

Renovate Europe Day 2020: REDay2020



Report from the Irish National REDay2020 event

Date: Friday, 16th October 2020

Organised by: REC Irish National Partner Irish Green Building Council (IGBC)

Title: Renovation Wave: Exploring links between EU Aims and Ireland's National Actions

About the event: As many as 1.5 million Irish homes are considered energy inefficient and require upgrade work between now and 2050. Retrofitting our homes and businesses is not only critical to reach our climate targets, it can also improve our health and wellbeing, reduce fuel poverty, and create sustainable construction jobs across the country.

As the Programme for Government commits to retrofitting 500,000 homes to a BER rating of B2 by 2030, and as the EU is about to launch its Renovation Wave initiative, the conference will explore what is needed to deliver the renovation wave in Ireland.

Speakers:

- Video presentation by **Minister Eamon Ryan** (Minister for the Environment, Climate and Communications and Minister for Transport)
- **Adrian Joyce**, Renovate Europe
- **Cecilia Naughton**, Dublin City Council
- **Alexandra Hamilton**, 3CEA
- **David Widdis**, Green Watt
- **Xavier Dubuisson**, Retrokit

Link for more information: <https://www.igbc.ie/events/renovation-wave-online-conference/>



On the heels of the European Commission (EC) releasing its communication on the EU Renovation Wave, open discussion of recent successes and ongoing challenges in Ireland offers a chance to probe complementarity – and indeed some disconnects – across multiple levels of government.

Highlights from the Renovation Wave Communication

Renovate Europe welcomes the ambition and priorities laid out in the communication, while also noting the importance of next steps identified in its annexes. The triumvirate of priorities – tackling energy poverty, energy renovation of public buildings, and decarbonisation of heating and cooling – is backed up by strong policy guidance, substantial funding and practical tools. The inclusion of a technical assistance programme aims to boost competences of the right skills and technologies for quality deep renovation while also helping diverse entities navigate the complexity of applying for funding.

The more recent announcement of the Next Generation EU Initiative provides another opportunity to tap into ~€700 bln of funding by convincing governments to embed renovation in National Recovery and Resilience Plans (NRRPs).

The Renovation Wave is broadly aligned with the objective of the Renovate Europe Campaign to reduce buildings energy demand by 80% by 2050, which translates to a factor-five reduction in energy consumption and corresponding emissions. With its commitment to large-scale, deep renovation over a long-term horizon, the Renovation Wave moves away from narrow 'market' language and offers multiple, interconnected arguments that are likely to motivate all stakeholders.

Key aspects of the Renovation Wave

- 35 mln buildings units to be renovated by 2030, targeting A- / B+ ratings.
- Strongly linked to affordable housing and eradicating energy poverty.
- Improved quality of life, health and well-being of occupants.
- Aims to break down barriers all stakeholders, including for owners and tenants.
- Aims to mobilise community-led approaches.
- 160 000 green jobs will be created.
- Recognises the need for innovation in process efficiency and digitalisation.
- Calls for sustainability of renovation, avoiding a massive waste stream.
- Propose a 'New European Bauhaus' that combines style with sustainability.

Ireland on the leading edge of renovation strategies

Among EU member states, Ireland stands out as an early mover with ambitious renovation targets. Recent announcements, recapped by Eamon Ryan (Minister for the Environment, Climate and Communications and Minister for Transport) include the aims to reduce emissions by 50% over the next decade and to be carbon-neutral by 2050, in line with Ireland's climate action plan.

In support of these targets, Ireland aims to renovate 500 000 homes in 10 years – i.e. 50 000 annually. Across a very diverse housing stock, the aim is to get all homes up to a minimum B2 rating. With a large share being pre-1970s, there may be a logic in promoting retrofits in combination with other upgrades, perhaps linking inspection to a grant process.

The associated emissions reduction for buildings is 7% annually, delivering a cumulative reduction of 51% by 2030. To grasp how radical the announcement is, it reflects a 20-fold increase. Alternatively, to grasp this scale-up, one can consider it to be on par with doing every house in Dublin over a single decade.

The government has established a Renovation Task Force, which will oversee the roll-out radical plans across interrelated areas: eradicating 'start-stop' policies and funding mechanisms currently in place; setting up training schemes to address the shortage of workers and of critical skills; and facilitating programmes that will deliver economies of scale.

In the private housing sector, Ryan says the government recognises, that with deep renovations being expensive and disruptive, regulation is needed "to make it easier for homeowners to do the right thing." Additionally, scaling up to this degree will require aggregating projects, which needs a lot of financial support as well as strategies to secure engagement of entire neighbourhoods.

To quickly reduce emissions while making homes more comfortable and heating more affordable, an important initial target is to replace 1 mln oil boilers and to also target gas boilers with efficient ground-source heat pumps.

Over the past nine years, the Irish Green Building Council (IGBC) has been actively working to scale up the rate and depth of renovations. In 2017, the Council worked with Department of Climate Change to develop Ireland’s Long-Term Renovation Strategy (LTRS). Finding ways to address systematic barriers was a key aim, with four emerging as high priority:

Barrier identified	Response
Lack of data: Weak data make it difficult to prioritise renovation efforts or to properly measure progress and associated benefits (better health, higher employment, etc.).	<ul style="list-style-type: none"> • Roll out a pilot project for data collection and tracking.
Affordability of renovations: The cost of deep renovations is beyond reach for most homeowners, leading to a high risk that measures taken may be sub-optimal.	<ul style="list-style-type: none"> • Work with banks to launch green mortgages and energy efficiency loans. • Develop building passports that establish long-term strategies for homes, thereby avoiding one-off activities.
Lack of skills: The number of contractors is insufficient and the skill set is inadequate.	<ul style="list-style-type: none"> • Launch the ‘Build Up Skills’ application to inform tradespeople or builders about courses available to gain expertise in renovations.
Lack of trust: Homeowners often feel overwhelmed by the complexity of renovation projects and simply don’t know where to go for unbiased advice.	<ul style="list-style-type: none"> • Set up ‘one-stop’ shops to make the journey easier, for example by helping homeowners understand processes and find qualified contractors.

Ireland submitted its second Long-Term Renovation Strategy (LTRS) in 2017 and recently held public consultations – including with IGBC members – on the 2020 update (submitted in October). A key aspect of rolling out an effective and cost-effective strategy is to optimise existing system and services. The new LTRS has a stronger focus on delivering a just transition prioritising low-income homes and social housing.

Other key elements of the EU Renovation Wave

Scaling up to 35 million building units in the next 10 years is a massive challenge. Achieving it will require applying industrialised approaches, including digital and robotic processes. Interesting examples exist, including [EnergieSprong](#) in the Netherlands, which uses a district approach and off-site mass production of customised, prefabricated panels to realise economics of scale. This makes possible to complete deep energy retrofits on five similar houses in just five days.

Embedded in the European Green Deal is the concept of ‘do no harm’. This is vital to two areas of the Renovation Wave: developing new materials and dealing with retrofit waste. In the first case, finding alternatives to composite materials will be important to support circular economy principles. In parallel, it will be necessary to find uses or ways to dispose of massive amounts of material removed during retrofits. EU construction guidelines will be updated in 2021 and are expected to include a call for improved performance levels at manufacturing stage.

It is well known that the sector lacks not only a sufficient number of contactors but also sufficiently skilled contractors. With COVID-19 causing high unemployment in some sectors, there may be scope to reskill people into the labour/construction sectors, enabling them to quickly take on junior roles and then continuously advance their skills.

Ultimately, those planning renovation strategies must do two things: make it easy to understand – for both homeowners and actors – AND easy to deliver.

Building Passports: A feasibility study by IGBC

The aim of a building passport system is straightforward: to support phased, deep renovation when it is not possible to do everything at once. Importantly, the passport sets a strategy – including planning and budgeting – which can reduce the risk of missed opportunities. By including information on energy use and emissions, building passports can also help renovators and homeowners connect small personal actions and to big political and climate change goals.

In 2020, the IGBC ran a pilot project with aim to assess three aspects of building passports:

- a) people's appetite for this system – including both contractors and homeowners;
- b) the affordability of implementing it such a scheme; and
- c) the accessibility of it.

The pilot, supported by the Sustainable Energy Authority of Ireland (SEAI), replicated IBRoad Passport, which combines a roadmap and a logbook for a given building. IGBC trained 11 auditors, specifically choosing individuals from diverse fields within the sector, and had them apply the scheme to different types of single-family homes (20 properties in total), which make up the largest share of residential dwellings. Through on-site visits and in-depth discussion with owners, the auditors set up a roadmap and a logbook for each property.

Based on a questionnaire given to all participants, seven main findings and learnings emerged from the pilot project:

- **Direct impacts** included increased awareness among homeowners about the value of renovations and greater understanding of the process/steps involved. Having gained new knowledge and skills, 90% of homeowners reported feeling more motivated to go ahead with works.
- **Indirect impact** included greater interest by banks in energy efficient mortgages or offers of lower mortgage rates for people who showed intent to renovate their property. The combination of the roadmap and passport provided quality assurance for lenders. Additionally, the ability to track the progress of a given building – and of all buildings – is useful for policy tracking/assessment. The logbook can also capture information on actual use of a building, which could be cross-referenced with other relevant data.
- **Affordability/cost** analysis revealed an important disconnect. Contractors estimated the cost of preparing a passport to be ~€700, covering a house audit and administrative work. Homeowners, however, are willing to pay only a small fee (no specific amount was determined) for the service. Finding ways to bridge this gap will be critical. Contractors noted that a better-integrated system would bring costs down, as would being able to prepare documentation for multiple buildings of a given type. Various incentives could also allow owners to recoup some of the passport cost, for example by making them eligible for grants or tax reductions.
- **MEPS - mandatory or voluntary?** Within a building passport, minimum energy performance standards (MEPS) can be one type of measure (among others) that supports a phased approach. The questionnaire revealed that auditors have diverse perspective on MEPS.

- **Need to train auditors:** Clearly, a wide range of technical training is needed across different types of homes, and a huge number of auditors will need to be trained. It also became clear that contractors will need to better understand both buildings and building owners. This implies needing both technical and interpersonal skills.
- **Need for a central repository:** To ensure passports do not get ‘lost’, they should be attached to a home and transferred if ownership changes. Also, to fully capture their value, the data and information they contain should be held in a central database. In the case of Ireland, the logical choice may be the SEAI.
- **Next steps** include finding ways to streamline process and run a second pilot on a larger scale. Improving processes to gather data and information will help inform decision, boost efficiencies and reduce costs across the supply chain, with benefits for homeowners and industry.

Building passports might also help address the challenge of houses having different phases of retrofit. Often, the first phase – attic insulation, boiler exchange, etc. – is relatively straightforward while subsequent phases being more complex and costly. The logbook can also be helpful when buying or selling a home, as it clearly shows what has been done and what still needs to be done – at what cost and level of disruption. This information can feed into the overall value of the home. Additionally, using passports to roll-out district approaches can scale up action, accelerate the pace and tap into savings through economies of scale.

The concept of building passports is supported by the Renovation Wave Communication: its Annex identifies 2023 as the target date for their implementation, although broad roll-out is likely to take longer. With the aim of making information more available – and more reliable – it is anticipated the format will include a digital logbook that also integrates energy performance certificates (EPCs).

Member States might consider proposing to use NPPR funds to roll-out broad schemes for creating building passports.

Improving metrics: MEPS, EPCs and carbon emissions

Standards and certification for energy performance, specifically minimum energy performance standards (MEPS) and energy performance certificates (EPCs) have been controversial, for valid reasons. Not least is the vast range of measurements and methodologies applied across EU countries. One study found at least 56 different methodologies for EPCs – meaning a single house could have that many different ratings and vastly different strategies for deep energy renovation. In turn, some groups representing building owners have expressed strong opinions against MEPS.

That said, MEPS are highly valuable for local authorities as they help to identify which buildings to target and demonstrate progress towards efficiency targets. Dublin City Council, for example, has ~6 000 apartments more than 60 years old on the waitlist for retrofits. MEPS allow the Council to argue for tackling the worst buildings first, including demonstrating that the retrofit can extend the life of a building, while also improving other aspects (e.g. accessibility and space standards). Similarly, according to Cecilia Naughton, MEPS support tackling groups of buildings that have similar characteristics to gain economies of scale. In the context of a housing crisis, MEPS enable city to ‘stake their claim’ on social housing that can be brought up to higher standards, reducing the risk of such buildings being torn down to make way for new builds that would reduce the social housing stock in areas where property values have become high.

While some would argue that MEPS should be voluntary, experience to date shows that regulation is the most effective driver to increase performance levels. In general, homeowners seem to accept the level of regulation MEPS and EPCs impose. The commercial buildings sector has been somewhat slower to come around. An interesting case, however, has emerged in the Netherlands, which

implemented legislation that all commercial buildings must achieve C level by 2023 -- or they cannot be rented out. This triggered rapid action for quality renovation, and it is likely the target will be achieved a full year early (in 2022). In fact, the measure created competition for achieving even better performance to have an edge on the rental market. The Netherlands is also on target to have all social housing at A rating by the end of 2020.

The takeaway from the Netherlands initiative is that buildings that perform well trigger a desire to have all buildings be that comfortable and cost-efficient from an energy perspective. This adds to the case that MEPS and EPCs can stimulate the rate and depth of energy renovation. To improve support for them, a phased approach is needed to build knowledge, skills and trust. Given how disruptive deep energy renovation can be, it is also advisable to have a rational approach to 'when' such works are done, such as when a home or building is changing owners or tenants.

Relying on EPCs to assess building performance is not ideal, agrees Xavier Dubuisson of Retrokit, but it is the best tool available at present. Ireland's plan is quite effective and could be replicated elsewhere. Combining EPCs with other data sets, such as gas consumption in a given neighbourhood, could provide a more accurate assessment of actual energy demand and reductions achieved through renovation measures. In turn, such data could be leveraged to fund innovation.

The Commission acknowledges the need to align methodologies across member states to improve comparability and has committed to reviewing the EPC framework and MEPS as the EPBD is revised in 2021.

With greenhouse gas emissions reduction a key target within the Renovation Wave, more effort should be made to include carbon emissions as a metric in prioritising action and offering incentives. In fact, a case can be made for adding them to the EPC bands. Dublin City Council has used CO2 emissions to demonstrate that retrofitting old buildings produces 1/8th the level of emissions associated with tearing them down to rebuild. However, with the cost of carbon low, retrofits are not counted in the same way. Also, most schemes do not currently account for carbon embedded in the structure and façade of buildings.

At present, however, the carbon price is too low to stimulate action in buildings generally and individual homes in particular: experts estimate it would need to be ~€250 per tonne (currently, it is closer to €25). In the short term, strong policy – perhaps even in the form of penalties – maybe be needed. The EU Emissions Trading Scheme (ETS) will also be reviewed in 2021.

Ultimately, a life-cycle assessment approach is needed to fully account for all costs and benefits in relation to retrofitting over 'destroy and rebuild' schemes.

Cost and financing considerations

In the private residential sector, the cost of retrofits is a primary factor in decision-making – particularly as it will likely take 10-15 years of savings on energy bills to realise the return on up-front investment. Indeed, it is difficult to get homeowners to think of 'investment' rather than cost. This disconnect is one of the strong arguments for attaching building passports to homes, rather than homeowners, as they allow the value of works done and works still left to do to be considered in the overall value of the home.

Also, while average costs are helpful to determine budgets for major retrofit schemes, they quickly become irrelevant as actual costs depend heavily on factors such as the age, size, location and current rating of a given home. In an urban area, the cost for a 2-bedroom, reasonably new home might be €40k. Switch to a 100-year-old, 4-bedroom home in a remote area, and it can quickly skyrocket to

€100k. The latter is a case in which MEPS are often ineffective. Cost-optimal solutions for such buildings is a more balanced approach.

This raises the point that some projects simply will not be bankable; rather occupant comfort and contributions to decarbonisation will have to be the motivators. When the renovation cost does not make sense in relation to the value of house, works could be grant-supported based on societal benefits. A project in Spain, for example, improved both the efficiency and accessibility of homes in urban areas to make it easier for people to stay in them longer, rather than moving to areas with newer homes. The Commission has promised to release a Communication on a long-term vision for rural areas in 2021.

Additionally, entities that hold multiple properties – including city councils that have public fiscal responsibilities – face that challenge that if deep energy retrofits have high costs, they will be able to do fewer units with available budgets.

In relation to funding mechanisms, multi-annual budgets are critical to building engagement of all players as they allow long-term planning and aggregation of projects. Participants from Ireland noted that a current six-month business cycle – money is made available in April and must be spent by mid-October – makes it impossible for contractors to plan their year. To get the private sector on board, policy makers should aim for a five-year budget with a two-year pre-planning phase. In addition to increasing in funding, they should aim to enhance flexibility.

Finally, policy actors need to find ways to bring banks on board through green mortgages, energy efficiency loans and similar schemes. This is another area where building passports can be valuable as they can support a virtual assessment that provides evidence and saves time.

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About the Irish Green Building Council:

The IGBC is the leading authority on sustainable building in Ireland. With a network of over 180 member organisations from the entire value chain of the built environment, the IGBC is working to transform the Irish construction and property sector into a global leader in quality and sustainability. <https://www.igbc.ie/>

About the Renovate Europe Campaign:

Renovate Europe is a political communications campaign with the ambition to reduce the energy demand of the EU building stock by 80% by 2050 through legislation and ambitious renovation programmes. Accelerating the rate of renovation is a key tool in the fight against climate change, and will deliver major benefits for people, their quality of life, and the economy. www.renovate-europe.eu

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