



Energy  
Efficient  
Mortgages  
Initiative

Current and Future developments of the market framework for accelerating growth of energy efficiency – learnings from Scotland and Trento?

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## Executive Summary

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Work Package 5 under the Energy Efficiency Mortgage Market Implementation Plan ('EeMMiP') aims to facilitate Energy Efficiency mortgage market development, by defining and developing market demonstrators that will provide the perfect environment to align the incentive chains among all market participating actors. These include, amongst others, the following players: lending institutions, investors, regulators, energy assessors, utility companies, contractors, valuers, and consumers / borrowers. This alignment requires mutual confidence (transparency and reliable performance data) and increasing awareness of the benefits of energy efficiency to drive consumer demand.

Two earlier reports have been produced; Work package 5.1 that outlined the key pillars of the whole market chain as experienced by a consumer during their customer journey in implementing energy efficiency measures within their properties, and the key attributes that each of these pillars require for successful market development. These elements can help support creation of a broader market framework that allows financial investment via mortgages and other potential financial products to be efficiently and effectively delivered.

Work package 5.2 considered how these specific pillars are being applied and developed within the jurisdictions of Scotland and The Province of Trento, Italy, and identified "best practice" examples of energy efficiency market development.

These reports will hopefully support other European jurisdictions in developing their own market frameworks and providing examples of how this might be done to accelerate the much-needed investment and financing in Energy Efficiency and heat decarbonisation measures.

This report builds on work package 5.2 further, by discussing some of the specific challenges faced in the jurisdictions of Scotland and the Province of Trento, and the current and future work that is being considered and undertaken to address these challenges.

A reminder of the key objectives under each of the pillars described above, is provided below;



<b>Delivery mechanisms, Skills &amp; Supply</b>	<i>To provide support and actively promote the opportunities of the market in energy efficiency in buildings for companies in the jurisdictions, as well as ensuring that the quality of the work carried out by the supply chain is of a high standard and that installers are suitably qualified</i>
<b>Branding, marketing &amp; communication</b>	<i>To build communications that motivate owners and occupiers to access the advice and support on offer, based on a strong brand for the Programme that inspires trust and raises awareness, as well as targeted messages for each sector that make the case for improving energy efficiency.</i>
<b>Advice &amp; Information</b>	<i>To provide all households with access to good quality, independent advice and information on improving the energy efficiency of their property and reducing their fuel bills.</i>
<b>Assessment</b>	<i>To undertake an assessment and provide an action plan that records both the improvement targets and the measures that will be undertaken to meet them</i>
<b>Finance</b>	<i>To catalyse financing mechanisms, for example, grant and loan funding, fiscal advantages, across different tenure and sectors to support improvements to the local building stock.</i>
<b>Quality Assurance &amp; Consumer Protection</b>	<i>To ensure robust consumer protection, focussed on high standards of quality, customer care, competence, skills and training, and health and safety.</i>
<b>Monitoring &amp; Evaluation</b>	<i>To monitor and evaluate progress to ensure that aims and objectives are met. This monitoring and evaluation should allow for adaptation and flexibility where necessary.</i>

# Province of Trento

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## 1. Delivery mechanisms, Skills & Supply

*Objective: to provide support and actively promote the opportunities of the market in energy efficiency in buildings for companies in the jurisdictions, as well as ensuring that the quality of the work carried out by the supply chain is of a high standard and that installers are suitably qualified.*

One of the main issues dealt with in the Autonomous Province of Trento's (PAT) Provincial Environmental Energy Plan 2021-2030 (PEAP 2021-2030)<sup>1</sup> is the promotion of the energy efficiency of residential buildings and related market support.

Indeed, reducing emissions requires a significant contribution from the real estate industry as a producer of more than one-third of emissions<sup>2</sup>.

One of the first initiatives that has already been implemented and which is expected to be further developed is the *Tavolo Condomini (Apartment Building Commission)*<sup>3</sup>. The *Tavolo Condomini* commission is an initiative that was launched in 2017, aimed at promoting and increasing cooperation between the various stakeholders involved in the energy efficiency of apartment buildings (residents, property factors, technicians and credit institutions).

Apartment buildings are the most common type of residential building and, at the same time, the one that poses the greatest difficulties in carrying out renovation work due to the need to reach agreement amongst all the different residents.

This initiative has already produced some results presented in WP 5.2, including a calculation tool, information for residents, training events, and a guide for factors and banks.

As set out in the PEAP, the forward-looking strategy consists of:

- Strengthening the actions of the *Tavolo Condomini* commission through the signing and continuous updating of a renewed Memorandum of Understanding.
- Encouraging and facilitating the establishment of business networks to foster innovation in the construction sector.
- Increasing the skills of operators providing energy upgrading services.

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<sup>1</sup>Autonomous Province of Trento (PAT), Provincial Environmental Energy Plan 2021-2030: <https://www.provincia.tn.it/Documenti-e-dati/Documenti-di-programmazione-e-rendicontazione/Piano-Energetico-Ambientale-Provinciale-2021-2030>

<sup>2</sup> Infoenergia - The green light for the new Regulation on sustainable construction: focus on improving the energy performance of buildings: <https://infoenergia.provincia.tn.it/News/Via-libera-al-nuovo-Regolamento-sull-edilizia-sostenibile-si-punta-a-migliorare-le-prestazioni-energetiche-degli-edifici>

<sup>3</sup> APRIE - the findings of the *Tavolo Condomini*: [http://www.energia.provincia.tn.it/binary/pat\\_agenzia\\_energia/ultimora/3.1\\_risultati\\_del\\_Tavolo\\_Condomini\\_F.\\_Gasperi.1518615753.pdf](http://www.energia.provincia.tn.it/binary/pat_agenzia_energia/ultimora/3.1_risultati_del_Tavolo_Condomini_F._Gasperi.1518615753.pdf)

The aim is to make the activities of the *Tavolo Condomini* commission more autonomous in relation to the coordination of local authorities.

The *Tavolo Condomini* commission will also be linked to new initiatives, which the PAT will focus its efforts on in the coming years, and includes: an increase in distributed generation from renewable sources, through solar photovoltaic panels in the case of residential buildings, and collective self-consumption and “smart” energy flow management through energy communities.

Energy communities, as provided for in the European Renewable Energy Directive (RED II) (2018/2001/EU)<sup>4</sup>, are made up of community members, businesses, local authorities or small and medium-sized enterprises that join forces to share installations for the generation and self-consumption of energy from renewable sources<sup>5</sup>.

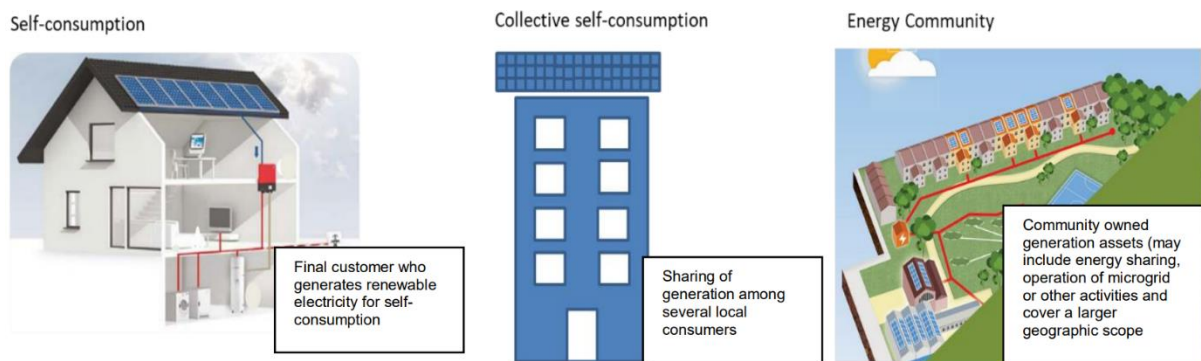


Figure 1. Images from the CEER Report

Energy communities offer the opportunity to pilot a new type of decentralized energy system based on autonomous and competitive local networks, selecting solutions that best suit the needs of the local community.

By integrating several buildings into a community, it is possible to optimize self-consumption on a larger scale and with greater potential. Such a community leverages those aspects that can be shared, both in terms of resources (e.g., spaces for solar energy collectors) and in terms of usage (hours of operation of heating and cooling systems, production of domestic hot water, among others).

<sup>4</sup> <https://lexparency.org/eu/32018L2001/>

<sup>5</sup> CEER, Regulatory Aspects of Self-Consumption and Energy Communities: [https://www.ceer.eu/documents/104400/6509669/C18-CRM9\\_DS7-05-03\\_Report+on+Regulatory+Aspects+of+Self-Consumption+and+%20Energy+Communities\\_final/8ee38e61-a802-bd6f-db27-4fb61aa6eb6a?version=1.1](https://www.ceer.eu/documents/104400/6509669/C18-CRM9_DS7-05-03_Report+on+Regulatory+Aspects+of+Self-Consumption+and+%20Energy+Communities_final/8ee38e61-a802-bd6f-db27-4fb61aa6eb6a?version=1.1)

Analyses show that only through local energy sharing between multiple buildings can self-consumption in excess of 50% of the self-produced energy from solar photovoltaic installations be achieved<sup>6</sup>.

With Provincial Law 20 of 2012, the PAT undertakes to coordinate existing energy communities on a provincial level to ensure their participation in meeting environmental objectives and provide support in the implementation of the ARERA (Energy and Environmental Regulator) measures by these communities.

On a research level, technical-scientific agreements with provincial and national research organizations are planned for the piloting of energy communities, as well as research projects on innovation and pilot projects relating to European and national programmes involving stakeholders from Trentino as beneficiaries. This also includes pilot projects as part of town planning instruments.

Since the regulatory framework is still in the process of being developed, a further extension of the projects and objectives as well as the range of stakeholders is expected in the future, as well as the diversification of energy sources used in the communities.

As far as the supply chain is concerned, there are plans to strengthen the Trentino building supply chains linked to Green Tech and Trentino building products. It is also planned to introduce (through the *Tavolo Condomini*) a “*Qualità Costruire Trentino*” protocol (“Trentino Quality Construction”) to ensure that the quality of the Trentino product is recognizable on the market, both in terms of supply chain operators and buildings.

In order to encourage energy production from renewable sources and, as a result, the installation of solar photovoltaic panels, the PAT approved Provincial Law No. 4/2022, which simplifies the administrative procedures for the installation of renewable energy technology<sup>7</sup>.

In order to optimize activities in the province and develop the potential of local authorities as much as possible, partnerships have been set up on renewable energy issues. On 6 June 2022, an agreement was signed between the Autonomous Province of Trento, the four BIM Consortia of Trentino, the Trentino Cooperation Federation and the Trentino Small Business Association to support initiatives related to renewable energy. The Mountain Catchment Basin (BIM) Consortia protect the rights related to fees due from the use of water to produce hydroelectric power in their area.

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<sup>6</sup> PEAP: PROVINCIAL ENVIRONMENTAL ENERGY PLAN 2021-2030, APRIE, p. 212

<sup>7</sup> Board of the Autonomous Province of Trento, PROVINCIAL LAW ON RENEWABLE SOURCES 2022: [https://www.consiglio.provincia.tn.it/doc/clex\\_37343.pdf](https://www.consiglio.provincia.tn.it/doc/clex_37343.pdf)

This agreement states that the signatories must implement, by means of mutually agreed and coordinated initiatives and procedures, measures to promote and support initiatives aimed at the production of energy from renewable sources, as well as the expansion of these initiatives throughout the area, including the establishment of renewable energy communities in Trentino.

As a first action in the implementation of this Programme Agreement, the signatories intend to support the installation of solar photovoltaic panels and/or energy storage systems at private properties by means of incentives.

To implement this agreement, in June 2022, the “Solar power for households” project (*“Fotovoltaico per le famiglie”*) was launched by the BIM Consortia<sup>8</sup>, providing grants to households for the purchase and installation of solar photovoltaic panels.

Each BIM Consortium maintains its autonomy and each programme therefore has its own specific characteristics which reflect the needs of the local area. In some cases, grants for solar panel installations had already been planned, but this initiative ensures a level playing field throughout Trentino.

In particular, the Adige BIM Consortium, which covers around two-thirds of the municipalities in Trentino, including the most populated areas of Trento and Rovereto, saw an initial budget of €1 million, increased by an additional €500,000 at the beginning of August 2022<sup>9</sup>.

On 10 June 2022, an inter-institutional collaboration agreement between the Autonomous Province of Trento and the Trentino Cooperation Federation was also approved. The document contains a section dedicated to “Energy and climate change mitigation (in particular, energy communities)”, referring to the role of cooperatives, and electricity consortia in particular, which represent a typical and effective example of a model of a community that generates its own energy, including from renewable sources, intended for consumption by its members in line with the latest developments in the relevant European regulatory framework, as well as with Trentino local tradition.

On this basis, the Province and the Federation undertake, each for its own role, to:

- develop, promote and evaluate operational proposals to support the role of renewable energy communities and electricity consortia in the sharing of locally produced renewable energy;

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<sup>8</sup> Consortium of Municipalities of the Province of Trento - Adige BIM, Mission: <https://www.bimrento.it/ita/Chi-Siamo/Mission>

<sup>9</sup> Trentino - Province and Adige BIM: an additional €500,000 for the “Solar power for households project”:  
<https://www.ufficiostampa.provincia.tn.it/Comunicati/Provincia-e-Bim-Adige-mezzo-milione-di-euro-in-piu-per-il-Progetto-fotovoltaico-per-le-famiglie>



- implement the Programme Agreement signed on 6 June 2022 between the Province, Federation, the 4 BIM Consortia of the Province of Trento and the Small Business Association to support initiatives related to energy from renewable sources;
- recognize and promote, after a thorough legal examination to be carried out with the involvement of the electricity consortia, the concept of self-production and self-consumption within the provincial framework in line with Art. 2(2) of Italian Legislative Decree 79/1999;
- promote the role of local communities in the most important issues relating to renewable energy production in the current regulatory context, with national governments and regional governments gradually implementing the recent comprehensive reform of the European energy regulations, including those related to renewable sources;
- promote energy and renewable energy communities as a means of responding to the current energy crisis and provide practical, bottom-up micro-solutions to reduce energy dependence on third countries and inflationary pressure on energy supplies, particularly strongly felt after the very recent European sanctions against the Russian Federation concerning energy sources;
- explore the full potential of renewable energy communities and electricity consortia, including with specific and strategic reference to the subject of renewable energy through the setting up of a specific working group.

The Province will also undertake to examine the possibility of promoting the use of a cooperative model in this context, in view of other specific characteristics such as being non-profit, open door policy, non-division of profits, transgenerational, amongst others

## 2. Branding, Marketing & Comms

*Objective: To build communications that motivate owners and occupiers to access the advice and support on offer, based on a strong brand for the Programme that inspires trust and raises awareness, as well as targeted messages for each sector that make the case for improving energy efficiency.*

The PEAP includes a strategic communication policy that aims to “Promote education, training and information in order to involve the local community in the transition to clean energy”.

This strategic policy is divided into three pillars:

The first is the behaviour of the local community and their involvement as consumers, with the aim of increasing awareness regarding a change in their way of living, travelling and purchasing - in such a way as to encourage them to be the drivers of change themselves for

distributed renewable energy producers in the local area. In order to encourage this active role, the PAT plans, together with consumer associations, to introduce energy efficiency education programmes aimed at different target audiences.

The second pillar is the promotion of education at different levels, with a targeted approach to high school, university, and postgraduate levels in close cooperation with trade associations and professional bodies.

The third pillar is a network between the organizations involved - primarily local authorities, town councils, valley communities and town council consortia - these, together with the Province, have to apply the provisions of the PEAP. In terms of the various topics addressed in the different sectors, there is a crossover between the PEAP and plans, projects and actions implemented at a local level. There have been various sectors, including related to the PEAP, which have led to agreements, protocols and memorandums of understanding aimed at guiding decisions or ensuring continuous support in certain sectors. It is therefore considered necessary to have a closer network of local authorities to implement the Plan in order to ensure participation, support, information, but also training.

With regard to training, it should be borne in mind that the role of local authorities is often one of facilitating, given their direct contact with the public, covered by officials who sometimes lack specific skills. For example, the technical offices of local councils, which follow the whole construction process, may not have the resources to go deeper into energy aspects. It will therefore be necessary and strategic to implement, in cooperation with the various training structures, an energy and environmental training path aimed at public officials as well as for professionals, with regular updates on the various issues to be addressed, to provide timely and precise benchmarks to support the implementation of the tools under the PEAP. In this respect, the Memorandum of Understanding entered into between the Province and the energy upgrading stakeholders, which also focuses on training, is an important tool for organizing targeted training courses on the subject.

The PAT has also turned its attention to certain ways in which consumers can finance their energy upgrading expenditure through the subsequent reimbursement through bill payments. The PAT has already held a conference aimed at operators in the sector covered by the “Your Green Building” initiative (“*Il tuo condominio Green*”), during which the RenOnBill project was presented<sup>10, 11, 12</sup>.

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<sup>10</sup> Infoenergia - Energy efficiency in residential buildings: financing energy upgrading:

[https://infoenergia.provincia.tn.it/content/download/965/8728/version/1/file/locandina+L%27efficienza+energetica+negli+edifici+residenziali\\_Programma+CORRETTA.pdf](https://infoenergia.provincia.tn.it/content/download/965/8728/version/1/file/locandina+L%27efficienza+energetica+negli+edifici+residenziali_Programma+CORRETTA.pdf)

<sup>11</sup> Infoenergia - Energy efficiency in residential buildings: <https://infoenergia.provincia.tn.it/Calendario/L-efficienza-energetica-negli-edifici-residenziali>

<sup>12</sup> RenOnBill: <https://www.renonbill.eu/>

These types of payment schemes enable<sup>13</sup>:

- end customers to reduce the initial cost of the investment and get a rebate in their energy bill compatible with the financial outlay
- improved customer retention for utility companies and closer relationships with financial operators
- new opportunities for the expansion of low-risk finance for lenders

### 3. Advice & Information

*Objective: To provide all households with access to good quality, independent advice and information on improving the energy efficiency of their property and reducing their fuel bills.*

The PAT has a website, Infoenergia<sup>14</sup>, aimed at providing citizens with information on finance for energy upgrading, sustainable mobility and energy production. The website will continue to be used in the future to provide citizens with all the information on new initiatives and incentives. It is expected that the part of the website concerned with energy production, and in particular energy communities, will be expanded.

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<sup>13</sup> Infoenergia - the RenOnBill project:

[https://infoenergia.provincia.tn.it/content/download/982/8809/file/09.RUSSO\\_IL%20progetto%20reo-on-bill\\_intervento%20epa%20prime%202.pdf](https://infoenergia.provincia.tn.it/content/download/982/8809/file/09.RUSSO_IL%20progetto%20reo-on-bill_intervento%20epa%20prime%202.pdf)

<sup>14</sup>Infoenergia: <https://infoenergia.provincia.tn.it/>



The screenshot shows the 'Infoenergia' website interface. At the top, there is a navigation bar with the 'Provincia autonoma di Trento' logo and the 'Infoenergia' title. Below this is a search bar and a menu with categories like 'Finanziamenti riqualificazione energetica', 'Mobilità sostenibile', 'Produzione energia', 'News & Eventi', 'Buone pratiche in Trentino', and 'Contattaci'. The main content area is titled 'Comunità di energia rinnovabile' and includes a paragraph about the European Directive on Renewable Energy (RED II) and a sub-section 'In particolare si supera il concetto dei cittadini solo consumatori puntando alla formazione di prosumer, ovvero cittadini che producono energia da fonti rinnovabili per il proprio fabbisogno e la auto consumano facendo rete tra di loro attraverso una comunità.' Below the text is a diagram illustrating the transition from a 'CONSUMER' (User-Consumer) to a 'PROSUMER' (User-Producer and Consumer). The diagram shows a power line on the left, a sun on the right, and two houses in the center. In the top part, arrows show energy flowing from the power line to the houses. In the bottom part, arrows show energy flowing from the sun to the houses, and from the houses back to the power line, indicating a self-sufficient and interconnected energy community.

Figure 2. From [infoenergia.provincia.tn.it](http://infoenergia.provincia.tn.it)

### This section provides information about energy communities

The website specifies the sources which the province intends to exploit for energy production: solar, photovoltaic, biomass, biogas, wind, geothermal, hydroelectric, and natural gas.

For each of these, the site provides the authorization procedures for the installation of these plants, the areas suitable for installation, the cases in which authorization is not required or a simplified authorization procedure (known as PAS in Italy) can be used, and the cases in which the integrated energy authorization (known as AIE in the PAT area) is required based on the type of plant and power thresholds.

These authorization schemes were redefined following the introduction of Provincial Law No. 4 of 2 May 2022, “Provincial Law on Renewable Sources 2022”<sup>15</sup>.

<sup>15</sup> Board of the Autonomous Province of Trento, PROVINCIAL LAW ON RENEWABLE SOURCES 2022: [https://www.consiglio.provincia.tn.it/doc/clex\\_37343.pdf](https://www.consiglio.provincia.tn.it/doc/clex_37343.pdf)

The *Tavolo Condomini* commission will also play an active role in providing information on energy communities to homeowners by means of a guide provided to property factors. It will also support the Province in drawing up objective and neutral information products on the cost-benefit ratio in the energy sector for consumers (citizens, professionals, businesses) to be prepared under the Memorandum of Understanding for the energy upgrading of the privately owned building stock.

## 4. Assessment

*Objective: An Action Plan that records both the improvement targets and the measures that will be undertaken to meet them.*

The PAT's Provincial Environmental Energy Plan 2021-2030 contains climate goals in terms of decarbonization in line with European targets (in short, a 55% reduction in emissions compared with a 1990 baseline) and the actions to be taken to achieve them.

It recognizes that these targets cannot be achieved by government intervention alone but require the cooperation of private individuals, local communities, businesses and the financial sector.

Not only are legislative and regulatory actions outlined here, but also training and information initiatives in relation to the community and economic players, coordination between the various stakeholders and ways of monitoring progress which, as suggested by the duration of the plan, will be key to taking corrective actions following changes to the economic and environmental context in which these actions will be taken.

The PEAP must not be seen as a static document, but rather, it is intended to be revised as national and international contexts change, while at the same time maintaining the targets already set. Data monitoring, on the other hand, is planned every two years, so that the results of the various actions taken can be assessed, and any additions to the technical content and targets will be drawn up where necessary.

## 5. Finance

*Objective: To catalyse financing mechanisms, for example, grant and loan funding, fiscal advantages, across different tenure and sectors to support improvements to the local building stock.*

Financial instruments can accelerate the involvement of private funds in the financing of less-established technologies, covering the risks associated with emerging technologies and innovative business models. Considering the energy efficiency context, a number of schemes are possible involving economic-financial as well as non-economic instruments.

To achieve the objectives of the PEAP, the contribution of multiple levers will also be considered, including through a combination of direct grants and financial instruments, drawn from the Regional Development Funds 2021-2027, the Rural Development Plan 2021-2027, bank financing from the European Investment Bank, and financing through national and European funds, including the National Recovery and Resilience Plan (PNRR).

Moreover, as a meeting place of supply and demand, the market remains an area where the guiding role of supply can be maintained by virtue of the need for increased focus on energy policy in Trentino.

It should therefore be stressed that the necessary actions in the province between 2021 and 2030, to ensure that the development and implementation of new technologies and new systemic approaches to energy transition is encouraged both in terms of energy efficiency and production from renewables, involve some new roles for government, such as an investment facilitator, in view of the fact that private investors will remain strategic in a market approach to energy policy, and market control. In this respect, consumers will play an increasingly important role, requiring, on the other hand, access to capital at reasonable costs.

In the case of a government support scheme, this will be clearly targeted, predictable, limited in scope, and proportionate, and will include provisions for phasing out the scheme, implemented in accordance with the domestic market and the relevant EU policy on state aid. It will be essential for this scheme to be harmonized and coherent both within the provincial administration and local authorities and with the instruments and mechanisms put in place at both a national and European level.

### **Public incentives in Trento**

The province plans to keep in place the “Your Green Building” (*“Il tuo condominio green”*) provincial grants and supplement them with national measures (110% Superbonus), subsidizing 50% of the expenditure incurred for property factor or manager costs not eligible for the 110% Superbonus, and the reimbursement of 50% of the expenditure incurred to prepare an energy audit and/or seismic assessment of the apartment building if the Superbonus is not used.

The Province has also entered into an agreement with the BIM Consortia, as described earlier, which manage the fees from hydroelectric power plants, ensuring that the incentives for the installation of solar photovoltaic panels provided by them are homogeneous in their respective areas. These grants, which cover part of the expenditure on solar photovoltaic panels and related energy storage systems, derive from the profits of the BIM Consortia, and by law must be redistributed throughout the area.

### An example of a Green Loan

*Cassa Rurale Alta Valsugana*<sup>16</sup> was established through the merger of 4 banks in the Alta Valsugana area. These four rural banks have played an important role in the life of the community for over a century. Cassa Rurale Alta Valsugana is part of the Cassa Centrale Group<sup>17</sup>, the leading Italian cooperative banking group with a strong focus on value and local identity.

In the area of green loans, the bank aims to launch a new “Zero Impact” product line comprising a series of “energy efficiency loans” aimed at reducing emissions through household energy efficiency and electric mobility<sup>18</sup>.



Figure 3. From cr-altavalsugana.net

### Zero impact: Our way of doing green banking. The energy efficiency loan

The Zero Impact line consists of the following types of consumer loans for:

- The purchase of an e-bike with no application fee

<sup>16</sup> Cassa Rurale Alta Valsugana: [www.cr-altavalsugana.net](http://www.cr-altavalsugana.net)

<sup>17</sup> Cassa Centrale Banca: <https://www.cassacentrale.it/it>

<sup>18</sup> Cassa Rurale Alta Valsugana - Zero Impact: the energy efficiency loan: <https://www.cr-altavalsugana.net/privati/finanziamenti/impatto-zero/>

- The purchase of an electric car or motorbike. Cassa Rurale has vehicle charging points near its branches.
- The improvement of the energy efficiency of buildings through the installation of solar photovoltaic panels, DHW panels, residential fuel cells, bioclimatic greenhouses and Trombe walls.
- The purchase, construction or renovation of an Arca- or CasaClima-certified house at preferential rates.
- The financing of works eligible for the “Superbonus” for energy efficiency measures such as the installation of solar photovoltaic panels or building infrastructure for charging electric vehicles.

The offer also extends to businesses, with loans to support the installation of production lines for the processing of waste and/or recycled products, the purchase of electric or hybrid company vehicles, and the energy upgrading of buildings for business activities<sup>19</sup>.

### Green Loans and other initiatives

Cassa Rurale Vallagarina<sup>20</sup> (also a Cassa Centrale Group bank), which has had a product for the energy upgrading of buildings for 10 years (described in WP 5.2), has expressed an interest in future products specifically aimed at energy communities. It is currently waiting for greater consolidation of the regulatory framework.

For the time being, Cassa Rurale Alta Valsugana has conducted an energy community awareness campaign with an initial meeting with the local community<sup>21</sup>. The bank launched an initial project, currently operational, to create an energy community using its own buildings and an engineering company has been commissioned to draw up a proposal for an additional similar project.

For the bank, these initiatives are not a business opportunity, except from a customer loyalty perspective, but have a social and educational purpose in relation to the local community.

The two rural banks have also indicated their intention to obtain the Energy Efficient Mortgage Label (EEML) for their green mortgages<sup>22</sup>. The EEML is a certification awarded to mortgages for the purchase/construction and/or renovation of commercial or residential buildings with an energy efficiency equal to or greater than market best practices in

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<sup>19</sup> Cassa Rurale Alta Valsugana, Zero Impact Business: <https://www.cr-altavalsugana.net/impresse/finanziamenti/impresa/>

<sup>20</sup> Cassa Rurale Vallagarina: <https://www.crvallagarina.it>

<sup>21</sup> Cassa Rurale Alta Valsugana, COMMUNITY ENERGY. Energy communities serving local people: <https://www.cr-altavalsugana.net/impatto-zero/eventi/energie-della-comunita/>

<sup>22</sup> Energy Efficient Mortgage Label: <https://www.energy-efficient-mortgage-label.org/>



accordance with European legislation and/or which ensure an energy efficiency improvement of at least 30%.

Compliance with these requirements is assessed using an Energy Performance Certificate (EPC), together with an estimate of the value of the property in accordance with European legislation, and the details of energy efficiency measures in line with the EEM Valuation & Energy Efficiency Checklist.

The Label promotes awareness of energy efficiency issues, consumer confidence and reputation, as well as increasing alignment with European and international regulations. It increases transparency and helps regulators and market players identify energy-efficient products and disclose related information and performance through the Harmonised Disclosure Template (HDT).

For the two banks, obtaining the EEML is therefore an additional way of demonstrating to consumers and investors the sincerity of their intentions to help combat global warming by using a third party to certify their products.

## 6. Quality Assurance & Consumer Protection

*Objective: To ensure robust consumer protection, focused on high standards of quality, customer care, competence, skills and training, and health and safety.*

As part of the implementation of the strategic policies of the PEAP and the actions identified, a new version of the Italian Sustainable Building Regulation is expected to enter into force from 1 October 2022, which covers all actions that involve a change in the energy performance of a building.

The amendments to the Regulation<sup>23</sup> translate this provincial strategy into practical regulatory measures, including in view of the European position recently expressed in the proposal to revise the Energy Performance of Buildings Directive (EPBD). The Regulation applies not only to new buildings but also to work on existing buildings which lead to an improvement in energy performance. The requirements vary according to the scale of the work carried out.

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<sup>23</sup> The most recent amendments were introduced by the Decree of the President of the Province (D.P.P.) of 16 August 2022, no. 11-68/leg. Amendments and additions to the D.P.P. of 13 July 2009, no. 11-13/leg., as amended, concern “regulatory provisions on sustainable construction implementing Title IV of Provincial Law no. 1 of 4 March 2008 (town planning and local governance)”

The amendments include the requirement to cover 65% of heating requirements from renewable energy sources for new buildings, demolition and reconstruction work, and for major work on existing buildings. This percentage, previously set at 50%, was updated as a result of the national obligation to implement Italian Legislative Decree 199/2021, which raises it to 60%. In this respect, the Water and Energy Agency (APRIE), in collaboration with the University of Trento - Department of Civil, Environmental and Mechanical Engineering, conducted the necessary investigations and analysed various possible configurations and scenarios to see if it was possible to increase the amount required to cover the heating needs of both public and private buildings by an additional 5%. Similarly, as required by the aforementioned Legislative Decree, the minimum power to be guaranteed by electricity generation plants powered by renewable sources was increased.

Further amendments to the Regulation include the raising of the minimum energy class to B+ for new buildings and demolition/reconstruction work, taking into account technological progress and developments in the construction market in the province. Already, 86% of new builds and whole-building demolition and reconstruction works carried out since 2017 are in energy classes above the minimum class B required up to now by the regulations.

In order to ensure better air quality protection in the case of biomass systems, an obligation to install systems with a minimum performance of “4 stars” was also introduced in accordance with the provisions of Italian Ministerial Decree 186/2017. Also, to limit the particulate emissions characteristic of such systems, it is envisaged that the plant must be combined with an appropriate thermal storage system and a solar thermal system or heat pump for the production of domestic hot water.

Another new feature concerns the delivery of an energy report showing that the requirements for each type of work have been met. In contrast to the current provisions, which state that the report should be delivered only where planning permission has already been issued, from 1 October 2022, they will have to be submitted at the same time as the planning permission application to allow the necessary checks to be carried out by the council’s technical offices.

Additional purely technical changes have been made in response to proposals arising from discussions with industry professionals. These include revisions to the limits for building air tightness testing and a revision of the thermal bridge values in the case of work on apartment buildings.

## 7. Monitoring & Evaluation

*Objective: Monitoring and evaluation of evolutions to ensure that aims and objectives are met. This monitoring and evaluation should allow for adaptation and flexibility where necessary.*

In order to increase the availability of data on the energy performance of buildings, a mandatory EPC for all major second-level renovations (all those covering at least 25% of the “gross dispersing surface”) has been included in the updated Italian Sustainable Building Regulation.

This change, which represents an alignment of provincial regulations with state regulations, will make it possible to greatly expand the energy certificate database. Only new buildings, demolition and reconstruction work, and major first-level renovations were subject to certification in the previous version of the regulation.

In order to be included in this case, the upgrading work must cover more than 50% of the “gross dispersing surface” and at the same time provision must be made for the complete overhaul of the heating system, involving replacement of the generator and of all distribution and emission systems. It is therefore easy to see that the number of cases remains very limited in comparison to major works, such as insulation of “dispersing walls” combined with other works (e.g., replacement of the generator, installation of solar or photovoltaic systems, loft insulation etc), but which do not include the complete overhaul of the entire heating system. This change to the regulations will therefore make it possible to monitor in greater detail the actual number of energy works that lead to a substantial reduction in consumption and consequently emissions.

It should be noted that EPCs include a section of potential actions to reduce primary energy consumption, with the resulting savings. However, at the moment this section is not adequately used, and the information is rather inaccurate.

The document that best performs the function of informing the end user about the potential efficiencies and related costs is still the energy audit. The Province of Trento, where possible, requests this document in order to access grants (see the 2016 version of grants to apartment buildings, where the energy audit was a precondition of the grant application).

This instrument is also completely valid for businesses. In fact, for businesses, the PEAP encourages the preparation of energy audits by those not required to do so to determine the savings that can be made as a result of potential energy efficiency actions, as well as training for energy managers to conduct an energy analysis and assess potential energy reduction actions.

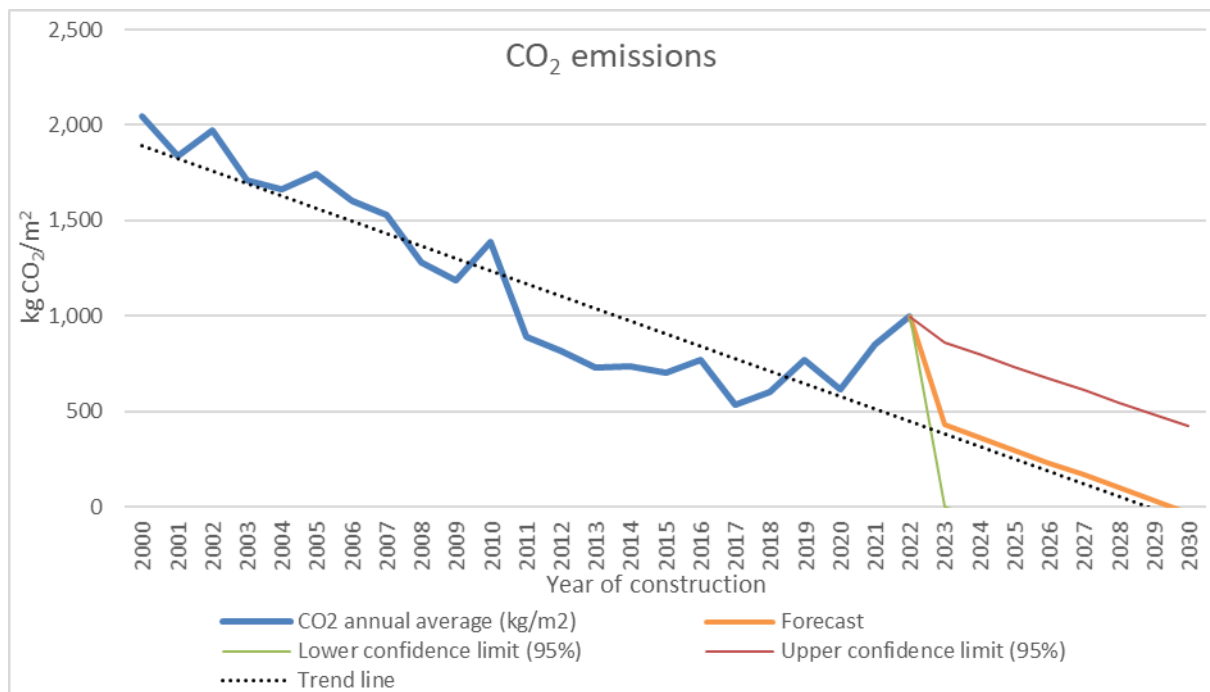
Again, the Province, where possible, makes the energy audit a prerequisite for incentives aimed at businesses<sup>24</sup>.

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<sup>24</sup> See the FESR call for solar photovoltaic panels: <https://www.provincia.tn.it/Servizi/Contributi-installazione-impianti-fotovoltaici-Avviso-FESR-n.-2-2022>

In order to better monitor consumption in the province, a provision has been added to the PEAP to collect consumption data of the main energy carriers, such as electricity and natural gas, through the establishment of a data flow and processing via ISPAT (Provincial Institute of Statistics). In fact, discussions are underway between the provincial statistical service and the various distributors to set up the collection of annual consumption data recorded in the Province of Trento in order to organize the data and allow continuous monitoring of consumption trends, and consequently the impact of provincial and national energy policies on reducing consumption.

Based on the data available in September 2022 for the Province of Trento, a positive trend can be seen for new residential buildings, both in terms of CO<sub>2</sub> produced and based on the overall non-renewable energy performance index (EPgl,nren). In terms of CO<sub>2</sub> emissions, for residential buildings built between 2000 and 2022, the annual average of CO<sub>2</sub> kg/m<sup>2</sup> reported on all Energy Performance Certificates in the public EPC database available on the Trentino Federated Open Data Portal was considered<sup>25,26</sup>.



These certificates were issued for the following reasons:

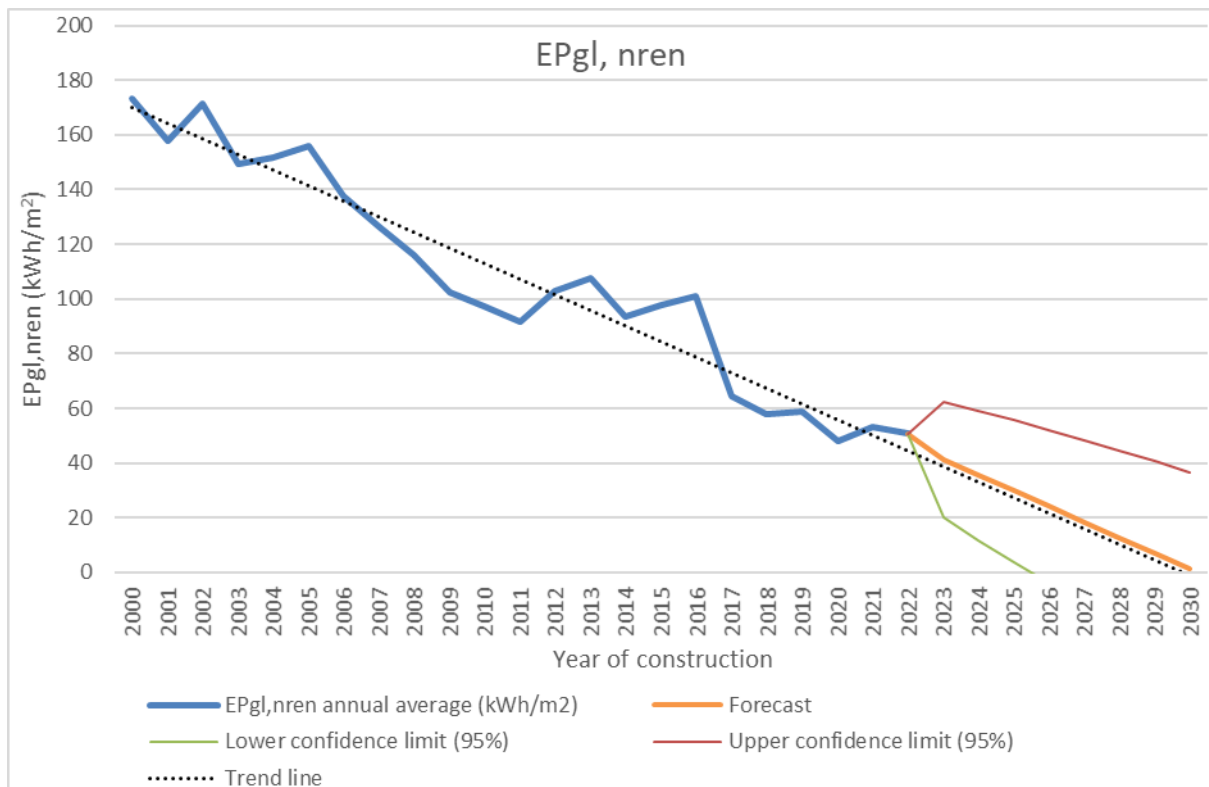
Works description	Absolute values	% Values
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<sup>25</sup> OPENDATA Trentino, Energy Performance Certificates of buildings – Trentino: <https://dati.trentino.it/dataset/attestati-di-prestazione-energetica-trentino>

<sup>26</sup> Outliers with values falling within a percentile greater than 99.98% were removed

OTHER	31,635	25.51%
EXTENSION	696	0.60%
VOLUNTARY CERTIFICATION	22,249	14.44%
DEMOLITION	714	0.69%
NEW	4,756	3.95%
UPGRADING	5,063	4.22%
RESTRUCTURING	3,116	3.28%
REPLACEMENT	114	0.07%
TRANSFER	55,735	47.23%
<b>Grand total</b>	<b>124,078</b>	<b>100%</b>

The same dataset was also used for EP<sub>gl,nren</sub> (net of observations with missing data). For residential buildings the index takes into account the non-renewable primary energy needs for winter and summer heating and cooling (EP<sub>H,nren</sub> and EP<sub>C,nren</sub>), for domestic hot water production (EP<sub>W,nren</sub>), and for ventilation (EP<sub>V,nren</sub>). This is determined as the sum of the individual energy services provided in the building concerned and is expressed in kWh/m<sup>2</sup> in relation to the reference usable area.



# Scotland

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## 1. Delivery mechanisms, Skills & Supply

*Objective: to provide support and actively promote the opportunities of the market in energy efficiency in buildings for companies in the jurisdictions, as well as ensuring that the quality of the work carried out by the supply chain is of a high standard and that installers are suitably qualified.*

Next steps in the development of delivery mechanisms for energy efficiency measures, together with growth of the underlying supply chain (and associated skills development) to support the scaling of energy efficiency and heat decarbonisation of Scotland's buildings are explored in detail below.

### 1.1 National Public Energy Agency

In order to support the ongoing deployment of energy efficiency and heat decarbonisation measures in Scotland's buildings, Scottish Government set out in its 2021/22 Programme for Government<sup>27</sup> – and reaffirmed in the Heat in Buildings Strategy – Scotland aims to establish a new dedicated National Public Energy Agency by 2025, to lead the transformational change required to decarbonise Scotland's housing stock.

The Agency will achieve this by taking a people-centred approach to delivery, supporting people and business to switch their heating systems and improve the energy efficiency of buildings, while working with the public, private and third sectors to ensure a coordinated approach across the wider heat decarbonisation delivery agenda in Scotland.

Scottish Government are keen that the development of the Agency is a collective and collaborative effort, shaped by the input from a range of stakeholders across the public, private and third sectors, putting people first as part of its core values.

A 'call for evidence' was undertaken in February 2022<sup>28</sup> representing part of the first phase in a process of collaboration and co-development of the new dedicated Agency, which will proceed over the transition period up to 2025, and shaped by the input from a range of individuals and stakeholder organisations across the public, private and third sectors.

Reflecting this commitment, the content was informed, in part, by considerations and points raised during an initial round of informal preliminary discussions with a mix of delivery partners, consumer, fuel poverty, and housing organisations.

A series of stakeholder engagement events are being carried out to complement this initial call for evidence during the remainder of 2022/23, and will help shape the Government's plans for a broader formal consultation later on the Energy Agency.

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<sup>27</sup> <https://www.gov.scot/publications/fairer-greener-scotland-programme-government-2021-22/>

<sup>28</sup> <https://consult.gov.scot/heat-in-buildings/national-public-energy-agency-call-for-evidence/#:~:text=The%20purpose%20of%20this%20initial,and%20based%20on%20co%2Ddevelopment.>

## 1.2 Policy conflicts

Policy conflicts across Government areas can be unforeseen and present significant challenges to be overcome. For instance, in the UK decarbonisation of buildings lags behind that of electricity and transport, even though heat for buildings causes 23% of Britain's total greenhouse gas emissions, with heat for housing alone causing 17%. Consequently, the UK needs to cut emissions from heat more in the next eight years than it has done in the past thirty.

Indeed, tackling the decarbonisation of domestic heat provides a central platform through which the Government can address some of their biggest challenges: energy security; air quality; health; jobs and skills; fuel poverty and levelling up; the cost of living – the list is long.

There is no one size fits all approach – UK housing stock is varied, the majority of UK homes (other than social housing which has seen successful attempts to have its emissions significantly reduced) are old and built using inefficient materials, and rural homes which don't sit on the energy grid rely solely on fossil fuels for power.

Of Britain's c £2.6bn annual spending on fuel poverty, only 15% reaches the fuel poor and only 22% is spent on energy efficiency. There is a view amongst certain sectors that UK Government should re-target all this spending on insulation for the fuel poor - reducing bills, emissions and fuel poverty.

More locally Scottish Government's Home Energy Scotland Scheme provides upto 40% cashback for some eligible energy efficiency improvements and 75% for certain renewable heating systems (based on total costs and capped at a maximum value) which provide a strong investment. However, receipt of any available cash back requires use of a Home Energy Scotland loan where lending is provided through Scottish Government and administered by the Energy Savings Trust.

Such initiatives provide tremendous support to the sector for delivery of energy efficiency improvements, but inadvertently crowd out the provision of private sector capital from institutional and other large scale, as they cannot compete with such generous financing terms. These can lead to ever increasing dependence on local or national government subsidy. In Scotland, the current cash back scheme is being reviewed to consider alternative approaches that can overcome this 'crowding out' barrier. For instance, replacing cash back elements with a voucher scheme alternative could allow individuals to source their own forms of finance but still receive the cashback equivalent by provision of the voucher to their lender who could reclaim these monies from Government. It is possible that if Scottish Government introduces the right policies now, heat pumps (both ground source and air source) could be cheaper to buy and run than a gas boiler – without subsidy – by the end of the decade.

### 1.3 Devolved powers

The Scottish Government is able to run the country in relation to matters that are devolved from Westminster or the main UK government. This includes: the economy, education, health, justice, rural affairs, housing, environment, equal opportunities, consumer advocacy and advice, transport and taxation. The power to set a Scottish rate of income tax was a recent addition to their responsibilities and further powers will be devolved to Scotland over the coming years. In relation to decarbonisation of Scotland's buildings, legislation was passed last year through the The Heat Networks (Scotland) Act 2021<sup>29</sup> (the Act).

The Act aims to accelerate the deployment of heat networks in Scotland through the introduction of a regulatory system aimed at boosting consumer confidence in the sector and providing greater certainty for investors<sup>30</sup>.

The Act sets statutory targets for heat network deployment in 2027 and 2030, which are equivalent to an estimated 120,000 and 650,000 additional homes being connected to heat networks. This helps it to contribute to the achievement of the targets and ambition set out in Scotland's 2018 to 2032 climate change plan.

Scottish Government is working with the heat networks sector and local government to develop detailed regulations and statutory guidance in order to put in place a functioning regulatory system (subject to public consultation) by 2024.

The structure of this regulatory system, as set out in the Act, is as follows:

- Building assessment reports: a requirement relating to non-domestic buildings to assess the suitability to connect to heat networks. This applies to the public sector and may, with secondary legislation, extend to other non-domestic buildings
- Heat network zones: requiring the review and designation of areas particularly suitable for heat network development and operation across Scotland
- Heat network permits: attracting new, and lower cost investment in the sector by awarding these long-term permits to develop and operate heat networks, providing longer term assurance about the customer base available
- Heat network licences: regulating the market so that homes and businesses are supplied by solvent, fit and proper operators, while requiring networks to be developed and maintained to high standards

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<sup>29</sup> <https://www.legislation.gov.uk/asp/2021/9/2021-03-31>

<sup>30</sup> [https://www.gov.scot/policies/renewable-and-low-carbon-energy/heat-networks/#:~:text=The%20Heat%20Networks%20\(Scotland\)%20Act,providing%20greater%20certainty%20for%20investors](https://www.gov.scot/policies/renewable-and-low-carbon-energy/heat-networks/#:~:text=The%20Heat%20Networks%20(Scotland)%20Act,providing%20greater%20certainty%20for%20investors)



- Heat network consents to build and/or operate heat networks: including creating a bespoke system of scrutiny for new networks before they are consented for development
- Powers for licence holders: granting new rights for heat network operators – such as wayleaves, compulsory purchase, road works and surveying rights – to reduce the costs and time involved in construction and maintenance
- Heat networks assets schedule and transfer scheme: requiring heat networks to have a scheme in place to transfer operational rights to a third party to ensure sustained supply, if and when needed

As a first step, the Act committed to Scottish Government publishing and laying a Heat Networks Delivery Plan before parliament, which was undertaken in March 2022<sup>31</sup>. This document, provides an overview of how provisions from the Act, along with related policies, will contribute to accelerate the use of heat networks across Scotland in forthcoming years.

#### **1.4 Regulating to improve zero emission heat and energy efficiency**

Scottish Government are also taking steps to ensure that, from 1 April 2024, the use of direct emissions heating systems in new buildings is prohibited. Instead, new buildings applying for a building warrant must use heating systems which produce zero direct greenhouse gas emissions at the point of use. The approach has been consulted through the New Build Heat Standard Part II consultation. This, and Scottish Government's planned increase to fabric standards for new buildings from December 2022, will reduce the need for, and cost of, future retrofit.

The most significant piece of regulation to support energy efficiency decarbonisation was outlined in the Programme for Government 2022-23<sup>32</sup>, and aims to consult next year on a Heat in Buildings Bill.

This will set out Scottish Government's initial proposals for the role that regulations can play in driving better energy efficiency standards and zero emissions heating in Scotland's existing buildings from 2025.

#### **1.5 The Heat in Buildings Supply Chains Delivery Plan: Towards an Industry for Green Heat<sup>33</sup>**

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<sup>31</sup> <https://www.gov.scot/publications/heat-networks-delivery-plan/>

<sup>32</sup> <https://www.gov.scot/programme-for-government/>

<sup>33</sup> <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2022/11/heat-buildings-supply-chains-delivery-plan-towards-industry-green-heat/documents/heat-buildings-supply-chains-delivery-plan-towards->

Currently, consumer demand for Green Heat remains low<sup>34</sup> and many businesses with the necessary core skillsets in the supply chain are small with a low capacity for taking risk. Supplier confidence has also been weakened by a history of short term approaches to supporting the market, with stakeholders calling on both the Scottish and UK Government to implement a long term, strategic approach to allow the Green Heat market to develop.

Scottish Government has a key role to play in supporting the developmental needs of the energy efficiency and heat decarbonisation supply chain, by creating the right conditions through a set of clear market signals, appropriate financial support and using the convening power of government and the wider public sector to remove friction and increase the pace of transformation.

Supply chain development is not only a challenge which must be met in order to deliver on Scotland's ambitions, but provides a substantial opportunity for Scotland's economy. Building robust, local supply chains, maximising the use of Scottish products and providing companies with a platform to export to a growing UK and international market for zero emission heating technologies, can all support a long term return on the economic cost of Scotland's heat in buildings transition. The 'Heat in Buildings Supply Chains Delivery Plan: Towards an Industry for Green Heat' provides tangible actions for the next step in Scotland's journey towards establishing a new industry for green heating in Scotland. It identifies the following key actions;

- Making available up to £17.6 million for investment in research, development and innovation within the Green Heat sector
- Launching a challenge to establish Scotland as a destination for Green Heat manufacturing
- Undertaking a refresh of the Climate Emergency Skills Action Plan, setting out Scotland's approach to planning for Green Heat Skills
- Using public procurement to maximise the supply chain impact of our funding programmes
- Providing a dedicated programme to raise industry's awareness of the Green Heat transition
- Consulting on a new supplier led incentives scheme to provide a route to market for innovative business models and new consumer propositions.

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[industry-green-heat/heat-buildings-supply-chains-delivery-plan-towards-industry-green-heat/govscot%3Adocument/heat-buildings-supply-chains-delivery-plan-towards-industry-green-heat.pdf](https://www.gov.scot/Information/Document/industry-green-heat/heat-buildings-supply-chains-delivery-plan-towards-industry-green-heat/govscot%3Adocument/heat-buildings-supply-chains-delivery-plan-towards-industry-green-heat.pdf)

<sup>34</sup> Scotland's Heat in Buildings Strategy estimates that at current levels of demand, each year around 3,000 zero emissions heating systems per year are installed, and around 45,000 properties are improved to EPC level C.

The plan also sets out roles and responsibilities for supply chain development across Scotland’s public and private sector partners, as well as the new Energy Agency – ‘Heat and Energy Efficiency Scotland’, which will play a key role in coordinating activity across Scotland’s public sector landscape to drive collective impact on developing a sector for Green Heating.

## 2. Branding, Marketing & Comms

*Objective: To build communications that motivate owners and occupiers to access the advice and support on offer, based on a strong brand for the Programme that inspires trust and raises awareness, as well as targeted messages for each sector that make the case for improving energy efficiency.*

The transition to decarbonised heat will affect everyone and as such Scottish Government believes it is important that the whole population is involved in the decisions about how Scotland’s homes and buildings are to be transformed and how the transition is managed.

This needs to be underpinned by increasing awareness of energy efficiency and zero emissions heating systems, open and transparent decision making and an inclusive, people-centred approach. Scottish Government undertook research that shows public understanding of the role of heating in causing greenhouse gas emissions is low<sup>35</sup>. Research suggests that only 49% of people identified gas central heating as contributing to emissions, and fewer than 20% of people said they would consider switching to a zero emissions heating system, with fewer than 2% having done so already.

The crucial role of public engagement to facilitate the heat transition in Scotland was stressed by many respondents to the consultation, who highlighted the importance of both early engagement, as well as engagement activity sustained over a long period.

As such, the Scottish Government is working to develop a bespoke public engagement strategy for heat in buildings. This encompasses and builds on the objectives and guiding principles of the Public Engagement Strategy for Climate Change (published in September 2021<sup>36</sup>) as well as existing Scottish Government support and advice programmes, and focuses on:

- raising the profile of energy efficiency and zero emissions heating options so that people are aware of the benefits and begin to see them as a positive choice;
- enabling people to actively participate in shaping the development of Scottish Government policy and incentives as well as local level heat and energy efficiency planning; and

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<sup>35</sup> Energy Systems Catapult. (2020), Understanding Net Zero: A Consumer Perspective, (Energy Systems Catapult), URL: <https://es.catapult.org.uk/reports/net-zero-a-consumerperspective/> (last accessed: 26/09/2021)

<sup>36</sup> <https://www.gov.scot/publications/net-zero-nation-public-engagement-strategy-climate-change/documents/>



Current and Future developments of the market framework for accelerating growth of energy efficiency – learnings from Scotland and Trento?

- raising awareness of the support and advisory services available in order to maximise uptake of the support available.

In particular, it outlines a framework for engagement provided below.

## Our Framework for Engagement

### Our Vision

Everyone in Scotland recognises the implications of the global climate emergency, fully understands and contributes to Scotland's response, and embraces their role in the transition to a net zero and climate ready Scotland.

### Strategic Objectives

Understand	Participate	Act
<b>Communicating Climate Change</b> People are aware of the action that all of Scotland is taking to tackle climate change and <b>understand</b> how it relates to their lives	<b>Enabling Participation in Policy Design</b> People actively <b>participate</b> in shaping just, fair and inclusive policies that promote mitigation of and adaptation to climate change	<b>Encouraging Action</b> <b>Taking action</b> on climate change is normalised and encouraged in households, communities and places across Scotland

### Actions

<ul style="list-style-type: none"> <li>➤ Develop and implement our public communications approach to ensure people understand Scotland's climate ambitions and the policies that will be required to reach them</li> <li>➤ Collaborate with key delivery organisations to ensure information reaches key audiences, including through initiatives such as Climate Week</li> <li>➤ Working with Adaptation Scotland and others to continue to provide consistent messaging that makes clear the impact of climate change locally, nationally and globally</li> <li>➤ Build on Scotland's Climate Assembly to develop further deliberative approaches</li> </ul>	<ul style="list-style-type: none"> <li>➤ Continue to facilitate meaningful climate engagement and conversations with people and audiences not currently engaged on the topic</li> <li>➤ Ensure those affected by our transition and climate impacts are engaged in the design and delivery of key policies</li> <li>➤ Develop our approach to ensuring key climate change policies exhibit the principles of Open Government through meaningful consultation and participation</li> <li>➤ Develop a new approach to ensuring a genuine role in policy processes for young people</li> </ul>	<ul style="list-style-type: none"> <li>➤ Continue to champion and fund community-led climate action</li> <li>➤ Support trusted messengers to promote climate literacy</li> <li>➤ Embed climate change within formal education</li> <li>➤ Use marketing and communications activity to ensure that households understand the changes needed to help Scotland get to net zero</li> <li>➤ Utilise the potential of the arts, creativity and heritage to inspire and empower culture change</li> <li>➤ Work with partners to help people make connections to nature and biodiversity</li> <li>➤ Promote a place-based approach to behaviour change</li> </ul>
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### Guiding Principles

<ul style="list-style-type: none"> <li>➤ Our approach will be <b>inclusive</b> and accessible to all</li> <li>➤ Our approach will <b>put people first</b> and place people at the heart of all that we do</li> <li>➤ We will listen to and engage with experts to ensure an <b>evidence-based</b> approach</li> </ul>	<ul style="list-style-type: none"> <li>➤ Climate justice and a <b>just</b> transition will be embedded within our approach</li> <li>➤ We will continue to encourage a <b>participative</b> society with two-way dialogue on climate change</li> </ul>	<ul style="list-style-type: none"> <li>➤ We will take a <b>positive</b> approach that outlines a vision for climate action that promotes the many benefits</li> <li>➤ We will be <b>open and transparent</b> to make sure people can see and understand our actions</li> </ul>
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The strategy, sets out an holistic, systemic approach to public engagement with the aim of

building a strong social mandate for the society-wide, long-term changes needed to transition Scotland to a net zero nation.

This approach recognises that, whilst behaviour change at the individual and household level is a key element of the transition to net zero cannot rely on nudging people towards one or two key low carbon behaviours. Achieving net zero requires a more fundamental shift in the way people live their lives, including changes to underlying social and cultural norms, so that low carbon behaviour becomes part of the fabric of society and people have the information and access they need to take advantage of new infrastructure and technology as it becomes available.

Scottish Government's approach to public engagement therefore focuses on connecting people with what is happening in the transition to net zero. It aims to promote meaningful engagement with people's values, identities, and concerns to facilitate a society-wide response to the climate emergency.

This includes effectively communicating climate change to increase awareness and understanding of how Scotland, collectively, is addressing the climate emergency and the implications for individuals and communities. It also means providing processes and forums through which people can participate in policy development, to ensure there are opportunities to help shape the actions we take so the transition is fair and just for everyone. Finally, it also includes normalising net zero lifestyles within our places and communities, shifting aspirations and expectations towards a 'new normal'. Some examples of initiatives that have begun to undertake this are covered below;

## 2.1 Let's do Net Zero

The Let's do Net Zero national marketing campaign was launched in June 2021, to inform people about the climate emergency, help them understand the need for action, and what Scotland is doing in response. Spanning across three different phases, the campaign was shown across television, radio, out-of-home media, print media, social media and other digital forms.

The first phase of content – the Climate Emergency – aimed to raise awareness of the climate emergency amongst the Scottish public and the consequences of inaction. The second phase – Scotland is Taking Action – showcased the range of actions that the Scottish Government is taking to tackle the climate emergency and promoted the need for collective action across all aspects of society. The third and final phase took place in October 2021, ahead of COP26, and combined the elements of the previous phases that have been most engaged with.

Developing the marketing campaign was a cross-government effort, drawing on areas such as transport, waste, energy and food and drink. The campaign content is

rooted in evidence. In developing the activity Scottish Government drew on credible existing research and carried out a series of focus groups to test concepts.

## 2.2 Scotland's Climate Assembly

Scotland's Climate Assembly has been a crucial part of involving citizens in the transition to net zero, and of the commitment to Open Government. The independent Assembly brought together over 100 individuals, representative of the Scottish population, to learn about, discuss, and make recommendations on 'how should Scotland change to tackle the climate emergency in an effective and fair way?'. The recommendations were published by the Assembly in June 2021, and Scottish Government provided a comprehensive and cross-government response in line with the requirements of the Climate Change (Scotland) Act<sup>37</sup>.

## 3. Advice & Information

*Objective: To provide all households with access to good quality, independent advice and information on improving the energy efficiency of their property and reducing their fuel bills.*

Scotland has supported various advice and information services over the last decade.

Home Energy Scotland helps people in Scotland create warmer homes, reduce their energy bills, and lower their carbon footprint. They are funded by the Scottish Government and managed by the Energy Saving Trust. They work with people and organisations to help tackle fuel poverty and the climate emergency – both key priorities for Scottish Government. This is done through a network of regional advice centres covering all of Scotland, which offer local knowledge and expert advice on:

- saving energy and keeping warm at home
- funding options including Scottish Government grants and interest free loans
- installing renewable energy at home
- greener travel including electric vehicles and ebikes
- cutting water waste.

It is proposed that these programmes of advice and support are maintained, built upon and awareness raised through publicity campaigns across all media formats. The National Public Energy agency mentioned earlier in this report will be a key vehicle for providing future advice and information.

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<sup>37</sup> <https://www.gov.scot/publications/scottish-government-response-scotlands-climate-assembly-recommendations-action/>

## 4. Assessment

*Objective: An Action Plan that records both the improvement targets and the measures that will be undertaken to meet them.*

In summer 2021, the Scottish government consulted on proposals to amend the domestic Energy Performance Certificate (EPC). Several proposals were set out, which were intended to enable EPCs to support planned regulations outlined in the Heat in Buildings Strategy.

These proposals were to introduce a new metric of energy efficiency, based on the amount of energy used by a dwelling, coined the “Energy Use Rating”. This new metric would sit alongside the current Energy Efficiency Rating, which is planned to be renamed to an Energy Cost Rating to reflect that it is based on running cost. They also proposed to retain and rename the Environmental Impact Rating as a Carbon Emissions Rating.

### Current Metrics

- Energy Efficiency Rating (£): Based on running cost (£ per m<sup>2</sup>)
- Environmental Impact Rating: Based on emissions (kg CO<sub>2</sub> per m<sup>2</sup>)

### Proposed Metrics

- Energy Cost Rating: Based on running cost ((£ per m<sup>2</sup>)
- Carbon Emissions Rating: Based on emissions (kg CO<sub>2</sub> per m<sup>2</sup>)
- Energy Use Rating: Based on delivered energy (kWh per m<sup>2</sup>)

Scottish Government provided an analysis and response to the consultation in August of 2022<sup>38</sup>. There was general broad agreement from industry with the proposals and strongly supported the introduction of the new metrics to report energy efficiency based on energy use.

Josh Wakeling, Head of Operations at Elmhurst (a leading provider of EPC assessments) commented: “This is great news and again shows that Scotland are taking things into their own hands and making the impactful changes we have been pushing for now for many years. We look forward to see the further developments Scotland has on the table.”

It was noted that several respondents to the consultation stressed the need for EPCs to provide clear, simple, and useful information to users. Other observations indicated that there was a need for issues to be addressed on the underlying methodologies. These concerns are to be taken forward in developing more detailed proposals. Accordingly, an updated

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<sup>38</sup> <https://www.gov.scot/publications/heat-buildings-strategy-domestic-epc-reform-consultation-analysis-summary-report/>



policy proposal is currently being developed by Scottish Government alongside further consultation planned for a proposed regulatory framework for heat and energy efficiency, outlined in the Heat in Buildings Strategy. This consultation is due to be published during the calendar year to 2023.

## 5. Finance

*Objective: To catalyse financing mechanisms, for example, grant and loan funding, fiscal advantages, across different tenure and sectors to support improvements to the local building stock.*

Scotland's Heat in Buildings Strategy published in October 2021<sup>39</sup> included a commitment to establish a Green Heat Finance Taskforce<sup>40</sup>, and subsequent work was undertaken to establish this in February 2022. The purpose of the Taskforce is to develop a portfolio of innovative financial solutions for building owners in Scotland to ensure that by 2045, our homes and buildings no longer contribute to climate change, as part of the wider just transition to net zero.

The remit of the Taskforce is to:

- build on existing evidence to set out the alternative sources of funding and financing for heat decarbonisation, including existing technologies and new technologies which may develop, by September 2023 for both the medium and longer-term requirements
- explore and potentially pilot new and value-for-money innovative financing mechanisms for individual and community level investment
- act as a catalyst for long term relationships and partnering across the public sector, the heat sector industry, wider supply chain, building owners and investor/financial institutions
- support the alignment of the requirements for heat decarbonisation with the needs and investment activity across the wider energy system, considering returns and wider socio-economic benefits

The Taskforce will make its final report and recommendations in September 2023 with interim findings provided by March 2023, in order that there is a clear and identified range of financial support mechanisms available to support building owners to meet proposed regulatory

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<sup>39</sup> <https://www.gov.scot/publications/heat-buildings-strategy-achieving-net-zero-emissions-scotlands-buildings/>

<sup>40</sup> <https://www.gov.scot/groups/heat-in-buildings-green-heat-finance-taskforce>.

obligations as set out in the Heat in Buildings Strategy. However, it will be essential that the Taskforce is delivery focused and drives partnership action throughout.

Following approval of the recommendations by Scottish Ministers, the following phase will focus on supporting delivery of the proposals to the market by 2025.

Central to the operation of the Taskforce is utilising developing a partnership between industry, the Finance Sector, Scottish Government, agencies and others, dedicated to understanding and seeking solutions to the challenges of delivering net Zero buildings in Scotland by 2045. Accordingly, various short life sub-groups have been established to focus on particular sectors such as the owner occupier sector, social housing etc to allow experts and stakeholders within those sectors to explore and identify potential financing and funding solutions that can be delivered and subsequently scaled over the medium to longer term.

## 5.1 Structure

The core Taskforce is composed of a small number of permanent members that will provide direction and guidance to the Secretariat in undertaking its work.

To support this permanent membership and to develop a broader partnership across the heat decarbonisation and finance landscape, engagement will be developed beyond the permanent taskforce members through interaction with stakeholders, that will include subject specific working groups managed by the Secretariat to be undertaken over the duration of the Taskforce.

The Secretariat will facilitate any interaction with officials that may be necessary for process and/or administrative purposes. It will support meetings of the Taskforce and Working Groups through scheduling, providing papers, and noting minutes and actions. It will also support the drafting of the recommendations under the direction of the members.

## 6. Quality Assurance & Consumer Protection

*Objective: To ensure robust consumer protection, focused on high standards of quality, customer care, competence, skills and training, and health and safety.*

The Scottish Government, as part of Energy Efficiency Scotland, is developing a Quality Mark for the energy efficiency installation market. Those wishing to participate in the programme will have to show that they meet all of the following requirements;

- Skills and competencies broken down by measure and building type;

- Quality management;
- Customer care;
- Fair work practices;
- A Code of Conduct;
- Workmanship guarantees;
- Contractual arrangements with customers

It has also been suggested that in addition to these requirements that the vetting process should also incorporate the following checks;

- Credit and trading history of the business
- Criminal convictions of Directors, other senior management staff and Operatives.

It is hoped that businesses that fail to comply with these requirements will be subject to sanctions such as removal of the Quality Mark and from the approved trader directory.

Scottish Government commissioned Changeworks, an organisation that supports Scottish Government's national fuel poverty programme, to consider gaps in consumer protection for Energy Efficient measures undertaken in Scotland. Good consumer protection measures are a prerequisite to any successful industry, not least one with considerable challenges engaging with consumers and the requirement to meet an anticipated step change in demand. The report<sup>41</sup> identified gaps in the existing consumer protection provisions in Scotland's domestic energy efficiency and renewable retrofit market and outlines recommendations for a robust consumer protection framework.

The Group will inform MSPs of the issues and challenges currently facing some consumers who have purchased renewable energy and home energy efficiency products through the UK Government's Green Deal Initiative. It will also provide a forum for stakeholders, energy efficiency providers and other interested parties to engage directly in dialogue to inform developments and practice which impact on consumers, across the energy efficiency and renewable energy sector, covering the entire consumer journey, ensuring the benefits of emerging technologies are realised and that consumers are not detrimentally affected.

## 7. Monitoring & Evaluation

*Objective: Monitoring and evaluation of evolutions to ensure that aims and objectives are met. This monitoring and evaluation should allow for adaptation and flexibility where necessary.*

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<sup>41</sup> [https://www.changeworks.org.uk/sites/default/files/CAS\\_Consumer%20protection\\_Final%20report.pdf](https://www.changeworks.org.uk/sites/default/files/CAS_Consumer%20protection_Final%20report.pdf)

Scottish Government created a Climate Change Plan in 2018<sup>42</sup> that sets out the Scottish Government (SG) approach to delivering a green recovery, and the pathway to delivering Scotland’s climate change targets over the period to 2032. Monitoring implementation is vital to ensure that the policies in the Climate Change Plan are making progress towards meeting Scotland’s emissions reduction targets in a way that is delivering a just transition to net zero.

Monitoring and evaluation of progress for meeting these national decarbonisation targets are underpinned by statutory reporting requirements set out in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

The 2019 Act is one of the most ambitious and comprehensive legislative frameworks on climate change in the world, increasing the ambition of Scotland’s emissions reduction targets (from the Climate Change (Scotland) Act 2009) in response to the global climate emergency and UN Paris Agreement, committing Scotland to a 75% reduction in greenhouse gas emissions by 2030, and to reaching net zero by 2045.

The 2019 Act also placed the monitoring framework for the Climate Change Plan on to a statutory footing for the first time, with sector by sector reports (including emissions from buildings) on progress and the inclusion of matters relevant to a just transition with embedded indicators for policies for each sector. This framework has been the basis of two published Climate Change Plan Monitoring Reports, in October 2018 and December 2019.

## **7.1 The structure of the Monitoring Framework:**

The Monitoring Framework for the Climate Change Plan for sectors is structured on three levels: greenhouse gas emissions statistics provide the highest-level measure of progress at an economy-wide and sectoral level; a suite of policy outcome indicators measure the success of policies in achieving the changes that are needed; and a policy tracker monitoring implementation of specific policies and proposals.

The Framework also includes cross-sectoral monitoring of social and economic indicators to focus on impacts on workforce, employers and communities. This enables Scottish Government to monitor progress towards its just transition objectives.

## **7.2 Principles of the Monitoring Framework**

The monitoring framework is guided by a set of principles that inform both its design and its ongoing use in assessment of progress. These principles cover:

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<sup>42</sup> <https://www.gov.scot/publications/scottish-governments-climate-change-plan-third-report-proposals-policies-2018/>

1. It will assess both the efficiency of policy implementation (are Scottish Government doing what they said they would do?) and whether this is effective in achieving policy outcomes (are Scottish Government getting the results they expected?).
2. It will underpin annual progress reports assessment of whether Scottish Government are 'on track' in the short-term, as well as providing an on-going basis for consistent monitoring of progress to long-term outcomes.
3. Policy objectives will be SMART (Specific, Measurable, Achievable, Realistic and Time-limited) so that they are suitable for monitoring and evaluation.
4. It will gather the data needed to give reliable and consistent measurement, while being proportionate to policies and varying data availability.
5. Scottish Government will learn from the monitoring framework, using it to support improvement in policy design and delivery.

The Scottish House Condition Survey<sup>43</sup> is a nationally representative survey of Scottish households, and represents a key source of information on primary heating fuel, energy performance and energy demand across the domestic building stock. Data for 2021 is due to be published in February 2023.

The development of effective programmes to progress government policies depends on timely and accurate monitoring and evaluation to understand and assess progress against objectives, understand what works for whom, how and why, and whether it is value for money. Without continuous monitoring and evaluation, it is not possible to understand how far policies are achieving their goals, nor generate the evidence needed to develop the most effective policies in the future.

The Framework reflects a strong commitment to maintaining and developing a robust evidence base across UK Government and its partner organisations / devolved governments, providing a clear pathway to embedding monitoring and evaluation throughout the policy cycle

### **7.3 Improving home energy performance through lenders**

At the end of 2021, UK government undertook a consultation to seek views on the government's proposals to set requirements for lenders to help homeowners to improve the

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<sup>43</sup> <https://www.gov.scot/collections/scottish-house-condition-survey/>

energy performance of their homes – initially through reporting of the EPC profile of their loan books. These proposals would significantly improve the energy performance of mortgaged properties in the 2020s, in order to:

- Deliver substantial emission reductions, which will help to meet the UKs Carbon Budgets and support a decarbonisation pathway consistent with its net zero target;
- Increase the quality, value and desirability of homeowners’ assets, while reducing bills and ensuring warmer homes;
- Help pave the way for the UK’s transition to low-carbon heating by reducing demand and preparing homes for the installation of low-carbon heating measures;
- Support investment in high quality home retrofit jobs and skills in the supply chain across England and Wales; and
- Provide greater energy security, through lower energy demand on the grid, and reduced fuel imports.

Proposals are set out in two chapters;

Chapter 1 sets out proposals for improving awareness of the energy performance of lenders’ portfolios.

- Annual disclosure of portfolio-wide Energy Performance Certificate (EPC) data and the gross value of lending for energy performance improvement works will allow comparisons to be made between lenders and will also allow interested parties to determine how the energy performance of homes is influencing lending decisions;
- Inviting views on whether the option to provide additional commentary alongside EPC data would be useful to lenders that may have older portfolios, which may include harder-to-treat, less energy efficient properties;
- Proposing a trajectory from voluntary to mandatory disclosure and seeking views on the level of uptake we might expect from a voluntary policy.

Chapter 2 considers a target-based approach for improving the energy performance of lenders’ portfolios. It explores:

- How the government could work with lenders on a form of self-regulation underpinned by voluntary improvement target setting;
- How such voluntary targets would allow for market testing of green finance products, using the information provided by a disclosure policy;
- How the government could ensure comparable effort across all lenders by having the option of introducing a mandatory target if necessary;

- An illustrative approach for how a mandatory target could work in practice.

UK Government has yet to publish its response to the consultation, but it will seem likely that the UK banking system will be required to undertake mandatory reporting of EPCs on their loan books. This will help UK government track the improvement (or otherwise) in the energy efficiency of domestic properties and hence support ongoing policy development.

## 8. Conclusion of report findings

The following table provides a summary of key actions and activities in Scotland and the Province of Trento, that will be undertaken under each of the key seven pillars described to accelerate the decarbonisation and retrofit of buildings.

Area Objective	Scotland	Province of Trento
Delivery mechanisms, skills and supply	Scotland aims to establish a new dedicated National Public Energy Agency by 2025, to lead the transformational change required to decarbonise Scotland’s housing stock.	An inter-institutional collaboration agreement between the Autonomous Province of Trento and the Trentino Cooperation Federation has been approved, referring to the role of cooperatives as an effective model to align with the latest developments in the relevant European regulatory frameworks.
Branding, Marketing and Communications	Scottish Government is working to develop a bespoke public engagement strategy for heat in buildings following a particular framework for engagement. This encompasses and builds on the objectives and guiding principles of the Public Engagement Strategy for Climate Change	A strategic communication policy has been established with 3 key pillars, that aims to “Promote education, training and information in order to involve the local community in the transition to clean energy”.
Advice & Information	Current programmes of advice and support are to be maintained, built upon and awareness raised through publicity campaigns across all media formats. The National Public Energy agency will be a key vehicle for providing future advice and information.	The PAT has a website, Infoenergia, aimed at providing citizens with information on finance for energy upgrading, sustainable mobility and energy production.  The website will continue to be used in the future to provide citizens with all the information on new initiatives and incentives.
Assessment	Proposals for a new metric of energy efficiency to be applied, based on the amount of energy used by a dwelling, coined the “Energy Use Rating”. This new metric would sit alongside the current Energy Efficiency Rating, which is planned to be renamed to an Energy Cost Rating to reflect that it is based on running cost.	Data monitoring, is planned every two years, so that the results of the various actions taken can be assessed, and any additions to the technical content and targets will be drawn up where necessary.



Finance	Establishment of a Green Heat Finance Taskforce to build on existing evidence to set out the alternative sources of funding and financing for heat decarbonisation	The contribution of multiple levers for financing energy efficiency are being considered, including through a combination of direct grants and financial instruments, addressing the risks associated with emerging technologies and innovative business models. A number of schemes are being considered involving economic-financial and also non-economic instruments.
Quality Assurance & Consumer protection	Scottish Government to develop a Quality Mark for the energy efficiency installation market. Participants in the programme will have to show that they meet a specific list of requirements	As part of the implementation of the strategic policies of the PEAP and the actions identified, a new version of the Italian Sustainable Building Regulation is expected to enter into force from 1 October 2022, which covers all actions that involve a change in the energy performance of a building.
Monitoring & Evaluation	Monitoring and evaluation of progress for meeting these national decarbonisation targets are underpinned by statutory reporting requirements set out in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019	In order to increase the availability of data on the energy performance of buildings, a mandatory EPC for all major second-level renovations (all those covering at least 25% of the “gross dispersing surface”) has been included in the updated Italian Sustainable Building Regulation. This alignment of provincial regulations with state regulations, will make it possible to greatly expand the energy certificate database.

Transformation of Europe’s buildings and energy markets at the scale and pace required is unprecedented and the above table provides a summary overview of how different jurisdictional regions are undertaking action to mobilise decarbonisation of their built environment. There are ongoing barriers and challenges to be overcome, and these market



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demonstrators provide valuable insights that can be shared to understand how this challenge might be done.