

# Intervention #5

## Building renovation passports

### Intervention point

**By promoting the widespread adoption of building renovation passports (BRPs), which outline a long-term renovation roadmap to achieve deep renovation for individual buildings, the industry could significantly boost retrofitting rates.**

#### The current situation

Europe's built environment must undergo major renovations to reach carbon neutrality by 2050, as directed by the European Climate Law.<sup>1</sup> In effect, if the industry is to hit its 2050 target, the current annual deep retrofitting rate of 0.2 percent of existing building stock<sup>2</sup> needs to rise to 2–3 percent.<sup>3</sup>

There are multiple barriers to increasing this rate. At an industry level, knowledge gaps, financing and uncertainty over the benefits of retrofitting measures<sup>4</sup> inhibit faster progress. Additionally, current macroeconomic issues relating to high construction costs, unavailability of skilled labour, and inflation introduce uncertainties into decision-making processes, while the current energy crisis helps make the case for energy efficiency measures and fuel switching in buildings.

At an asset level, retrofits are costly for building owners and managers, difficult to organise and often lengthy to carry out.<sup>5</sup> While net zero building standards are in development, in most commercial sectors no two buildings are the same. Each requires an individual assessment with a tailored approach towards reducing carbon intensity. This means more effort is required to start such a project while making it harder to scale up for the sector at large.

Low connectivity along the value chain has led to siloed actions between ambitious building owners, tenants and product and service providers, hindering a higher rate of retrofits. Furthermore, given the likely need for many different contractors on larger retrofits, it remains unclear for most owners and tenants how to deliver the work in the most cost- and resource-efficient way, and when to engage the various contractors during the project.

Insufficient building data for decision-making on retrofit timelines, choice of solution and expected benefits (for example, exact renovation costs and anticipated energy savings) is reinforced by – and further reinforces – the fragmentation and lack of standardisation prohibiting retrofits. There are numerous problems with data collection such as a multitude of disconnected owners; data loss during transactions; scattered data storage; data not being passed to other involved parties; data protection and privacy laws; and difficulties regarding data compatibility and consistency.<sup>6</sup>

Consequently, there are increased costs, inefficiency at the project level, a lack of transparency, heightened risk and missed opportunities,<sup>7</sup> which are exacerbating the slow renovation rate across Europe.

#### What is being done

One way of boosting the renovation rate significantly would be through widespread adoption

of Building renovation passports (BRPs), which are already in use or close to being introduced in several European countries including Belgium, Germany, and France, which has a digital logbook rather than a full BRP.

These passports can offer a digital logbook of property-level renovations tracking historical and contemporary information about the property as well as a long-term road map that identifies future retrofits and installations to decarbonise the property.<sup>8</sup> The logbook also provides links to contractors, other service providers and finance options related to the asset.

As a central information hub for any building, the passport can mitigate the problem of fragmentation along the value chain. If well designed, building information will be consistent, centrally stored, preserved after transactions and readily accessible for all participants along the value chain.

The passports tend to cover areas including:

- Location and plot
- Administrative documents, such as floorplans
- Materials and systems
- Technical and functional characteristics (information on heating and cooling systems, maintenance manuals)
- Use and operation (energy performance certificates and building information models)
- Financial, social and environmental performance<sup>9</sup> (climate resilience documents, carbon footprint, embodied carbon data, whole life carbon assessments)

The passport has an equally important second function as “a document that provides a tailored roadmap for the renovation of a specific building in several steps that will significantly improve its energy performance”,<sup>10</sup> following an on-site audit and agreement with the building owner.<sup>11</sup>

The passport can help owners, managers and perhaps potential buyers decide what measures

to take and in which order. It can also be used to connect owners to service providers, and give these companies access to the central data, so that more accurate information from previous renovations as well as future plans can be easily shared.

For some types of homogenous assets (usually residential real estate), BRPs can also allow owners to move at scale. For example, on rows of terraced houses, where houses were constructed in batches, efficiency measures that work on one will work for many.

The potential benefits go beyond efficient renovation. The passport can also be used as an information source for valuation, financial decision-making and transition risk assessment. With the inclusion of relevant sustainability metrics, the passport can allow for more sustainability-inclusive property valuation<sup>12</sup> and as the basis for better investment decisions.<sup>13</sup> The Green Finance Institute’s (GFI) Coalition for the Energy Efficiency of Buildings (CEEB) has also identified the establishment of the passport as critical enabler of capital flows for housing.<sup>14</sup>

In addition, the information contained in the BRP could feed into EU-wide databases. This would give policymakers a better overview of European building stock via tools such as the EU Building Stock Observatory (EU BSO) or the De-risking Energy Efficiency Platform (DEEP). Data-sharing infrastructure is being trialled, for example, by IceBreaker One in its Standard for Environment, Risk and Insurance (SERI) programme through the Climate-Ready Building Passport project.

Yet, there are challenges to the widespread adoption of the passport, revolving mainly around cost and data:

- High cost caused for responsible stakeholders by administrative and software requirements and third-party services.
- Potential for faulty data, data privacy issues, unwillingness of data providers to guarantee the accuracy.
- Stakeholders such as building managers may perceive it as additional work to manage data without incentives.<sup>15</sup>

- Energy Performance of Buildings Directive (EPBD) only calls for voluntary schemes in member states.<sup>16</sup>

The proposed revision of the EPBD in December 2021 called for the introduction of voluntary passport schemes in all member states – in accordance with a set framework – by the end of 2024.

The directive states the passports should be issued by a qualified expert following an on-site visit; indicate the sequence of renovation steps; outline the expected benefits in terms of energy savings and greenhouse emission reductions; and contain information about financial and technical support.<sup>17</sup>

Although member states will be mandated to develop the passport tool by 2024, development has been slow, and is still lacking in many states, according to an EPBD progress assessment in 2020 before the latest revision. Nevertheless, there are states that already provide exemplary schemes. Although these examples primarily focus on residential buildings, in principle they can be adapted to other building typologies:<sup>18</sup>

- In Brussels, an individual renovation roadmap tool is to be created by 2024, which will be mandatory for projects requiring planning permission.
- In Flanders, a “Housing ID” has been introduced in the form of a free digital passport for all available information, such as data on energy, renewables, installations, soil and environment, overview of inspections, as well as advice to help homeowners plan renovation work. A “Building ID” is in development for the commercial real estate sector.
- In France, a digital logbook enables users to gather information relating to support services although a building renovation passport has yet to be rolled out.
- In Germany, an individual building roadmap has been optional since 2017, coupled with an 80 percent subsidy for issuing it.
- In Spain, there is a commitment to widespread renovations, and the country has one of the

most advanced policy positions in the EU. The [PAS-E initiative](#) for the housing sector represents a strong start to developing a BRP.

From an industry perspective, CEEB has released guidance for the development of a standardised framework for a passport scheme in the UK.<sup>19</sup> CEEB is aiming to roll its work out across Europe.

The Global Alliance of Building and Construction (GlobalABC) has published similar practical guidelines,<sup>20</sup> addressing what needs to be included in the passport, lessons learned from previous attempts, and benefits if successfully implemented. In June 2022,<sup>21</sup> GlobalABC released a case study to help with the development of a passport in Morocco, based on its guidelines.

At the same time, several private sector companies are preparing for the passport requirement by developing useful tools and plugins. For example, one company has developed an online registry for building materials – in other words, a “materials passport” for a building. This is important for embodied emissions accounting as well as circularity.

### Possible next steps

It is certain that reporting requirements for buildings will increase, given the growing public interest in the impact of real estate on the environment. Aided by greater digitisation of data, the BRP will become the most appropriate tool to facilitate asset-level implementation of policy demands, providing major impetus to the retrofitting of European real estate as a whole.

Although the passport is yet to be rolled out in all EU member states, the upcoming EPBD mandate leaves no doubt that asset managers and investors should start gathering building data now as part of their preparations for its wider adoption.

Member states are urged to be stringent in developing the concept of data requirements in a building log as well as the individual renovation plans – both are essential components of an effective building renovation passport. Guidelines are readily available from GlobalABC and CEEB.

Financial institutions could take greater responsibility in building awareness of the

benefits of BRPs by mandating their use during due diligence of acquisitions and assessments of existing assets. They could even start requiring them alongside green mortgages, have BRPs feature in internal ratings-based (IRB) models for credit eligibility, and include them into green mortgage labels such as the European Mortgage Federation's (EMF) Energy Efficiency Mortgage Initiative.

Companies can move ahead of national guidance being finalised and start gathering data now anticipating that the most important information – EPCs, administrative data, heating and cooling systems, bill of materials – will feature in the passports, regardless of country-specific frameworks.

### How to get involved

Companies working in the built environment in a handful of EU member states (Belgium, France and Germany) can already use digital logbooks or BRPs to start the process of renovation.

Regardless of the legislative constituency of the asset, supplementary initiatives, such as the "materials passport", can be used now in the strong expectation of their future significance.

For those interested in developing this work further, GlobalABC is a membership-based organisation working on piloting BRPs in several countries to provide blueprints to adopt across the globe. Find out more [here](#).

In the UK, the Green Finance Institute's Coalition for the Energy Efficiency of Buildings (CEEb) is hosting a [Building Renovation Passport Working Group](#).

## About C Change

C Change is a ULI-led programme to mobilise the European real estate industry to decarbonise. We're a movement empowering everyone to work together for a sustainable future. We connect the brightest minds from across the value chain. We challenge barriers, share expertise, and champion innovation to move swiftly to accelerate solutions that will transform our industry and protect our planet. C Change means real change.

C Change was formed in late 2021 by a group of leading real estate players that was united in its aim to focus on collaboration to ensure companies large and small have access to practical solutions and education on decarbonisation.

## About these intervention briefings

This is one of a suite of intervention points developed as part of the C Change programme. Intervention points are specific places within a system where we can target action, interrupting business as usual to drive transformation. Of course, systems are dynamic environments that are always in flux. We expect movement over time, and will update this document as prevailing and anticipated trends change shape. This briefing was researched in 2022 and published in 2023.

- 1 [European Commission: European Climate Law](#)
- 2 [European Commission: Questions and Answers on the Renovation Wave](#)
- 3 [Building Performance Institute Europe: Understanding building renovation passports: customised solutions to boost deep renovation and increase comfort in a decarbonised Europe](#)
- 4 [European Commission: A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives](#)
- 5 [Building Performance Institute Europe: Understanding building renovation passports: customised solutions to boost deep renovation and increase comfort in a decarbonised Europe](#)
- 6 [Global Alliance for Buildings and Construction: The Building Passport: A tool for capturing and managing whole life data and information in construction and real estate](#)
- 7 [Ibid](#)
- 8 [Green Finance Institute: Building Renovation Passports: Creating the pathway to zero carbon homes](#)
- 9 p.24 [Ibid](#)
- 10 p.39 [European Commission: Directive of the European Parliament and of the Council on the energy performance of buildings](#)
- 11 NB:
  - the Global Alliance for Buildings and Construction (GlobalABC) calls for a "building passport" and means the data repository.
  - the Energy Performance of Buildings Directive (EPBD) calls for a "renovation passport" and means the renovation roadmap. In addition, it has a "digital logbook", by which it means what GlobalABC calls a "building passport".
  - GFI and the Buildings Performance Institute Europe (BPIE) call it "building renovation passport" and mean both data log and renovation roadmap.
- 12 p.40 [Green Finance Institute: Building Renovation Passports: Creating the pathway to zero carbon homes](#)
- 13 p.10 [Global Alliance for Buildings and Construction: The Building Passport: A tool for capturing and managing whole life data and information in construction and real estate](#)
- 14 p.4 [Green Finance Institute: Building Renovation Passports: Creating the pathway to zero carbon homes](#)
- 15 p.31 [Global Alliance for Buildings and Construction: The Building Passport: A tool for capturing and managing whole life data and information in construction and real estate](#)
- 16 p.14 [European Commission: Directive of the European Parliament and of the Council on the energy performance of buildings](#)
- 17 p.53 [Ibid](#)
- 18 [Building Performance Institute Europe: A review of EU Member States' 2020 long-term renovation strategies](#)
- 19 [Green Finance Institute: Green Finance Institute puts forward recommendations to establish UK Building Renovation Passports](#)
- 20 [Global Alliance for Buildings and Construction: The Building Passport: A tool for capturing and managing whole life data and information in construction and real estate](#)
- 21 p.33 GlobalABC 2022 Assembly Summary

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