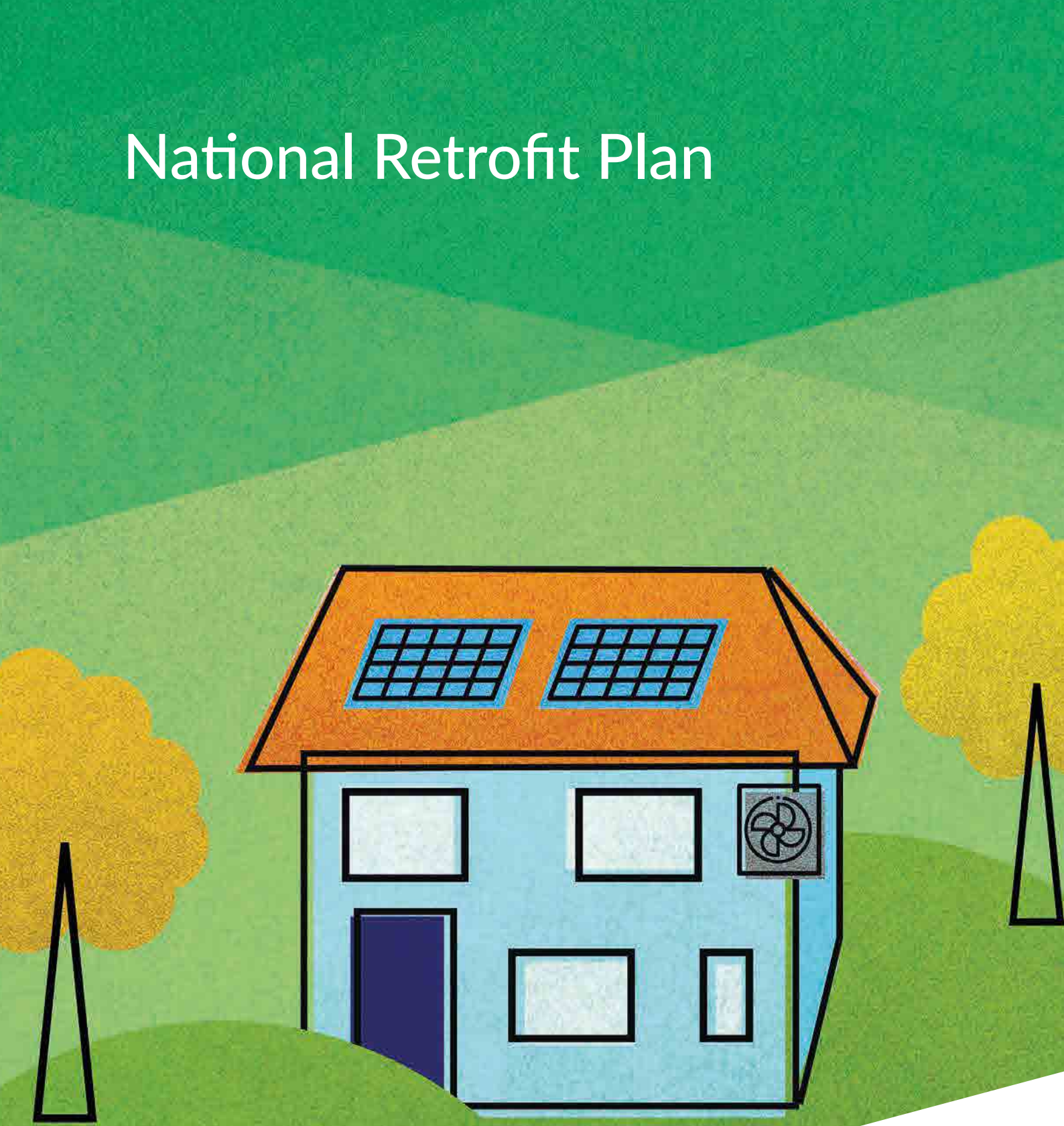
# National Retrofit Plan



Rialtas na hÉireann
Government of Ireland

# Contents



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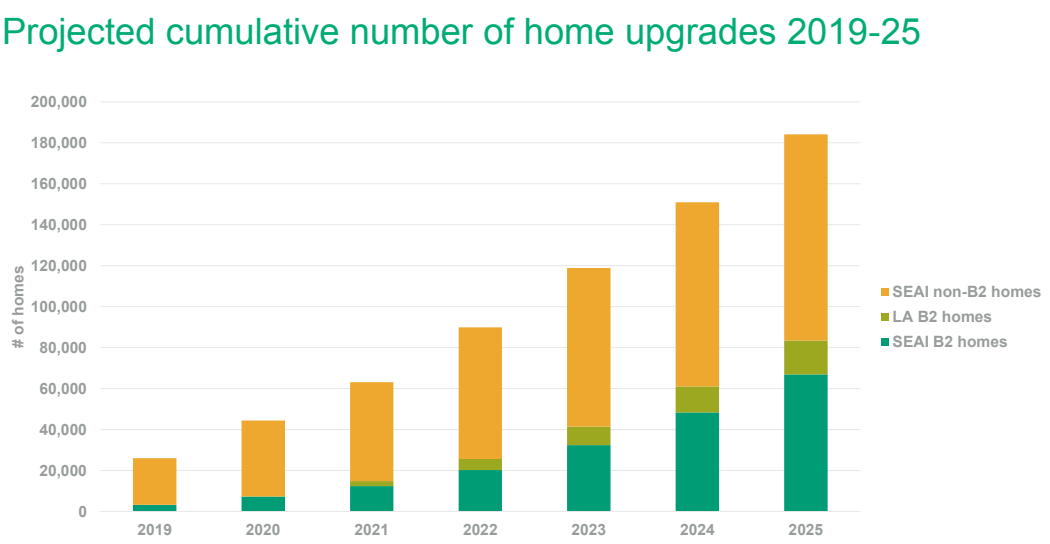
# National Retrofit Plan

## 1 Introduction

As indicated in Chapter 13 of the Climate Action Plan, emissions from the Residential sector must reduce from 7 Mt $CO_2$eq. in 2018 to between 3.5-4.5 Mt $CO_2$eq. in 2030. A comprehensive retrofit programme will be a key measure to support the achievement of this target alongside other initiatives such as the roll-out of district heating systems. This National Residential Retrofit Plan aims to achieve the equivalent of 500,000 homes retrofitted to a Building Energy Rating of B2/cost optimal or carbon equivalent and the installation of 400,000 heat pumps in existing premises to replace older, less efficient heating systems by end-2030.

A total of 18,400 home retrofits were completed in 2020.[1] However, just 4,000 were to a B2 standard and 1,600 installed a heat pump. We need to greatly increase the depth and volume of retrofits as well as the number of heat pumps installed in order to deliver the required emissions reductions.

**Figure 1**




As indicated in Figure 1, it is estimated that between 2019[2] and 2025 almost 185,000 home energy upgrades will be delivered with over 83,000 to a B2/cost optimal level. When the carbon savings from the non-B2 upgrades are included, this is the equivalent of 120,000 B2 upgrades over the period. This means that we will need to deliver, on average, approximately 75,000 B2-equivalent home upgrades per year from 2026 to 2030 to achieve the overall target of 500,000 by 2030.[3]

This will require hundreds of thousands of homeowners to make the decision to invest in decarbonising and making their properties more efficient as well as the State playing a central role through the retrofitting of social homes. It will necessitate a larger retrofit sector with the capacity to deliver much higher numbers of retrofits to the required standard as well as approaches to financing that can fund the necessary work.

[1] Activity was impacted due to COVID-19 related restrictions.

[2] The 500,000 retrofit targets was set in the 2019 Climate Action Plan.

[3] By 2025, it is expected that 88% of B2 upgrades (excluding the Solar PV scheme) will involve installation of a heat pump.

## 1.1 What is a Retrofit?

A retrofit or home energy upgrade enhances the energy performance of a home. A deeper home energy retrofit involves carrying out multiple energy upgrade measures together, and may include wall and attic insulation, replacing windows and doors, addressing air tightness and ventilation and installing an efficient renewable heating system (such as a heat pump), as well as other renewable energy technologies (such as solar PV panels).

## 1.2 What is a Heat Pump?

A heat pump system harnesses energy from free renewable sources outside the building, in order to both heat the house and produce its hot water.[4] Heat pumps are an environmentally friendly, decarbonised and extremely efficient alternative to oil, gas and solid fuel home heating systems. The most common heat pumps work by converting energy from the air outside of the home into useful heat inside, in the same way a fridge extracts heat from its interior.

## 1.3 Multiple Benefits of Retrofit

As recognised by the International Energy Agency, the traditional focus on energy savings as the main goal of energy efficiency policy has, at times, led to an underestimation of the full value of energy upgrades. Retrofit/home energy upgrades can bring multiple benefits, such as enhancing the sustainability of the energy system, supporting strategic objectives for economic and social development, promoting environmental goals and increasing prosperity. As such, the benefits of a home energy upgrades and decarbonisation include:

- Warmer and more comfortable homes
- Cheaper to run homes which helps to alleviate energy poverty
- Improved health and wellbeing, particularly for the young and elderly, through improved internal dwelling temperatures and air quality
- Improved asset values
- Reduced GHG emissions and air pollution
- Increased economic activity and high quality jobs created throughout the country
- The ability to heat our homes using the electricity generated through renewable energy projects in Ireland

## 1.4 The Role of Retrofit in Our Economic Recovery

This National Retrofit Plan is a key element of the Government's plans for economic recovery. The significant budgets now provided for retrofit (as outlined in section 3 below) will help to stimulate the creation of high-quality jobs throughout the country, and support the development of supply chains for products and services that will be required to transform Ireland's housing stock. This will help to support a just transition. The Government's investment and prioritisation of this sector of the economy is also intended to stimulate innovation which can drive down costs as well as develop knowledge and expertise that can lead to export opportunities.

[4] Electrical heat pumps use a compressor to draw heat from a low temperature source, such as external air or ground to heat the building interior. While conventional heating systems such as storage heaters and boilers cannot produce more heat than that contained in their fuel source, a heat pump typically will produce three to four units of heat for every unit of electricity.

## 1.5 Designing Our Approach

Experience internationally and in Ireland makes it clear that there is no single policy or measure that can cause the required increase in the rate of retrofit. A broad range of policy levers must instead be implemented alongside clear market signals. This National Residential Retrofit Plan provides an outline of the key elements of our approach for the remainder of 2021 and 2022, with some clear signals for later years. This will enable the development and expansion of the retrofitting supply chain capacity as we progress to the middle of the decade followed by a further scaling up of activity in later years.

It is important to note that these actions are just the next steps. The Department, in conjunction with the Sustainable Energy Authority of Ireland (SEAI) and a new National Retrofit Steering Group, will continue to track and monitor progress against our national targets, evaluate the impact of measures introduced and make adjustments to enhance our approach as we go. This will inform annual residential retrofit plans to include additional measures such as further regulatory and taxation initiatives.

A systematic approach has been taken in determining the measures for inclusion in this Plan. This involved firstly identifying the main barriers to retrofit and then determining the initiatives necessary to address those barriers. This process was informed by:

- Engagement, consultation and workshops with homeowners, the supply chain and financiers
- Collaborative working across relevant Government Departments and Agencies
- Reviewing national and international experience of retrofitting programmes
- The Government is committed to continuing to work in a collaborative way with stakeholders in relation to the implementation of the Plan.

The initiatives in this Plan were also guided by a number of key principles:

- **Fairness** – ensuring fairness to all and supporting a just transition
- **Universality** – covering all housing types and consumer segments
- **Customer-centric** – designing customer-centric solutions to reduce the costs and complexity, making the process easier for those investing in retrofit
- **Cost-optimal** – encouraging retrofits to cost-optimal level and maximising emission abatement
- **Industry-led** – stimulating and supporting the market to instill the confidence to invest, grow and take on more workers

These principles will continue to apply as we move from the design stage to the implementation stage.

## 1.6 The Four Pillars of Our Retrofit Plan

The National Residential Retrofit Plan is built on four key pillars as outlined in Figure 2 below with actions and initiatives flowing from each. Collectively, these actions will create the conditions necessary for our targets to be achieved.

**Figure 2** – *Pillars of the National Residential Retrofit Plan*

### 1. Driving demand and activity

Stimulate demand by building confidence in quality, ensuring value for money and simplifying the customer journey

### 2. Financing & funding

Clarify Exchequer financial commitment to residential retrofit and introduce measures to make home energy upgrades more affordable for households

### 3. Supply chain, skills and standards

Expand the capacity of the supply chain, introduce measures to increase the number of skilled workers while maintaining quality

### 4. Structures and governance

Ensure that the required structures and governance arrangements are in place to drive delivery

The success of our approach depends on ensuring that effective policy action is taken, and balanced progress is made under each pillar simultaneously. For instance, there is little point in driving demand when the supply chain is not sufficiently developed to satisfy this demand. The importance of this cannot be overstated – bottlenecks could otherwise emerge hampering progress and exacerbating the existing imbalances within the retrofit sector.

This points to the need for an all-of-Government approach to implementation of this Plan. It is only by taking such an approach that we can ensure alignment of priorities and actions with a sharp focus on delivery.

The initiatives to be taken under each pillar are described in the following sections.

## 2 Pillar 1 – Driving Demand and Activity

While many homes are retrofitted each year in Ireland, experience indicates that a range of new measures will be required in order to sufficiently increase demand from homeowners. Engagement with stakeholders as well as SEAI research has identified several key challenges and barriers to achieving sufficient demand for deeper retrofits. These align with the barriers seen in other jurisdictions and include:

- A lack of awareness of what retrofit is and the multiple benefits it delivers
- A lack of familiarity with some technologies such as heat pumps
- Homeowners being overwhelmed by the apparent complexity and number of decisions involved
- Affordability and the high upfront cost of works
- Hassle throughout the retrofit experience from the grant application phase, through to the delivery of works in the home

The planned approaches for addressing these barriers and increasing the motivation of homeowners to proceed with retrofits are outlined below. These initiatives will be supported by other clear market signals, such as the increases in the carbon tax planned for the years to come.

### 2.1 A National Awareness and Demand Generation Campaign

Effective communication of the multiple benefits of retrofit and information on various technologies and supports available will be a core building block for driving demand for retrofit. A comprehensive national awareness and demand generation campaign will take place throughout Q4 of 2021.

This campaign will be informed by qualitative and quantitative research among homeowners as well as the research insights and expertise of the SEAI's behavioural economics team. The campaign will emphasise the comfort, financial and environmental benefits of home energy upgrades and will inform homeowners about the availability of relevant supports including free services for eligible energy poor homes. The relevant sections of the SEAI website will also be revised to allow homeowners to more easily determine the right grant scheme for their particular circumstances.

Community-based social marketing approaches will also be deployed with events taking place in locations around the country. These targeted marketing campaigns, underpinned by behavioural economics insights, will take place in 2022 and will build on existing initiatives such as the heat pump ready homes campaign. Engagement with the supply chain will also take place.

## 2.2 Provide a personalised roadmap for homeowners on how to upgrade their home to a BER B2 in the new BER Advisory Report

While media campaigns help to inform homeowners broadly on the benefits of retrofit, the recently launched BER Advisory Report will provide personalised home energy upgrade advice for their home.

When a building is assessed by an independent Building Energy Rating assessor, a detailed Advisory Report is now generated and provided to the homeowner. This focuses not just on the present performance of the building but also on its potential for improved performance. The reports include information for homeowners on how to upgrade their home to a target of a B2 energy rating (or better) and identify heat pumps as the preferred solution where appropriate.

The new advisory report will help to:

- Make homeowners more aware of the potential of their home, and the steps and supports to get them there
- Drive investment decisions by making the options clear and uncomplicated, and making it easier for the homeowner to act on investment decisions by clearly presenting the next step(s) in the upgrade process
- Maximise the investment in energy performance to reach the highest performance standards possible

In addition to the BER Advisory Report, a new interactive homeowner BER tool will be launched by SEAI to inform homeowners of the impact a BER has on comfort levels, energy costs and carbon emissions in the home. Based on the information provided, the tool will give an estimate of the energy usage in the home, approximate energy costs, carbon emissions, comfort, and air quality levels. This information will act as a high level guide for homeowners, prompting them to consider carrying out a BER assessment and seek tailored advice on upgrading their home.

## 2.3 A network of registered retrofit one-stop-shops will be developed to simplify the customer journey and enhance confidence

Research indicates that homeowners can feel overwhelmed by the numbers of decisions associated with retrofitting their properties and this can be compounded by a lack of independent advice as well as a lack of trust in contractors. Homeowners can also experience hassle associated with the process from coordinating contractors, disruption in the home and the paperwork associated with applying for grants.

A core element of our Retrofit Plan is the development of a network of registered one-stop-shops (OSSs) to simplify the customer journey as well as enhancing quality and confidence. These OSSs will offer homeowners all the services required for a complete home energy upgrade. These registered private operators will manage the entire process for homeowners, from the initial assessment of the home, through to the final Building Energy Rating. The range of services to be provided by the OSSs includes:

- *Home energy assessment* – a technical surveyor will advise on the best upgrades to bring homes to a B2 energy rating or better
- *Grant application* – they will apply and accept all SEAI grants for the project and deduct the grant values upfront from the cost of works
- *Project management* – they will manage all the works in the home and ensure quality checks are carried out
- *Contractor works* – they will assign a contractor to carry out the works on the home

- *Follow up BER* – a registered BER Assessor will complete a post-works BER assessment and publish the certificate
- *Finance Options* – some OSSs can offer finance option through their finance partners

The OSSs will also bring together groups of homes for retrofit, delivering economies of scale and facilitating new efficiencies.

### 2.4 A new National Retrofit Plan (One-Stop-Shop Service) will be launched

Since 2000, over 450,000 homeowners have upgraded their homes with support from SEAI grant schemes, representing nearly one home in four across the country. SEAI grant schemes will continue to be a central element of the Government's strategy to encourage homeowners to retrofit their homes and to support the development of the network of OSSs. These schemes will be enhanced and improved to ensure alignment with our national targets and attractiveness to homeowners. The flagship development in this regard will be a new National Home Retrofit Plan (One Stop Shop Service) which will focus on the development and expansion of the OSS market, as well as the delivery of B2 retrofits with heat pumps.

This scheme will also facilitate continuous, year-round working and multi-year planning, which has long been identified as a crucial requirement by the supply chain and homeowners.

To support the launch of the National Retrofit Plan, the SEAI is developing a formal registration process for OSSs as well as multi-annual contract frameworks. These contract frameworks will include service level agreements between the SEAI and the OSSs, which will be reviewed quarterly to ensure the OSSs are meeting the necessary customer and quality performance indicators, and that their project pipeline is developing at the agreed rate. In parallel, SEAI processes and administration are being significantly streamlined. This will be of benefit to homeowners and assist the cash flows in OSSs. Additional detail on the registration system for OSSs is set out in section 14.4 below.

The existing SEAI grant schemes will be aligned with the National Retrofit Plan to make it easier for homeowners to clearly identify the best route to get a home energy upgrade based on their circumstances.

### 2.5 Sustainable Energy Communities will be used to drive Community Activation

Sustainable Energy Communities (SECs) were first set up in 2015 to support communities in the transition to a low carbon society. Under this National Residential Retrofit Plan, SECs will be supported by Government to continue and expand their roles as 'activators' in their community. There are currently over 580 SECs in the SEC Network with a target to grow this number to 1,500 by 2030. Based on feedback from the network of communities, and in order to facilitate more local sustainable energy activation, a targeted and more streamlined strand of the Communities Grant is being developed. A call for projects under the Communities Energy Grant Scheme will take place in Q4 2021, and the new strand of the scheme focused on smaller projects for retrofitting homes will also be introduced in 2022. The new strand will remain available on an ongoing basis for SECs and will provide additional time for projects to be completed.

### 2.6 Those least able to afford to retrofit will be supported to participate

In line with the design principles of fairness and universality, there is a need to ensure that all housing types and consumer cohorts can participate. Specific measures to stimulate retrofit activity among households vulnerable to energy poverty and Approved Housing Bodies, and in the private rented sector will, therefore, also be required.

As well as significant income supports through the Department of Social Protection,[5] Government funds free retrofits for lower income households through the SEAI Warmer Homes Scheme. Funding for this scheme has increased significantly in recent years with a budget of over €100 million in 2021. To date, over 143,000 homes have received free upgrades under the scheme. In the first six months of 2021, the average value of the energy efficiency measures provided per household was approximately €17,100.

Recommendations on the implementation of changes to the scheme to ensure that it better targets those most in need will be finalised this year. B2 retrofits will be targeted and heat pumps will also be installed in a number of Warmer Homes Scheme upgrades as part of a pilot to gather evidence to inform the appropriate process and approach to increasing the number of B2 upgrades and heat pump installations under the scheme.

In the residential rental sector, the incentives to invest in energy upgrades are misaligned between landlords and tenants, which impacts negatively on the energy performance of the sector. This is a complex problem seen in many countries. A key step associated with addressing this issue will be the introduction of a minimum BER rating requirement for private rental properties where feasible from 2025, in line with the commitment in the *Housing for All Plan*. SEAI grant support will also continue to be made available to help landlords to retrofit their properties as well as the planned low cost loan scheme for retrofit (see Section 3 below).

The Government's *Strategy to Combat Energy Poverty* was published in 2016. The Strategy set out several actions to alleviate the burden of energy poverty on the most vulnerable in society. The focus of the strategy was on high impact actions which aimed to make a real difference to the lives of those in energy poverty. A review of the implementation of this strategy will be completed and will inform next steps in relation to the development of a new strategy. The research findings of the Warmth and Wellbeing Study will also be published.

### 2.7 The Local Authority Retrofit Programme will be expanded

Approximately 36,500 local authority homes will be retrofitted in the next decade under the Local Authority Retrofit Programme. These homes will be brought to a B2/cost optimal standard with a heat pump. This programme of work will not only benefit Local Authorities in assisting them in the upgrade and maintenance of their housing stock, but will also directly benefit householders with an enhanced level of comfort and lower fuel costs.

In 2022, the Energy Efficiency Retrofitting Programme will see approximately 2,400 homes nationally being upgraded to a B2 or equivalent standard with a significant increase in funding support to Local Authorities to €85 million.

### 2.8 The new Energy Efficiency Obligation Scheme will be launched

An energy efficiency obligation scheme (EEOS) is a legal requirement placed on energy suppliers and/or distributors ('obligated parties') to help energy users save energy, including by carrying out energy upgrades in their property. In doing so, obligated parties (OPs) deliver the savings they are required to make across a number of sectors (e.g. commercial, residential, and public sector), through their own programmes and/or by working with the existing Government energy upgrade schemes offered through the SEAI.

[5] Government is providing an estimated €300 million in 2021 for a Fuel Allowance payment as well as an electricity or gas allowance under the Household Benefits scheme at an estimated cost of €265 million in 2021.

Ireland has used an EEOS to help deliver on its binding energy savings obligation under the Energy Efficiency Directive since 2014. The 2014-2020 EEOS supported energy efficiency actions in more than 300,000 dwellings. The scheme to operate from 2022-2030 has been redesigned to align more closely with the commitments of the *Programme for Government*, particularly in relation to the residential sector, thereby better supporting the delivery of Ireland's broader energy and climate ambition and targets.[6]

## 3 Pillar 2 – Financing and Funding Models

Evidence shows that a key barrier to scaling up the number of home energy upgrades is the financial constraints of households. These are exacerbated by high upfront costs of home energy upgrades and long payback periods associated with such investments. Lack of funds also curtails the number of retrofit measures homeowners choose to implement at the same time.

The work required and associated cost of bringing a home to a BER B2 is determined by a number of factors including: the size and type of home (apartment, terrace, semi-detached, detached, bungalow); walls type (solid or cavity); as well as the age and starting condition of the home (when built and any works carried out subsequently). For instance, the average cost of upgrading a B3-rated house will be less than the cost of upgrading a similarly sized G-rated house. In the same way, the cost of installing a heat pump is dependent on variables including building type and size as well as the extent of re-plumbing required.

For that reason, the calculation of an average cost for the future programme of work is challenging because we do not have certainty on which 500,000 houses will be retrofitted over the coming decade. However, estimates compiled for the Department of the Environment, Climate and Communications indicate that the cost to retrofit the fabric of a house to a BER B2 and install a heat pump can range between €14,000 and €66,000. Using a cross-section of the entire housing stock, this would imply a total cost of up to €28 billion for the retrofit programme. These figures show the extent of the challenge as well as why affordability is frequently cited as the biggest barrier to retrofit among homeowners. Other financing related challenges to be addressed in this Plan include:

- A perceived absence of a multi-year funding commitment from Government
- Substantial private funding will be required
- A different mix of funding models will be required

While SEAI grant schemes referred to in the demand section above will clearly assist with addressing affordability issues for homeowners, a range of other supporting measures are planned and outlined below.

### 3.1 The NDP has provided clarity on the Exchequer multi-annual funding commitment for retrofit

The Government recently finalised its review of the *National Development Plan (NDP)* allocations for retrofitting. This review resulted in an unprecedented level of investment in retrofit. €5 billion of additional carbon tax revenues have been allocated to support residential retrofit to 2030. Crucially, the *NDP* also provided clarity on the annual allocations for the coming years as well as the total allocation to the end of the decade, giving the sector the confidence to plan and expand. It will also facilitate

[6] A transition scheme is in operation for 2021 with the newly designed EEOS commencing on 1 January 2022.

grant funding being made available across calendar years, thus enabling year-round business continuity. The annual allocations set out in the table below will primarily be used to fund the expansion and enhancement of SEAI residential and community Retrofit schemes, including energy poverty schemes as well as other initiatives to support retrofit. The consistent and very significant increase in the annual allocations will help the sector to grow in a sustainable way.

**Table 1 –** *NDP Annual Allocations for Retrofit*

| Year | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|---|---|---|
| Planned allocation (million) | €202 | €291 | €380 | €469 | €641 | €898 | €1,257 | €1,760 | €2,000 |

As indicated in Table 1, further funding in addition to the €5 billion will be available for residential retrofit, predominantly in the second half of the decade, funded by the overarching Department of the Environment, Climate and Communications NDP allocation of a minimum of €12.9 billion to 2030. This means that the overall allocation for residential retrofit will be approximately €8 billion to 2030. Additional funding will also be available to fund the Department of Housing, Local Government and Heritage's Local Authority Retrofit Programme.

### 3.2 Further research will be carried out to understand the needs of homeowners

Irish consumer research shows that almost half of the respondents would consider taking out a loan to pay for energy efficiency improvements. The findings have shown that grants encourage households to undertake a home energy upgrade while low-cost finance helps encourage people to choose a deeper, more comprehensive package of retrofit measures. This reinforces the argument that a combination of different funding approaches, suitable for various consumer groups, is necessary. Additional research is currently being conducted to further develop the understanding of retrofit financing needs of the market.

### 3.3 A new Residential Retrofit Low-cost Loan Scheme will be launched

As mentioned above, Government has committed a significant level of funding to support retrofit in the *NDP*. However, it is clear that Exchequer funding alone will not be sufficient to cover the entire cost of achieving Ireland's retrofit targets and private finance will be required.

In this regard, the Government is working with the Strategic Banking Corporation of Ireland and the European Investment Bank to develop a retrofit loan guarantee scheme and associated low-cost residential retrofit loans. This project forms part of Ireland's *National Recovery and Resilience Plan*. The part-Exchequer and part-EU funded loan guarantee will provide risk protection to retail credit institutions participating in the scheme. This will enable them to offer loans with reduced interest rates to make comprehensive home energy efficiency upgrades more affordable to households and non-corporate landlords. The project has a high market creation potential and, over time, should lead to the development by financial institutions of follow-on financing products customised to home energy upgrades and provided without reliance on Exchequer support. In this way, the scheme will contribute to developing a sustainable residential retrofit lending market in Ireland.

### 3.4 European Union funding will be pursued

The use of various EU-funding streams in the pursuit of the *EU Renovation Wave* agenda and Ireland's residential retrofit ambition has many potential advantages. In the period 2021-2027, European

Structural and Investment Funds will support *"a greener, low-carbon Europe"* as a policy priority by promoting a clean and fair energy transition, green and blue investment, the circular economy, climate adaptation, and risk prevention and management. In addition to the EU Recovery and Resilience Facility funding already committed to the retrofit loan guarantee scheme, the Government will further examine the potential for allocating more funding from the European Regional Development Fund to retrofit supports while preparing a new generation of operational programmes.

### 3.5 The potential for new tax incentives for retrofit will be explored

With a view to further increasing retrofit activity levels, the potential for the introduction of an energy efficiency focused tax incentive will be also considered during the lifetime of this Plan. Past experience has shown that a dedicated tax incentive can be a catalyst for home improvement activity. A correctly designed tax break could have a similar effect on driving energy efficiency home improvements. Stakeholder engagement also suggests that this type of incentive could be an effective way to address the issue of misaligned incentives between tenants and landlords, which impedes the uptake of energy efficiency measures in the private rented sector.

## 4 Pillar 3 – Supply Chain, Skills and Standards

In order to achieve the required level of retrofit activity, it is essential that we develop the supply chain and ensure that we have the required number of appropriately skilled workers necessary to satisfy that demand. Building up of capacity in the market from its current levels to a point where it can deliver approximately 75,000 home renovation projects per year will require the right initiatives to stimulate and support the market to invest and attract new entrants. For this to happen, a number of challenges affecting the existing supply landscape must be addressed:

- A lack of industry certainty about Government intentions and commitment
- A shortage of workers with the necessary skills, driven by high demand in the construction sector overall and advances in building envelope and low carbon heat technologies
- The existing complex supplier journey (e.g. red tape required to receive payment for work)
- Fragmentation resulting in limited ability to engage and mobilise

As the retrofit industry transforms to accommodate much higher levels of output, quality must be maintained at a high level to sustain consumer confidence and demand. Standards and the existing quality management model will need to evolve to cope with much greater scale of activity.

The retrofit sector is going to require ongoing support through to 2030 to overcome these challenges. Much of the support is needed in the early years of this decade in order to grow the capacity of the retrofit industry to upskill, expand and innovate. Over time, supply chain supports will evolve in line with the progress made on the path towards Ireland's 2030 carbon abatement objectives.

Some of the initiatives previously mentioned under the demand and financing pillars of this Plan will simultaneously help the supply chain. For instance, the commitment of a very significant Exchequer budget for retrofit, and clarity on the annual allocations for the years to come, will provide confidence to the sector to grow, due to the resulting large and stable pipeline of work that it will support. The commencement of new SEAI grant schemes and expansion of the Local Authority Retrofit Programme will also allow year-round working. This in itself will greatly increase the capacity of the sector to deliver increased numbers of retrofits because it transforms as 6-month industry into a year-round industry. However, a range of other initiatives are planned and outlined below.

### 4.1 Carryout a skills forecast for the retrofit sector to 2030

The Expert Group on Future Skills Needs (EGFSN) will soon publish a report titled *'Skills for Zero Carbon-The Demand for Renewable Energy, Residential Retrofit and Electric Vehicle Deployment Skills to 2030'*. The EGFSN advises the Irish Government on the current and future skills needs of the Irish economy, as well as on any labour market issues that impact on enterprise and employment growth. The report will analyse the nature and quantify the scale of the skills required by enterprises over the coming decade, in order to deliver on key enabling measures for the zero-carbon transition, including the energy efficient retrofit of the existing housing stock. The report will set out labour demand estimates, including at detailed occupational level, for the delivery of the Government's retrofit ambitions for the next decade. It will also set out a comprehensive suite of recommendations for the education and training system, as well as other sources of skills supply, in order meet the projected level of skills demand.

### 4.2 Deliver the necessary increase in upskilling, reskilling and apprenticeship supports

The Government will continue to support the development of the skills necessary to further Ireland's climate agenda, including skills associated with energy efficiency in buildings. As part of the response to the impacts of the COVID-19 pandemic, the Government expanded investment in upskilling and reskilling in areas of key skills priorities, including the low carbon transition. New specialist retrofitting training courses to support non-craft and operative roles in the retrofit sector are delivering the infrastructure required to support skills development as demand increases, including developing targeted opportunities for unemployed persons.

There has been substantial progress on delivering an infrastructure for upskilling existing craftspeople as well as other interested learners. Near Zero Energy Building (NZEB) and retrofit training is being delivered across two specialist centres, with three further centres of excellence in development. An NZEB specific train the trainer programme is in place with the first cohort due to graduate in autumn 2021. In addition to regional distribution of upskilling and reskilling opportunities, work is underway to provide blended learning and virtual reality supported training which will deliver additional flexibility in relation to geographic reach of the programmes.

Apprenticeship is well embedded in the construction sector and provides a clear opportunity to give those entering the workforce the skills required for more energy efficient construction, and to support delivery of the Government's targets in retrofitting the housing stock. In addition to scheduled reviews of curriculum content of existing craft apprenticeships, which provide a significant contribution to the range of skills required to support the transition to the zero carbon economy, the recently launched *Action Plan for Apprenticeship 2021-2025* sets out a five-year strategy to expand the number of available apprenticeships and to embed apprenticeship as a clear choice for learners and employers wishing to upskill or reskill.

Actions under the plan will make apprenticeship visible, promote the potential of apprenticeship in new areas, and seek to support employers to increase engagement with existing apprenticeships and the development of new programmes. Doubling annual apprentice registrations to 10,000 new registrations per year by 2025 provides clear opportunity to support the development of the skillsets necessary across the retrofit industry.

Funding has been provided under *Springboard and the Human Capital Initiative* for programmes and innovation projects targeting the development of professionals in areas such as building analysis and climate adaptation; sustainable building technology; and retrofit, conservation and sustainability.

### 4.3 Initiatives to ensure the required number of BER assessors

There are a number of initiatives planned to ensure that the required number of registered BER assessors, to meet the scaling up of BER activity, is available. These initiatives will support both the retention of experienced assessors and the recruitment of new assessors. Initiatives include:

- The development of a new quality assurance architecture to support both a scaling-up of activity and continuous improvement
- The development of a competency framework and a continuous professional development policy to support career development
- The identification of challenges for assessors and barriers to registration
- The review and update of BER training course content and delivery to improve accessibility
- The promotion of the new advisory report, and of BER assessors as independent advisors to homeowners on improving their BER

### 4.4 Supports for Enterprise

It is expected that the range of measures in this plan will encourage new entrants to the retrofit market as well as incentivising existing market players to grow. However, new and expanding businesses in the retrofit sector can face challenges as they develop and expand. The SEAI will work with these businesses to encourage them to avail of the range of supports available through the Local Enterprise Offices (LEOs), which include financial supports, training programmes and mentoring.

### 4.5 Registration for One-Stop-Shops

Entities seeking to operate as OSSs will need to meet the criteria and standards, including core capabilities, set by the SEAI to be eligible for inclusion on the national register. OSSs will be required to provide strategic 2/3-year plans against which SEAI will enter multi-annual agreements with each OSS for home energy upgrades and ensure appropriate ongoing funding commitments are available for the support of these upgrades to the level of grant incentives published by the SEAI.

This will allow OSSs and homeowners to upgrade their homes at a time that suits them, rather than having to wait for projects to fit with open and closing periods of annual grant programmes within the SEAI as was the case previously.

An OSS needs to be able to provide a unified and cohesive offering to homeowners to upgrade their homes, with no visible handovers of customer communication or relationships within the energy upgrade project. The SEAI will monitor the performance of OSSs to ensure high quality of energy efficiency works and robust customer service in order to build consumer confidence in the benefits associated with this new retrofit delivery model. The registration of OSSs will commence by the end of 2021 with further work packages to fine-tune the new delivery system to be finalised in 2022.

The existing Community Energy Grant (CEG) Scheme will remain open as a development call and available for those project co-ordinators who are not successful in registering as an OSS. The CEG Scheme will encourage the development of a pipeline of OSS service providers.

### 4.6 Carry out a study into the Heat Loss Indicator criteria for the installation of heat pumps

Under SEAI grant schemes, the current Heat Loss Indicator (HLI) criterion for heat pump installation in homes is 2.3 W/K $m^2$ or less. This means that homes with a HLI greater than 2.3 W/K $m^2$ after any building fabric works are not eligible for SEAI heat pump supports. The SEAI will carry out an action-based research study with the intention of informing and providing evidence on the optimum performance from the heat pump relative to the fabric and ventilation specification and control strategies. The objective of this research is to test the efficacy of installing a heat pump in homes with a HLI of >2.3 and ≤2.6 W/K $m^2$. If proven to be effective at this range of HLI, with acceptable increases in heating bills, this could allow heat pumps to be installed in many homes which:

- Currently find it either cost prohibitive to achieve a BER B2 and achieve a HLI of 2.3 W/K $m^2$
- Are excessively disruptive to perform an energy upgrade
- Have been deemed ineligible by the SEAI for a grant for a heat pump installation when undertaking retrofit works in the past

### 4.7 New Standards and Guidance Documents

The National Standards Authority of Ireland (NSAI) recently published "*S.R. 50-4:2021 Building Services – Part 4: Heat pump systems in dwellings*". This document provided guidelines for the design installation, commissioning and maintenance of heat pump system. The NSAI will also publish a standard recommendation for the design, installation, commissioning and maintenance of solar PV panels in new and existing dwellings. In addition, the main guidance document on the *Energy Efficient Retrofit of Dwellings (S.R. 54)* will be updated to take account of new developments and ensure that the guidance will continue to support work being carried out in line with best practice.

A significant proportion of homes and buildings that will need to be retrofitted are "traditionally built". This term generally applies to buildings built before 1940, and includes significant numbers of Victorian and Georgian structures. It is estimated that some 18% of dwellings fall into the traditionally-built category. Uncertainty about what retrofit treatments were allowable or appropriate has contributed to a limited amount of energy efficiency retrofit on these buildings. To provide clarity and guidance on undertaking this retrofit appropriately a new Guidance document is being developed for building professionals particularly specifiers and installers. Any relevant, available SEAI retrofit supports will align with the best practice guidance when published.

### 4.8 Building Regulations

Building regulations continue to play a central role in driving the decarbonisation of our housing stock under this plan. The NZEB Regulations will ensure that all homes built in the future will meet our expectations in terms of comfort and functionality, while also significantly reducing energy use and $CO_2$ emissions. Since 2015, less than 4% of new dwellings installed oil boilers and approximately 85% of new dwellings built to 2019 NZEB Building Regulations installed heat pumps. It is expected the installation of fossil fuel boilers in new homes will be effectively banned by 2023.

The regulations will also help to address the legacy of older housing with poor energy efficiency performance and high levels of emissions, through the requirement that dwellings undergoing major renovations (where more than 25% of the surface area is renovated) must meet a BER B2 or cost optimal equivalent. Minimum BER standards will also be implemented, where feasible, for private rental properties commencing in 2025 in line with Energy Performance of Buildings Directive.

Registers of competent builders will also be established by placing the Construction Industry Register Ireland (CIRI) on a statutory footing.

The development of NZEB training courses, NSAI standards and BER advisory report information will also aid compliance, in parallel with existing building control requirements.

## 5 Pillar 4 – Structures and Governance

The National Residential Retrofit Plan incorporates actions to be delivered across a number of Government Departments and Agencies. As such, implementation will require collaboration across Government, and appropriate structures and governance arrangements are essential.

### 5.1 A cross-Departmental National Residential Retrofit Oversight Steering Group will be established

Reporting on the actions in the National Residential Retrofit Plan will be incorporated within the reporting structures for the Climate Action Plan.

In addition, a cross-departmental steering group, chaired by the Department of the Environment, Climate and Communications will be established. This group will oversee and monitor progress against our national targets and develop new initiatives as required.

### 5.2 Further develop and resource the SEAI as the National Retrofit Delivery Body

The SEAI has been designated as the National Retrofit Delivery Body. In this role, the SEAI will act as the lead agency in driving the delivery of our retrofit targets.

The responsibilities of the SEAI in this capacity include: driving delivery of our retrofit targets; promoting retrofit uptake through marketing campaigns; enhancing the appeal of the retrofit supports and improving the customer journey; setting standards for, and developing and registering, OSSs; increasing the number of BER assessors; monitoring and managing the quantum and quality of retrofit service provision; and supporting the supply chain in the area of retrofit.

Significant additional funding is being provided by the Government to continue to increase the capacity of the agency. The process of developing, restructuring and recruiting the necessary expertise commenced in 2021 and will continue in parallel with the delivery of the National Retrofit Plan.

### 5.3 Enhance the collection and monitoring of retrofit activity data delivered with Government support

The restructured and resourced SEAI will also help support energy policy and budgeting decisions of the Government. This will include enhanced collection and monitoring of data on retrofit activity across Government-supported retrofit. It will also continue to deliver insights from energy statistics, programme/policy evaluation and impact assessment, energy modelling, behavioural science, technology expertise, and research. This analytical basis is considered essential for driving Ireland's ambitious emissions reduction targets in the built environment sector to 2030 and beyond.

### 5.4 The capacity of Local Authorities to deliver their retrofit programme will be enhanced

Local Authorities will continue to play a key role in supporting the achievement of our national retrofit targets, particularly through the expansion of the Local Authority Retrofit Programme. Local Authorities will be supported with increased project management support through direct funding from the Department of Housing, Local Government and Heritage, and with advice, guidance, knowledge sharing and best practice examples from the Housing Delivery Co-ordination office based in the Local Government Management Agency.

## 6 Actions

The detailed implementation maps for actions, including timelines and responsible organisations, are set out in the accompanying Annex of the Climate Action Plan 2021.

| Action Number | Action |
|---|---|
| **Driving Demand and Activity** | |
| 202 | Implement a national awareness and demand generation campaign for residential retrofit |
| 203 | Provide a personalised roadmap for homeowners on how to upgrade their home to a BER B2 in the new BER advisory report |
| 204 | Develop a network of retrofit One-Stop-Shops to simplify the customer journey and enhance consumer confidence |
| 205 | Launch new SEAI National Retrofit Plan (One Stop Shop Service) to drive the delivery of B2 retrofits with heat pumps and facilitate year-round working |
| 206 | Utilise Sustainable Energy Communities to drive community activation |
| 207 | Support those least able to afford to retrofit |
| 208 | Rollout of Social Housing National Retrofitting Programme in 2021 with retrofitted properties required to reach BER B2 or equivalent |
| 209 | Launch a new Energy Efficiency Obligation Scheme |
| **Financing and Funding Models** | |
| 210 | Allocate funding to residential/community retrofit from Departmental capital envelope in line with NDP funding trajectory |
| 211 | Carry out research to further understand the needs of homeowners in relation to financing retrofit |
| 212 | Introduce a residential retrofit loan guarantee scheme |
| 213 | Pursue funding through European Union initiatives as appropriate |
| 214 | Explore the potential for new tax measures to support retrofit |
| **Supply Chain, Skills and Standards** | |
| 215 | Publish a forecast of the skills required to deliver on our retrofit target as part of the Expert Group on Future Skills Needs report on "Skills for Zero Carbon- The Demand for Renewable Energy, Residential Retrofit and Electric Vehicle Deployment Skills to 2030" |
| 216 | Deliver the necessary increase in upskilling, reskilling and apprenticeship supports for residential retrofitting |
| 217 | Introduce initiatives to ensure the required number of BER assessors |
| 218 | Launch a study into the Heat Loss Indicator criteria for the installation of heat pumps |
| 219 | Publish new Standards and Guidance Documents for retrofit |
| 220 | Help to address the split incentive issue for rental properties |

| Action Number | Action |
|---|---|
| **Structures and Governance** | |
| 221 | Establish a cross-Departmental group to oversee implementation of the National Retrofit Plan |
| 222 | Further develop and resource the SEAI as the National Retrofit Delivery Body |
| 223 | Enhance the collection and monitoring of retrofit activity data delivered with Government support |
| 224 | Enhance the capacity of local authorities to deliver their retrofit programme according to budgets allocated |

Rialtas na hÉireann
Government of Ireland

Department of the Environment, Climate and Communications