually financed models. As the Swedish example shows, this would help reduce costs: cities pay lower interest rates than building companies, offering a clear efficiency advantage.

Connecting circular building materials with novel construction techniques requires partnerships involving actors able to sustain long-term commitments. De-risking is key to making these models work, with blended finance, project guarantees, and aggregation of smaller projects into investment-ready portfolios all part of the solution. Involving actors who can absorb extended payback horizons and performance risks enables action by developers who cannot. Mechanisms such as circular procurement, material leasing, and performance-based contracting allow these actors to capture long-term value while de-risking private investment. Combined with reliable digital traceability of materials, such arrangements can enable circular practices to spread across the wider construction market.

These innovative financial structures can have a transformative effect on the behaviour of individual homeowners by allowing higher upfront costs – the "green premium" – to be absorbed into long-term savings. With proper regulatory harmonisation, they can propel the expansion of novel organisations like Energy Service Companies (ESCOs). ESCOs transform the risk profile of renovation loans for homeowners by linking repayment schedules directly to verified savings on energy bills. Alternatively, the GFI has found success with property-linked financing mechanisms, where loans are tied to the property and inherited by future purchasers. As told during our policy lab, the launch of such a program in the UK raised substantial funds with commercial lenders. Borrowers have the comfort of knowing the renovation loan is not tied to them, but rather to the house itself and the savings on

energy enabled by the renovations. Such instruments can thus significantly enhance access to affordable renovation finance.

Open-source research from the Technical University of Eindhoven, as relayed during our policy lab, complements these financial innovations by addressing the **information gap faced by both homeowners and public authorities.** Its digital models of housing typologies and renovation plans produce consistent, comparable data on investment costs, long-term savings, and wider co-benefits. In this way, such tools can help target funding more efficiently and ensure that climate and social impacts are tracked transparently over time.

More broadly, the basic affordability case is clear. Mete and Xue (2021) carried out lifetime cost assessments in Switzerland and found that higher upfront investments in sustainable design were recovered within 10–15 years through lower operating costs. Likewise, Francart et al. (2022) showed that renovations undertaken in Swedish social housing improved energy efficiency by around 40%, enabling costs to remain neutral for tenants. In Mission City Paris, recent renovation in the social housing stock cut household heating bills by roughly €200 – €450 annually.

This contrasts with failed schemes, such as those relayed in our policy lab regarding the Netherlands or Italy's "SuperBonus" scheme. These schemes were riddled with perverse incentives and affordability issues, particularly their lack of accessibility for tenants and social housing bodies, whose need is likely greatest. Ultimately, schemes tied to high upfront costs are unlikely to deliver comprehensive sustainability gains and certainly will not do so affordably. Such schemes also run the risk of encouraging 'renoviction', which is an intentional or de facto displacement caused when renovations trigger steep, rapid rent rises that tenants cannot afford. The likely political implications alone of such a phenomenon spreading would be sufficient to destroy any momentum towards ECA housing.

Grouped together under a mission approach, such financial innovation will allow cities and regions to become lead markets for innovative technologies, financial instruments, and business models. This should be tied, as argued by the innovators in our policy lab, to research funding for the incremental innovation that is so often overlooked under Horizon, allowing for pilot projects that can advance the technological ecosystem for ECA housing. We must also not ignore demand side solutions, especially regarding combustion fuel energy subsidies and waste fees, that are needed to complete the picture.

Conclusion and Next Steps

This report represents **an interim contribution** to the development of the European Affordable Housing Plan. **It captures insights emerging from the first stage of the Efficient, Circular, and Affordable (ECA) Housing Policy Lab process – a collaborative initiative designed to bridge city and industry perspectives on the housing transition.**

The Policy Labs convene representatives from Mission Cities, construction and materials industries, financial institutions, social housing providers, research organisations, and European and national administrations. Together,

these stakeholders explore the systemic barriers that impede the delivery of affordable, low-carbon, and circular housing, and co-develop practical pathways to align innovation, regulation, and finance across levels of governance.

The findings presented here form the foundation for an ongoing programme of City-Industry Policy Labs, which will continue through the remainder of 2025. The next lab, taking place at the end of November, will focus on refining the implementation pathways associated with the recommendations outlined in this report - particularly the alignment of standards, finance, and city-level delivery through Climate City Contracts, as well as gather good practices, as requested by the Consultation.

Subsequent Labs will also address heat resilience within the broader climate adaptation and circular economy frameworks, examining co-benefits such as passive cooling, heat-resilient retrofits, cool roofs, and urban greening. They will also consider innovative business models for scaling delivery, including aggregated finance, cooperative ownership, and performance-based contracting. These and related themes will be pursued collaboratively with Mission Cities, industry partners, and Commission services to generate actionable insights and case-based evidence.

Other priority areas - not developed in this report but essential to achieving Efficient, Circular, and Affordable housing, - will also be explored in the forthcoming Labs. Building on the systemic issues identified here, these sessions will focus on translating the alignment of policies, standards, finance, technology, innovation etc., and city-level delivery into practice. Initial emphasis will be placed on the skills dimension, including the design of targeted training curricula for retrofit installers, modular construction specialists, and building data or material passport managers, linked to relevant EU funding streams such as the European Social Fund Plus (ESF+) and the Just Transition Mechanism (JTM) to ensure labour market readiness. Additional areas of work will include the development of common performance indicators, for instance, square metres renovated annually, percentage reductions in embodied carbon, or total investment mobilised, to support monitoring and alignment with European Affordable Housing Plan timelines.

We would welcome continued engagement from the Commission services in this process. The Labs are conceived as a structured mechanism for policy learning and experimentation, able to generate concrete evidence for the forthcoming Affordable Housing Plan and related initiatives under the Cities Mission, the Construction Transition Pathway, and the Green Deal Industrial Plan.

By the end of November, Climate KIC, in cooperation with its partners ICLEI and the members of Systems Transformation Hub[4] aim to share a full position paper that builds on the outcomes of the ongoing lab series and provides detailed responses to the Call for Evidence for the European Affordable Housing Plan. Our intention is to ensure that the ECA Housing Policy Lab continues to support the Commission's efforts to create a coherent, city-industry framework for delivering affordable, efficient, and climate-neutral housing across the Union.

[4] The Systems Transformation Hub is a partnership of five leading organisations: Climate KIC, Metabolic, Systemiq, The Club of Rome, and the World Resource Institute.

About Climate KIC

Climate KIC, Europe's leading climate innovation agency and community, one of the first EIT Knowledge Innovation Communities, has over 15 years of expertise in driving systemic change across 60 countries globally. Our approach goes **beyond traditional solutions, addressing climate challenges holistically with a focus on long-term transformation.**

We support climate, environmental, social and economic transitions through **systemic, place-based innovation.** We enable transformation of 100+ cities, 150+ regions and multiple countries in Europe and beyond, leading ground-breaking work in radical collaboration to lift the speed, scale and coordination of climate and environmental action and be able to meet the urgency and pervasiveness of the poly-crises we face. Our solutions intertwine technology, governance, finance, and social change.

Through our 'systems innovation as a service' model, exemplified by our unique **Deep Demonstrations**[5] methodology we work with national governments and regions. Our methodology supports decision makers and innovators to plan, map, analyse, engage, design, test and invest in a portfolio of solutions in cities, bioregions and value chains. Deeply rooted in the communities they serve and learn from, we are able to demonstrate how the interrelated actions of systemic change can benefit all.

We coordinate the NetZeroCities platform[6], which supports the implementation of the EU Mission for **Climate-Neutral and Smart Cities**[7], partnering with 112 cities to demonstrate how systemic transformation can be achieved by 2030. We are actively involved in the **Climate Adaptation**[8] **and Healthy Soils**[9] **Missions**, all deeply relevant to the resilience work.

Climate KIC's systemic approach to regional transformation focuses on resilience, adaptation, and sustainable land use. This work area spans multiple scales, from large-scale landscape initiatives, across food-systems[10], forestry to localised community engagement efforts, addressing critical climate challenges across different levels. It harnesses nature-based solutions - cost-effective solutions that simultaneously provide environmental, social, and economic benefits and help build resilience to address climate change, urbanisation, and biodiversity loss.

Transforming energy-intensive industries is crucial for achieving climate neutrality and resource efficiency. The shift from a linear to a circular economy necessitates reconfiguring supply and value chains, maintaining product value through extended lifecycles rather than obsolescence, disposal and waste. This transformation demands redesigning manufacturing, supply, and economic structures to foster sustainability. Climate KIC plays a key role in this transition, identifying systemic levers for change and enabling industry-wide collaboration.

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[5] Place-based transformations | Climate KIC
[6] Home - NetZeroCities
[7] Climate-neutral and smart cities - European Commission
[8] Adaptation to climate change - European Commission
[9] EU Mission: A Soil Deal for Europe
[10] Deep Demonstration Ireland brochure

Climate KIC was initiated by the EIT – European Institute of Innovation & Technology.

Since 2017, Climate KIC has been **advancing space-based Earth Observation (EO) and Climate Services** in partnership with the European Union Copernicus Program to accelerate climate action and resilience. Addressing systemic challenges across cities, regions, and value chains requires integrating Earth Observation tools that provide actionable insights into climate risks, biodiversity loss, and socio-political changes.

Through its venture support programs, impact-driven investment, and innovation ecosystems[11]**, Climate KIC has helped scale over 6,000 startups and supported the development of over 10,000 climate solutions.** Working alongside partners, Climate KIC currently has active venture and solutions development initiatives running across 81 countries. While supporting startups remains crucial, individual solutions alone do not drive deep structural change. Pursuing our mission to catalyse systemic change, Climate KIC works to integrate entrepreneurial ventures into larger systems, accelerating climate resilience and sustainability. This approach focuses on demand-driven innovation, ensuring climate solutions are effectively adopted across industries and communities.

Over the years, we have placed more and more focus on **mobilising finance**, new business models, institutional change, and behavioural change. We stimulate action and build skills to accelerate learning and identify where innovation can best transform systems and bridge silos.

Climate KIC has been pioneering **new investment models that mobilise capital for systemic change**. We have strategically expanded our investment portfolio beyond traditional grant-based funding to include venture capital, blended finance, and catalytic investments, ensuring that climate-positive solutions can scale effectively.

Our approach to **learning and capacity-building**[12] evolved to recognise that true climate transformation requires more than skills: it calls for a shift in mindsets and ways of being. What began as multiple, standalone education programs and trainings has matured into integrated, **multilevel learning ecosystems** where a broader effort towards capacity building and leadership development is integrated across our innovation efforts in governance, business, entrepreneurship and community systems.

Our diverse **community**[13] consists of a wide variety of stakeholders: businesses large and small, including startups and farmers, research organisations and academia, civil society, citizens.

[11] Climate entrepreneurship | Climate KIC
[12] About the Academy | Climate KIC
[13] About our community | Climate KIC

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