

Providing flexibility in heat and energy efficiency regulations – personal circumstances

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1 Executive summary

1.1 Project aims

The Scottish Government's Heat in Buildings (HiB) Strategy commits all Scottish homes to be net zero by 2045. However, in line with the commitment to a Just Transition, the Government recognises that personal circumstances may, in some cases, make it more challenging for people to meet the requirements of the proposed [Heat in Buildings Standard](#). Personal circumstances include vulnerability criteria related to the occupiers of the dwelling, such as disability, age, or low-income.

This study reviewed how regulations, both in the UK and internationally, have accounted for personal circumstances. Provision made for vulnerable groups for these circumstances included exemptions, extensions or abeyances, support mechanisms such as financial support, amendments or alterations to the standard.

This research will support the Scottish Government's development of the proposed standard, through considering personal circumstances in domestic buildings, specifically focusing on owner occupied homes and the private rented sector.

We also investigated the impact of including personal circumstances in the regulation. The review has covered relevant low-carbon heating, domestic energy efficiency, housing and transport regulations. Flexibility is often provided within operational regimes without it being explicitly specified within the legislation, and this flexibility was not captured by this study. We also highlight new emerging policy areas to support consideration of how similar regulations could work in Scotland.

1.2 Summary of key findings

The study identified 18 international examples of personal circumstances being included in regulations. Six stakeholders from consumer organisations, professional housing sector, government departments and policy groups were interviewed to provide insight on regulations identified through the study. Our key findings are:

- There is limited evidence of including personal circumstances in regulations.
- The most common personal circumstances identified relate to those with a low income. Several regulations across Europe and Canada offer additional financial support for low-income households to undertake energy efficiency renovations or to upgrade to clean heating systems.
- Similar examples from the Netherlands, Switzerland and the USA exempt properties from upgrading to a clean heating system if the cost of doing so is prohibitive or if the lifetime savings were too low.
- Germany allows exemptions for clean heating regulation for owner-occupiers over 80 years of age, if they live in a building of up to six flats.
- Most stakeholders were aware of funding or support for low-income households, but several noted they had not considered including other personal circumstances within regulations.
- A proposal in Flanders aims to introduce a decision tree for personal circumstances, which includes significant life events to excuse residents for not meeting the standard. If implemented, this could allow application for a time extension to meet energy efficiency and clean heat standards in properties based on specific personal circumstances such as divorce or death in the family.
- Stakeholders were concerned that including personal circumstances in the proposed HiB Standard would risk people losing out on the benefits of the energy transition such as reducing energy costs, greater energy efficiency and warmer homes.
- There were concerns regarding a lack of clarity on how including personal circumstances would work in practice and the potential for an additional administrative burden on both residents and those administering schemes.
- Further examples of personal circumstances within regulation include Low Emission Zones across the UK, which provide exemptions for vehicles owned by those with a disability. However, drawing direct parallels to energy efficiency and clean heating regulations is challenging due to the specifics of how the regulation works.

1.3 Recommendations and value to a policy audience

Should the Scottish Government decide to implement new regulations that include personal circumstances, the key recommendations are:

- **More thorough consideration of the potential benefits and risks associated with including personal circumstances** – The benefits have largely been assumed but they require further investigation. The impact of including personal circumstances requires further consideration to understand which groups are most likely to benefit. Additionally, the needs of different vulnerable groups require greater clarity to ensure that the introduction of any flexibilities best meet these needs. This includes owner-occupiers, tenants in the private rented sector and communities connecting

to heat networks to determine the likely positive impact. The risks of losing out on the benefits of the transition should also be considered.

- **Consider additional support and flexibility** – In addition to providing financial support to cover the cost of the measure, consider providing further support or alternative accommodation for low-income households during disruptive works.
- **Ongoing monitoring of policy and regulation developments in similar countries, particularly in Flanders.**

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2 Glossary

Clean heat	A heating system with zero direct emissions, e.g. an air-source heat pump
EE	Energy efficiency
EPC	Energy Performance Certificate
HiB	Heat in Buildings
HiB Standard/the standard	A proposal for a Heat in Buildings Standard comprising a minimum energy efficiency standard and a prohibition on polluting heating systems recently consulted on by the Scottish Government.
Personal Circumstances	Multiple, different vulnerability criteria such as those with disabilities, elderly, low-income, etc; related to the occupiers of the dwelling

3 Introduction

This report provides findings from review of a wide range of international regulations that include provision for personal circumstances. Some personal circumstances are legally protected characteristics such as age, disability and pregnancy. However, the definition of personal circumstances is broad and can include wide ranging factors such as income level, health conditions (including disabilities), ownership status of property, location (which can affect outside temperatures), household composition and different cultural practices. These characteristics could affect the ability of different groups to comply with regulations.

The aim of the review is to inform the Scottish Government's decision-making on future regulations regarding decarbonising residential buildings in Scotland and what types of provisions could be made to take into account personal circumstances. The review covers a variety of regulations that make provision for personal circumstances within different countries and regions that are considered to have relevance for the Scottish Government.

3.1 Policy context

The Heat in Buildings (HiB) Strategy commits all of Scotland's buildings, including residential, to net zero by 2045 (Scottish Government, 2021). A proposal for the HiB Standard ("the standard" for the purposes of this report), comprising a minimum energy efficiency standard and a prohibition on polluting heating systems, was recently consulted on by the Scottish Government (Scottish Government, 2023).

The consultation proposed a prohibition on polluting heating systems from 2045, thereby requiring all homes to switch to a clean heating system. A clean heating system is defined as one with zero direct emissions at the point of use. The Scottish Government's consultation proposed that private landlords must meet the minimum energy efficiency standard by 2028 and owner occupiers by 2033. Owner occupiers that install a clean heating system will not be mandated to improve their energy efficiency, however it is preferable, for the reasons outlined below.

The benefits of improving the EE performance of homes, particularly regarding the insulation levels and the resulting improved thermal performance are well established. Residents are likely to experience improved comfort and lower bills. EE schemes have a long history in Scotland and the UK, with significant numbers of properties now having good levels of insulation. However, some properties are still behind, with over 37% of private sector homes in Scotland having minimal levels of loft insulation and 47% no form of wall insulation (Scottish Government, 2024).

Clean heating is essential to meet decarbonisation targets and for homes with an improved thermal performance (through meeting EE standards) the expectation is that residents will not experience higher bills following a change to their heating system. The consultation on a HiB Bill also proposed two early action triggers for upgrading a heating system ahead of 2045; these are after the purchase of a property (with a grace period of 2 to 5 years), and when a heat network becomes available (Scottish Government, 2023).

The Scottish Government recognises that there are numerous reasons why properties remain poorly insulated, including technical, cost, practical and personal circumstances. EE retrofit measures and clean heating system installations are sometimes associated with

disruption in the home which can be a major barrier for residents. For example, a heat pump installation will typically take 2-4 days to complete (LCP Delta, 2022) and can be disruptive to residents. The associated disruption is the main barrier to upgrading to a heat pump (LCP Delta, Energy Systems Catapult, Oxford Computer Consultants, 2022). This disruption could potentially have a greater impact on those in vulnerable situations.

There is recognition that personal circumstances could make it more challenging for some people to meet the proposed standard due to real or perceived barriers. Personal circumstances are relevant for both energy efficiency (EE) and clean heating requirements.

To ensure fairness, the Scottish Government has proposed (in its consultation on a Heat in Buildings Bill) that the Bill (Scottish Government, 2023) will:

- Ahead of 2045, exempt those who can't, or perhaps should not have to, meet the HiB Standard.
- Provide extra time for those who need it to meet the standard or require that people comply with a modified version of the standard which considers their building's characteristics or unique circumstances.
- Make it simple for people to appeal where they believe the requirements are incorrect or unfair.

The new bill has been central to a consultation process which closed in March 2024 (Scottish Government, 2023)

3.2 Research aims and scope

This project sought to identify examples of regulation which incorporated personal circumstances from a broad range of international regulations, including energy efficiency and low carbon, housing and transport policies. Regulations were reviewed to determine how suitable alterations, extensions or exemptions have been included to accommodate personal circumstances in different types of regulation. This includes what measures have been used or proposed to provide support (such as financial, deadline extensions) to assist with full or partial compliance with the regulations. This will inform Scottish Government decision-making around future proposals, including if and how to incorporate personal circumstances into new retrofit policy.

4 Overview of methodology

The key focus of this project was to identify regulatory examples, both within the UK and internationally, that include personal circumstances as a basis for extensions, abeyances or exemptions. We anticipated the number of examples specific to heat and energy efficiency regulations would be low. Our approach therefore drew from a broad base that included other sectors. This approach ensured we cast a wide net to identify a diverse range of types of personal circumstances and different ways these have been accounted for in regulations. To ensure all relevant examples were identified, our approach included a comprehensive evidence search and multi-method approach:

- **A desk-based study:** We reviewed data from internal reports and databases, including a previous international review for ClimateXChange on heat and energy efficiency policy (LCP Delta, 2023). Additionally, we searched publicly available policy

databases and conducted tailored internet searches to identify academic, policy and other research sources.

- **Consulted with in-house expert colleagues:** this supported our research and ensured we focused our searches in areas that were likely to provide value.
- **An online call for evidence:** This was posted to LinkedIn via our company page which has over 10,000 followers to encourage stakeholders to share relevant regulatory examples.
- **Interviews with external stakeholders:** We completed interviews with six external stakeholders to discuss how regulatory examples had been implemented and the impact of including personal circumstances. Stakeholders were from a broad range of sectors and countries including the UK, Europe and Canada. These are summarised in the table below.

Table 1: Interviewees by sector and country

Interviewee no.	Interviewee sector	Country
1	Independent consumer organisation	Belgium
2	Professional housing sector body	UK
3	Government department (energy/decarbonisation)	Canada
4	Policy NGO	UK
5	Policy network organisation	Belgium
6	Policy and PA consultancy	Italy

In our research, personal circumstances refer to a variety of individual or household factors that may affect the ability to comply with or benefit from such regulations. Depending on the personal circumstance, they can be transient by their nature or permanent. Specifically, we considered the following aspects of personal circumstances:

- **Income level:** Financial status is crucial as it affects an individual's or family's ability to invest in energy-efficient technologies or renovations. Lower-income households may require subsidies or financial incentives to afford necessary upgrades. Low-income households may also struggle to deal with disruptive works in the house, particularly if they need to find alternative housing during the work.
- **Health conditions and disability:** Health issues, especially those related to respiratory problems or illnesses exacerbated by cold or damp conditions, can make certain regulations more urgent or necessary for specific individuals. They can also make it particularly difficult to deal with disruptive works in the house.
- **Property type:** The type of property one lives in (e.g., detached house, flat, listed building, etc) can influence the feasibility of certain energy-efficient solutions or decarbonisation methods. A separate piece of research investigated building characteristics that may require exemptions is ongoing at the time of writing.
- **Ownership status:** Whether a person owns or rents their home significantly impacts an individual's ability to make substantial changes to their property, such as

upgrading heating systems. Renters often lack the ability to implement these improvements, as landlords retain the final decision-making power. Landlords might impose modifications that do not align with tenants' preferences or fail to consider their personal circumstances adequately. Additionally, tenants may face the risk of eviction if they push for changes that landlords find inconvenient. Thus, protecting the interests of tenants becomes crucial, ensuring that energy efficiency improvements and clean heat installations do not result in undue cost or disruption for them.

- **Location:** Geographic location affects climate-related needs; for example, homes in colder regions might prioritise heating efficiency more than homes in milder climates. The reliability of the heating system is also crucial in colder regions. Additionally, rural or urban settings can influence access to certain technologies or energy sources and logistics.
- **Household composition:** The size of the household and the presence of vulnerable individuals (such as children, elderly, or disabled members) can affect energy needs.
- **Cultural practices:** Cultural or lifestyle factors might affect energy consumption patterns and openness to certain technologies or changes.

The project team built an Excel database to log all relevant regulations identified through the project and to include key information for each one. The database was a valuable resource when completing the analysis of findings for the project. Relevant criteria collected for each regulation included the enforcing authority to determine the eligibility and type of personal circumstance within the regulation, as well as the method of support available – such as extension, financial support, etc, and redress options (if relevant). The full list of database criteria is available in the appendix.

4.1 Research limitations

We acknowledge that the number of regulatory examples that include personal circumstances we have identified is limited. The researchers have endeavoured to identify regulatory examples to the extent that is possible. However, we acknowledge the limitation of finding all relevant regulations given the breadth of the project and the fast-developing nature of the heat and energy efficiency policy space.

We have not conducted full research into the reasons why governments have not included personal circumstances within regulations but suggest the following potential reasons for limited examples:

- **Not considered viable:** Inclusion of personal circumstances may have been considered, but the government determined that doing so was not feasible. This could either be due to the potential to limit effectiveness of the regulation or challenges associated with how including personal circumstance would work in practice. There may be an assumption that appropriate flexibility will be offered within the overall regime, without it being explicit in the overarching legislation.
- **Low priority:** Countries may have considered including personal circumstances at some stage during regulation design but deemed this a low priority resulting in no further action.
- **Oversight:** Countries may have neglected to consider the significance of personal circumstances within key regulation and the potential benefit of including them.

As the research focused on identifying regulations, the research on the type of personal circumstances that affect people's ability to meet a regulation is limited. Additionally, we have not researched in detail how government intervention could best help different people meet the regulations as this is beyond the scope.

A further limitation of the research is the focus on regulation. There is a possibility that some countries are open to considering exemptions or extensions in practice on a case-by-case basis. This would require residents to reach out to the enforcing authority or body to request some flexibility on the regulation that considers their personal situation. The interview data suggests this possibility, but this was not investigated in detail in this report. It is also possible that Government funding is provided to people in vulnerable circumstances that is not linked directly with regulation; this was also not covered within the scope of the research.

5 Key findings: Personal circumstances in energy efficiency and clean heat regulations

We undertook a comprehensive review of heat, energy efficiency and other home decarbonisation-related regulations to identify the most relevant examples of regulations including flexibility in enforcement for personal circumstances. Through desk-based research, we identified 18 existing regulations relevant to this study that consider personal circumstances.

We conducted six interviews for this project. Most interviewees were not aware of examples of regulations that include provision for personal circumstances and responses to the idea ranged from neutral to negative. One interviewee who works for a professional housing sector body confirmed that within the housing sector, regulation usually involves meeting a minimum standard with funding available for those who cannot do this themselves. There are no exemptions from electrical and gas safety standards, so the interviewee questioned why decarbonisation measures should be treated any differently as the regulation is in part intended to benefit the resident. Discussions regarding personal circumstances within regulations focused on low-income residents struggling to meet standards due to lack of finance; most interviewees were familiar with such regulation. Most interviewees agreed the solution to this would be provision of additional funding and confirmed that they were only aware of such examples. This tallied with our findings from the desk-based research.

To facilitate the analysis, we have grouped our findings into two categories based on the personal circumstance considered. Our first category considers income levels and highlights eight policies providing additional support to lower-income households, using different methods. Our second category considers the high cost of the work mandated by the policy / regulation and highlights three examples of policies supporting owner-occupiers with the costs incurred for energy efficiency improvements or replacing their heating system with the mandated clean and renewable technology. A third section focuses on other exemptions and considerations, in which we highlight three other policies. In our analysis, we have merged two policies (implemented in France) together as they effectively work together and left out other policies identified which related to legal requirements and were thus out of scope. At the end of this section, we provide a detailed summary and analysis of the six

interviews we conducted for this project. Interviewees came from different sectors to ensure a wide range of views.

5.1 Income level

5.1.1 Overview

Out of the 18 regulations identified which considered personal circumstances, nine considered income level. More particularly, the regulations had a specific provision for low-income households. These regulations, covered in more detail below, focus on the renovation of existing residential buildings to increase their energy efficiency, and on the replacement of inefficient or high-carbon heating systems for hot water and space heating. These regulations were identified in Europe for the most part (France (3), Italy, the Netherlands, the UK and Poland) as well as in Canada. They include minimum standards setting out how renovation should be conducted and which appliances to install, as well as other regulations encouraging the uptake of energy efficiency measures.

In our research, we identified two distinct phases—initial and advanced—in the evolution of regulatory approaches aimed at promoting energy efficiency and reducing environmental impact. The initial phase is characterised by non-binding, voluntary measures designed to encourage the adoption of clean heat technologies. This phase relies heavily on incentives such as grants, subsidies, or tax rebates to motivate owner-occupiers to implement energy-efficient solutions without the pressure of legal mandates. Most of the regulations highlighted in this section are part of governments' first step in driving the transformation of buildings on the way to decarbonisation and net zero objectives. In contrast, the advanced phase introduces legally binding regulations that include minimum standards setting out how renovation should be conducted and which appliances to install, as well as other regulations encouraging the uptake of energy efficiency measures. The Scottish Government is specifically interested in the regulations falling in the advanced phase, as funding (initial phase) has already been implemented in Scotland. Two of the regulations highlighted fit into this advanced phase as they include minimum standards, which could show a potential path for the evolution of existing or future clean heat measures. Minimum standards create a legal requirement for specific appliances or energy efficiency measures to be installed, which is then enforced by local planning authorities. The City of Vancouver's Zoning and Development by-law (City of Vancouver, 2022) mandated the installation of zero emissions heating systems in all new low-rise residential buildings in 2022 and will extend this mandate to all new and replacement heating system installations in 2025. The second example is Poland's Clean Air 2.0 (Ministry of Climate and Environment, 2022) in which Polish regions have implemented emissions standards for heating appliances in all new and existing single-family homes.

Policymakers across these six countries recognise the urgency in renovating their housing stock and turning them into clean, efficient and comfortable homes. However, they are also aware of the cost implications of these updates and retrofits. As a result, they have developed support schemes and policies to incentivise and help all households to undertake these works, with specific, additional support for low-income households. The definition of a low-income household depends on local economic conditions and is country specific. However, the support provided to low-income households has commonalities across the regulations identified:

- **Grants and subsidies:** the regulation offers a free contribution to owner-occupiers who undertake an energy efficiency renovation in their home. The contribution usually only covers a share of the total cost of the renovation and is capped up to a certain amount. As an example, the French *PrimeRénov'* (Republique Francaise, 2024) is an incentive to help owner-occupiers replace their heating system; in addition to other incentives, it can cover up to 90% of eligible expenses for very modest households, 75% for low-income households, 60% for intermediary households and 40% for high-income households. Eligible expenses include a large-scale renovation of a home leading to an improvement of at least two EPC labels, a specific renovation of the heating system or insulation, or the renovation of a multiple occupancy building.
- **Low-interest loans:** the regulation offers access to a low-interest loan for owner-occupiers to undertake the renovation and / or retrofit. Depending on countries, the loan can cover part or the total of the renovation work. The Dutch Energy Saving Loan provides a 0% rate on the total cost of the renovation for owner-occupiers with an aggregate income below €60,000. (Nationaal Warmtefonds, 2024).

In our review, we did not identify examples of regulations providing exemptions or abeyances related to income levels. Similarly, redress options weren't mentioned on the websites reviewed.

5.1.2 Analysis of effectiveness and success

All nine regulations accounting for income level as a personal circumstance proved effective in incentivising owner-occupiers to install energy efficiency measures. Across the countries identified, at least thousands of households had applied for the support schemes. These schemes are available to most households but provide additional support for low-income households. In France, the *PrimeRénov'* has received over 1.7 million applications, distributed over €1.7 billion in grants between 2020 and 2023 (Carole-Anne Cornet, 2024). In the Netherlands, over €1.2 billion were provided as part of the Energy Savings Loans, resulting in the renovation of over 90,000 homes across the country (Nationaal Warmtefonds, 2024). One notable measure is the Italian Superbonus which was the only measure providing support up to 110% of the cost of the renovation for owner-occupiers. Whilst the initial objective of the regulation – incentivising owner-occupiers to undertake energy efficiency renovations – has been achieved, the policy had been much more popular than expected, as the take-up of incentives had hit €219 billion by the end of 2023, as opposed to the budgeted €35 billion (Balmer & Fonte, 2024).

Understanding the effectiveness of providing additional support when considering income level as a personal circumstance is more challenging, as governments don't report such detailed information. Table 2 provides detailed uptake and spending information for all measures identified, when information was available.

Table 2: Income level-related measures and impact

Country	Name	Support available	Impact and awareness
France	CEE	Additional financial support up to €15,500 for low-income households for replacing their heating system with low-carbon options.	In 2020, 1.3 million applications were approved for support. (Ministere de la Transition Ecologique, 2024)
France	Ma PrimeRenov'	<ul style="list-style-type: none"> - Additional €1,500 for very modest income households with total subsidies capped at 90% of eligible expenses. - Additional €750 for modest income households with total subsidies capped at 60% of eligible expenses. All subsidies apply to energy efficiency and heating improvements and are claimed directly by the contractor / installer. At time of paying, the amount of the subsidy is taken off the bill by the contractor.	Between 2020 and beginning of 2023, 1.7 million applicants with over 1 million renovation work undertaken, with €1.7B distributed. (Carole-Anne Cornet, 2024).
France	Heating Boost	<ul style="list-style-type: none"> - €4,000 for modest households and €2,500 for all other households replacing their heating system with a more efficient one. - €700 for modest households to connect to a heat network and €450 for others. 	Between 2019 and 2022, 1.12 million heating systems were replaced thanks to the subsidies and 2.1 million insulation work completed, with grants totaling €4.8B. (Ministere de la Transition Ecologique, 2024)
Italy	Superbonus	Subsidies and tax deduction covering between 60-110% of the expenses incurred,	By August 2023, 425,350 energy efficiency projects had applied for the tax deduction

		<p>increasing based on the number of people in the household. These incentives can be applied to thermal insulation work, the replacement of a heating system or structural improvements.</p>	<p>through the Superbonus scheme. (Statista, 2023)</p>
England	Sustainable Warmth	<p>Maximum of £10,000 grant for low-income households installing a heat pump or hybrid heating system.</p>	<p>Under Sustainable Warmth (LAD Phase 3 and HUG Phase 1), almost 5,200 households have been upgraded up to December 2022. (Department for Energy Security and Net Zero, 2023)</p>
Netherlands	Warmth Funds	<p>Interest rate of 0% on the Energy Savings Loan provided for owner-occupiers with aggregate income below €60,000.</p>	<p>By December 2023, the Dutch Heat Fund had granted over €1.2B in Energy Savings Loans, resulting in the financing of more than 208,000 energy-saving measures for over 90,000 homes. (Nationaal Warmtefonds, 2024)</p>
British Columbia, Canada	Zoning and Development By-law	<p>Additional support for low-income households mentioned but not implemented yet. Includes exemptions from building code and planning requirements following energy efficiency work.</p>	<p>No data published</p>
Poland	Clean Air 2.0	<p>Most households can get a grant up to €5,000 when replacing their heating system to a low-emissions system. Low-income households can claim up to €7,000.</p>	<p>By early 2022, over 384,000 applications had been submitted, totaling PLN 6.45B of co-financing (GBP 1.2B). (Ministry of Climate and Environment, 2022)</p>

5.2 High cost of work in the home

5.2.1 Overview

Out of the 18 regulations identified which considered personal circumstances, three specifically considered the high cost of work in the home, as a combination of property type and location personal circumstances. These regulations mandate the ban of fossil-fuelled heating systems and their replacement by clean or hybrid heating systems. These regulations were identified in the Netherlands, Switzerland and the United States of America (USA). For this exemption, these regulations consider the cost of replacing a fossil-fuelled heating system with a clean / hybrid one and the lifetime cost of running the clean / hybrid heating system. In the cases where the combined estimated installation and running costs of the clean / hybrid heating system are higher, owner-occupiers are exempt from the ban. The regulations in place do not mention a duration for this exemption. Denver City Council has implemented such a regulation banning the installation of natural gas furnaces and water heaters in new commercial and multi-occupancy buildings as part of its new building codes (Weiser, 2023). Additionally, they have earmarked \$30 million in incentives to help building owners and homeowners install heat pumps instead.

5.2.2 Analysis of effectiveness and success

There is no published information available online on the effectiveness and / or success of these regulations. These regulations are rather recent, published in 2021 in Switzerland, 2023 in the USA and 2024 in the Netherlands. The Dutch regulation, which mandates a hybrid heat pump as the standard for residential heating, will be implemented from 2026. (Dutch Ministry of the Interior and Kingdom Relations, 2023)

Table 3: Measures considering high cost of work in the home

Country	Name	Exemption	Impact and awareness
Netherlands	Hybrid heat pump standard	Homes where installing a hybrid heating system would require too costly adjustments to the home affecting the payback period are exempt from the standard. (Dutch Ministry of the Interior and Kingdom Relations, 2023)	No data published
Switzerland	Energy Act	Climate-neutral heating system is mandatory only if it is technically possible and if the costs over the entire lifetime are no more than 5% higher than a new oil or gas heating system.	No data published
USA	Building Code	None mentioned but ban on natural gas furnaces is to be implemented in 2027.	No data published

5.3 Other exemptions: alternative clean heating considerations, location, age of residents and household composition

5.3.1 Overview

Our research uncovered two examples of regulations where an exemption was granted if an alternative clean heating system was already being implemented. This approach effectively ties compliance obligations to geographic location, making them dependent on local infrastructure rather than individual choice. As a result, whether a homeowner needs to adhere to these mandates becomes a matter of personal circumstance dictated by their residence's location, which is typically a fixed factor unless the homeowner decides to move. This geographic-based exemption recognises the contributions of existing local initiatives and reduces redundancy in regulatory compliance.

These examples are both in the Netherlands, where gas-fired heating appliances were banned from all newbuild construction in 2018 and all replacement heating systems will need to meet a specific level of efficiency as per the standard for heating appliances implemented from 2026. The standard for heating appliances is a *de facto* ban on gas-fired heating appliances with the only alternative being hybrid systems and heat pumps. The Dutch Government grants exemptions to the construction of a new build development when green gas is used in the local and existing gas infrastructure, and if there is no alternative heating system available. From 2026, the Dutch Government plans to grant exemptions to the heating appliance efficiency standard only when homes are connected, or plan to be connected in the near future, to another alternative to natural gas, such as a heat network, to avoid duplication of costs.

Our research also uncovered a unique example of a regulation in Germany mandating all new heating system installations to be at least 65% renewable, effectively mandating hybrid systems or heat pumps. In addition to subsidies and wide-ranging transition periods applying to the whole population, this regulation includes an exemption for owner-occupiers aged 80 or older occupying a building of up to six properties, for new installations or replacement. There is no published explanation of the reasoning behind this exemption, however we understand it is meant to avoid any unnecessary stress and disruption on elderly people.

5.3.2 Analysis of effectiveness and success

The Dutch efficiency standard will be implemented from 2026 and thus can't be assessed yet. However, we believe that the Dutch public is aware of this regulation as it attracted significant attention in the press and general media when it was voted on. Similarly, whilst the German building act is one of the most advanced clean heating legislations in Europe, there isn't enough time to measure its impact since it was implemented in January 2024. The Dutch Gas Act has been implemented since 2018 and is estimated to support 1.5 million existing homes to change their heat source by 2030 (Cole, 2021).

Table 4: Other exemptions

Country	Name	Exemption	Impact and awareness
Netherlands	Gaswet (Gas Act)	Alternatives - includes exemptions when there is no alternative available, or when green gas is used in existing gas infrastructure.	No data published.
Netherlands	Standard for heating appliances from 2026 (De facto ban of gas boilers)	Alternatives - includes exemptions when homes are connected to another alternative to natural gas in the short term (heat network).	No data published.
Germany	Gebaudesenergie-gesetz (Building Energy Act)	Age - includes exemptions for owner-occupiers over 80 years of age who occupy a building with up to six flats. This exemption also applies to the replacement of storey heating systems for flat owners over 80 years.	No data published.

6 Interview findings

The following sections provide an overview of the responses and comments from interviewees. Where similar responses have been made, information has been grouped together thematically where appropriate.

6.1 Country specific examples

6.1.1 Flanders are looking to introduce a decision tree of personal circumstances

One interviewee shared a proposed policy change that relates to the Energieprestatie legislation in Flanders (Propriétés Im mobilières (PIM), 2022). This regulation mandates that for all property sales from 2023 onwards, properties with an EPC of E or F must be renovated to a level D or better within five years of purchase. Failure to do so will result in a fine. However, the Flemish energy minister recently announced that people struggling to comply due to personal circumstances would not necessarily face a fine. The proposed solution is a decision tree that could include personal circumstances such as divorces, a death in the family or financial difficulties to determine whether it is reasonable that an owner occupier has not met the standard (Baert, 2024). The decision tree announcement has not yet been followed up by an official change to the regulation. Therefore, currently the requirement to meet the regulatory requirement applies to everyone.

The interviewee was asked to comment on potential parameters for the decision tree; they stressed that all comments are highly speculative. It is likely that the decision tree will be for an extension rather than exemption to the standard, such as allowing the owner occupier an

additional five years. The government recognises the importance of homes all meeting the standard so it is unlikely that many people will be granted an extension. It is not yet clear how the Flemish government will define valid personal circumstances but losing a job is unlikely to qualify as there is funding available for those on low incomes. However, a terminal illness diagnosis or the death of a partner could potentially be considered valid.

6.1.2 British Columbia is not actively looking to include personal circumstances but do include other exemptions

British Columbia has some significant differences in terms of policy and housing heating systems. Exemptions only apply in cases where the physical house cannot accommodate the change, such as lack of floor space. The interviewee also stated that in emergency situations, such as a heating system breakdown, the government will not insist that the homeowner upgrades the system. In Vancouver, there is a regulation that mandates upgrades to low-carbon hot water heating systems. This regulation was described as ‘soft’ with minimal levels of enforcement for the first five years; the regulation comes into effect from 2024 (City of Vancouver, 2024). The expectation is that this will be tightened and more stringently enforced in the future, but the current focus is on early adopters. The interviewee recognised the potential benefit of including personal circumstances, particularly to allow extensions in emergency situations or for right to repair. However, there was also a concern that this would increase the administrative burden.

6.2 Additional findings from the interviews

6.2.1 Challenges getting people to make changes in their homes

Several interviewees commented on the challenge in getting both owner occupiers and landlords to make changes to their properties. One interviewee commented that smoke alarms are now obligatory in all properties in Scotland, but compliance has been challenging despite this being affordable and less invasive than some decarbonisation measures. There was an acknowledgement that some people will struggle to meet the standard and that this was valid, for example for elderly or disabled people, as associated disruption would be harder for these groups. Likely reasons for lack of engagement relate to a lack of trust and in some cases, insufficient funding or access to finance. It is vital that these barriers are addressed as a priority where possible, before introducing regulation that allows exemptions or extensions.

6.2.2 Concerns raised regarding including personal circumstances in regulation

Including personal circumstances could risk some residents being ‘left behind’ and missing out on the benefits of the energy transition due to decarbonisation measures not being completed. This could be due to a lack of financial support (or lack of awareness that this is available), lack of understanding of the benefits (such as a warmer home) or due to some stakeholders, such as landlords, using personal circumstances as a loophole to avoid undertaking work. This point was raised in several interviews. Several stakeholders stated that the priority should be engaging and supporting people to meet the decarbonisation standards as it will benefit them overall. In circumstances where the cost of doing the work is prohibitive more funding should be made available. One interviewee commented that if a person on a low income cannot stay in their home during the retrofit work, then the funding should also cover the cost of them temporarily staying somewhere else.

6.2.3 Personal circumstances may be a valid reason for not meeting the standard, but regulation is not necessarily the right tool

Several interviewees noted that vulnerable people, particularly elderly and disabled people, are often already known to social services and there is potential to rely on their assessment of someone's personal circumstances as they are on the front line. In some countries, people are sometimes exempted from meeting energy efficiency regulation informally. In cases where someone has a terminal illness then a decision can be made on the ground not to enforce. The focus should be on making delivery work in practice and not just meeting the regulation. One interviewee commented that personal circumstances do not always fall under precise criteria, for example having no social support from friends or family may make someone more vulnerable but regulation will usually not include such criteria. Some retrofit programmes have not sufficiently considered how to work with socially diverse groups, which creates issues for delivery. Addressing this problem would support better delivery of regulations on the ground and lead to better overall outcomes, instead of focusing on top-down regulation.

6.2.4 Unclear how including personal circumstances would work in practice

There is a risk that including personal circumstances in regulations will be overly bureaucratic. There would need to be clarity on how people apply for exemption or extension and how personal circumstances are monitored to determine if they are still relevant. Personal circumstances can change quickly, so the regulations need to be able to respond dynamically in a way that is not restrictive. There is still a risk that things will become confusing and difficult to manage. There are already challenges with the current data levels on standards within the domestic sector that need to be improved to ensure an accurate picture on compliance. Improving the quality of the data would be necessary to manage any exemptions or extensions under personal circumstances. Additionally, there needs to be clarity on how to handle situations such as mixed tenancy blocks of flats where there may be different personal circumstances in each dwelling.

6.2.5 If personal circumstances are to be included in regulation this should be minimal

Three interviews highlighted that if personal circumstances were to be included, it should be cautiously. One stated that there could be a place for extensions but highlighted that there are still concerns related to managing this in practice. Another interviewee stated that any exemptions should be kept to a minimum as there was concern that this could be deliberately used to stop change. There is a risk that those with personal circumstances are assumed to be unable to act, which is not necessarily correct. Most people will be able to act and those that cannot, due to financial issues should be provided with support. Several interviewees stated that this should include appropriate levels of finance, including through banks and mortgages so people can make the necessary improvements to meet the standard.

7 Key findings: Personal circumstances in other decarbonisation regulations

In an effort to identify as many examples as possible of decarbonisation regulations including flexibility for personal circumstances, we widened the scope of our research to transport and housing-related decarbonisation regulations. A few cities across the UK have implemented is at the forefront of decarbonising individual transport in measures to reduce the number of polluting cars in city centres. The regulation sets a standard for vehicle emissions, and drivers need to pay a fee if their vehicle doesn't meet the standard. London's Ultra Low Emission Zone (ULEZ) has been extended in 2023 to cover all of London's boroughs. (Transport for London, 2023) It provides exemptions for vehicles for disabled people, because they might not be able to use alternative transportation options. ULEZ regulation also provides for a fee reimbursement for National Health Service (NHS) patients driving to a point of care. The second example is a similar and more recent regulation in Edinburgh, which offers a few more exemptions for specific types of vehicles, including vehicles for people with disabilities as well as historic vehicles, showman's vehicles, emergency and military vehicles. (Edinburgh Council, 2024)

Whilst these regulations provide examples of decarbonisation regulations including blanket exemptions, it is challenging to draw specific learnings for heating and energy efficiency decarbonisation, particularly as the exemptions included are tied to vehicle types.

Table 5: Personal circumstances in other decarbonisation regulation

Country	Name	Exemptions
Edinburgh, Scotland	Low Emission Zone	The following vehicles / drivers are exempt: <ul style="list-style-type: none"> - vehicles for people with disabilities, including Blue Badge holders. - historic vehicles - showman's vehicles - emergency vehicles - military vehicles
London, England	Ultra Low Emission Zone	The following vehicles / drivers are exempt: <ul style="list-style-type: none"> - vehicles for disabled people. - NHS patient reimbursement.

8 Conclusions

8.1 Key findings for regulation development

8.1.1 Income level

Most of the regulations identified in our research focused on addressing the impact of the energy transition on low-income households. Policymakers seem to be aware of the high costs of the transition and provide financial support under different forms, including grants, subsidies or low interest loans and tax deduction. The financial support is usually tied to specific energy efficiency objectives in the home, or the installation of a specific heating technology. Low-income households can get access to more funding to cover the incurred costs, up to 110% in Italy.

No financial support is provided to deal with the disruption resulting from the replacement of the heating system. The interviews identified this as an important gap in policy, as vulnerable people, particularly those with ongoing health conditions will likely need additional support, during work that is particularly disruptive.

8.1.2 High cost of work in the home

A few of the regulations identified in our research provided exemptions to owner-occupiers where the cost of installing a clean heating system was significantly higher than the cost of installing a fossil-fuelled heating system. Whilst these regulations consider the installation cost as well as the lifetime cost of the appliance, it remains challenging to assess the lifetime cost of a new appliance and without careful implementation and enforcement, there is a risk that this type of regulation could be exploited to justify the continued use of fossil-fuelled heating systems.

8.1.3 Other exemptions: alternative clean heating and age

A few of the regulations identified in our research provided exemptions from clean heat standards where homes had access to alternative clean heating technologies (e.g. heat networks) or when green gas is used in the gas network. Our research also found an example which exempted owner-occupiers over 80 years of age from replacing their heating system with a system that is at least 65% renewable, to avoid significant disruption.

8.1.4 Stakeholder opinions on the inclusion of personal circumstances

The interviewees primarily consisted of those who had never considered including personal circumstances within regulations or who were sceptical about how this would be beneficial. There were also questions raised regarding how effective this would be in helping vulnerable groups while balancing the needs of the energy transition. This included a lack of clarity regarding who the introduction of personal circumstances was intended to support and additional concerns regarding the process becoming overly bureaucratic. One interviewee noted that the potential disruption associated with installing decarbonisation upgrades could potentially be alleviated by providing temporary accommodation for vulnerable residents during the works.

8.1.5 Overall conclusion

Our overall research concluded that there are limited examples of regulations that include exemptions, extensions or abeyances based on personal circumstances. Our recommendation to the Scottish Government is that blanket exemptions are not suitable for this policy area as it risks excluding some members of society from the benefits of the energy transition. We found a limited number of regulatory examples that consider personal circumstances. This could be a suitable amendment to the regulation provided there is clarity on how exemptions would be managed over time and that does not become overly bureaucratic for residents.

We recommend that the Scottish Government continues to monitor the situation in Flanders, as new policy announcements may provide greater clarity on the proposed decision tree. We also recommend further consideration is given to the suggestion by one interviewee, to provide alternative accommodation for those on a low-income during upgrade works to their homes, which can be highly disruptive.

8.2 Priorities for further research activity

We have found that the Scottish Government appears to be considering the impact of upgrading residential home on vulnerable groups more than other countries. This is an important consideration to ensure the energy transition is fair and does not negatively affect vulnerable groups. However, should the Scottish Government seek to include personal circumstances within energy efficiency and clean heat regulations we recommend further research. This includes investigating more precisely which vulnerable groups are most likely to benefit from an exemption, extension or abeyance through stakeholder engagement. Additionally, greater clarity is required regarding what the needs of different vulnerable groups are to determine how the inclusion of personal circumstances within regulations would potentially benefit them. Finally, there is a need to identify the potential risks and possible negative unintended consequences associated with including personal circumstances before any policy amendments are made.

The introduction of personal circumstances has the potential to provide different levels of benefit for different groups that may struggle to meet the HiB Standard. There was significant discussion during the project, with interviewees, the Scottish Government and the project delivery team regarding who is most likely to benefit from the inclusion of personal circumstances in regulation. However, this was not the key focus of the research, so any conclusions regarding who is most likely to benefit is highly speculative. We have outlined our assumptions below, but these would require further research to be conclusive.

The three groups that could benefit from the inclusion of personal circumstances relate to the proposed trigger points for action from Scottish Government. These are outlined below:

- **New owner-occupied properties:** One of the proposed trigger points to meet the standard is the point of sale of a property. The benefit of including personal circumstances is likely to be low for this group, as they have already encountered disruption when moving. The current proposal is to allow a grace period of 2-5 years for this trigger point; therefore, additional disruption associated with meeting the standard would likely be well tolerated. One interviewee commented that when some vulnerable people, particularly older people, move to a new property, they

often move to sheltered or social housing rather than into a privately owned home. This would reduce the benefit of including personal circumstances as such housing is covered by separate legislation.

- **Tenants in the private rented sector:** Another proposal is for landlords to meet the standard, regardless of the circumstances of their tenants. The potential benefit of including personal circumstances of tenants could be high, as vulnerable people in this group have less agency than those in owner-occupied properties. However, there is also a risk that by including personal circumstances, landlords may see this as a loophole to avoid making improvements on their property that would benefit their tenants. The uncertainty regarding the levels of disruption and potential unintended consequences for tenants would benefit from further research.
- **Opportunity to connect to a heat network:** A final proposed trigger point is a new district heat network. Residents would not be obligated to connect but would be expected to adopt an alternative clean heating solution instead if they do not. The benefit of including personal circumstances for this group could also be high, as any community or neighbourhood that connects to a heat network is likely to be composed of a range of residents, including vulnerable people.

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10 Appendix

The full list of criteria collected for each regulation and included in database:

- Country / Region where the policy is in force
- Type of regulation such as a national strategy, subsidy, standard, tax, etc
- Level of governance: municipal, regional or national
- Implementing body within relevant country
- Topic area: energy efficiency, clean heat or both of these or transport
- Name of regulation/policy
- Date first introduced
- Regulation objective
- Regulation description
- Personal circumstances provision in the regulation
- Support available - Financial
- Support available - abeyances or exemptions
- Redress options available
- Criteria used for assessment
- Link to the regulation
- Link to relevant case study (if available)

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