

Heat in Buildings Strategy

Achieving Net Zero Emissions in Scotland's Buildings



Scottish Government
Riaghaltas na h-Alba
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Heat in Buildings Strategy: Summary Document

October 2021

1. Introduction

This Strategy outlines the steps we will take to reduce greenhouse gas emissions from Scotland's buildings and to remove poor energy performance as a driver of fuel poverty. It sets out a pathway to zero emissions buildings by 2045 and details a series of near-term actions and longer-term commitments to accelerate the transformation of the nation's building stock. It sets out the principles we will apply to ensure our zero emissions heat delivery programmes support our fuel poverty objectives.

Vision

Our vision is that by 2045 our homes and buildings are cleaner, greener and easy to heat, with our homes and buildings no longer contributing to climate change, as part of the wider just transition to net zero. Our statutory emissions targets require us to achieve net zero greenhouse gas emissions by 2045, with interim targets requiring a 75% reduction by 2030, and 90% by 2040.

Our statutory fuel poverty targets are similarly ambitious requiring that in 2040 no more than 5% of households are fuel poor, no more than 1% are in extreme fuel poverty and the fuel poverty gap is no more than £250 (in 2015 prices). It is therefore critical to a just transition that, as we take action to cut emissions from Scotland's homes, we do so in a way that supports and enables the eradication of fuel poverty.

Developing the Heat in Buildings Strategy

This Heat in Buildings Strategy consolidates our ambitious approach to the zero emissions heat transition, finalising the draft published for consultation in February and providing a firm foundation for the heat transition in Scotland.

Respondents to the consultation generally supported the vision and actions set out in the draft Strategy and largely agreed with Scottish Government's commitments, which were widely regarded as a welcome step forward. This Strategy is an opportunity to reflect much of the insight generated through the consultation, and we will continue to build the new ideas proposed by respondents into our policies and programmes.

This Strategy forms the foundation of our ongoing work:

- We have committed to publish a refreshed Energy Strategy and have also committed to an Energy Just Transition Plan in Spring 2022. Through this we will further refine our approach to heat in buildings, ensuring a coherent whole-system view and further embedding our evolving policies within our wider approach to delivering on a just transition.
- We will set out our approach to eradicating fuel poverty in the Fuel Poverty Strategy by the end of 2021.

- We will develop a bespoke Public Engagement Strategy for heat in buildings to raise awareness of the support and advisory services available and to encourage home upgrades.
- We will develop our approach to heat in islands and remote rural contexts in our forthcoming Islands Energy Strategy.
- We will co-produce with the sector a Supply Chain Delivery Plan focussed on the development of energy efficiency and zero emissions heat in the buildings supply chain in Scotland.
- We will establish a Green Heat Finance Taskforce by the end of this year.

Delivery

Central to delivering our vision is an ambitious programme of at least £1.8 billion investment over the course of this Parliament. We will provide increased funding this year for home energy programmes and measures to reduce poor energy efficiency as a driver of fuel poverty, and are allocating £200 million for heat and energy efficiency projects in social housing over this parliament.

We are committed to establishing a National Public Energy Agency to accelerate the transformational change in how we heat and use energy in homes and buildings. To achieve this, the Agency will have a remit to raise public understanding and awareness, coordinate delivery of investment and coordinate national, regional and local government delivery of heat decarbonisation and energy efficiency rollout, working closely with public, private and third sector partners. We will establish the Agency first as a virtual agency and transition to a dedicated body by September 2025. We have begun a period of evidence gathering to support the development of the scope and responsibilities of the Agency.

Additional private investment will be required to secure delivery over the longer term. This Strategy considers the funding and finance routes already available and where further work is needed – with a new Green Heat Finance Taskforce to support this established by the end of this year.

UK Government action

While we are taking action in areas where we can, we do not have all the powers necessary to deliver the zero emissions heat transition. The delayed UK Heat and Buildings Strategy must set out how the UK will use its regulatory and policy levers to incentivise rapid deployment of zero emissions heat technologies and make zero emissions heat the cost-effective choice.

We continue to press the UK Government to act urgently, whilst we do everything we can within our powers to accelerate progress in a way that is just and fair.

2. A 2045 Pathway for Scotland's Homes and Buildings

Scale of the challenge

Improving the energy performance of buildings is essential to unlock the rollout of zero emissions heating. Where technically and legally feasible and cost-effective, by 2030 a large majority of buildings should achieve a good level of energy efficiency, which for homes is at least equivalent to an EPC band C, with all homes meeting at least this standard by 2033.

Energy efficiency measures are a critical precursor to deployment of many zero emissions systems and are vital to supporting households and businesses to reduce their energy costs today. However, alone they will not reduce emissions enough to meet our emission reduction targets.

Our climate targets require a reduction in emissions from heat in buildings of 68% by 2030 compared to 2020. This means the vast majority of the 170,000 off-gas homes that currently use high emissions fossil fuels, as well as at least 1 million homes currently using mains gas, must convert to zero emissions heating. By 2030, we will also need to convert the equivalent of 50,000 of Scotland's non-domestic properties.

To achieve this we need to quickly ramp up the pace of installations of zero emissions heating systems. Recent years have seen around 3,000 renewable heating systems installed in Scotland's homes annually. To maintain progress towards our statutory emission reduction targets, this must scale up to provide a total of at least 124,000 systems installed between 2021 and 2026. The installation rate will need to peak at over 200,000 new systems per annum in the late-2020s – which is above the natural replacement rate for boilers.

Strategic technologies

Over the coming years we propose a focus on energy efficiency, heat pumps in off-gas areas and in those on-gas areas least likely to convert to hydrogen, and heat networks in suitable areas. These are the key “no and low regrets” deployment opportunities and strategic technologies available today. They are the technological solutions where cost uncertainty is low.

3. People

Transforming how we heat our homes and buildings will touch the lives of almost everyone in Scotland, involving changes across the large majority of our buildings.

A people-centred transition

We are developing a bespoke public engagement strategy for heat in buildings focused on:

- raising the profile of energy efficiency and zero emissions heating;

- 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
- raising awareness of the support and advisory services available.

We are investing in growing our advice services, and the National Public Energy Agency's remit will include educating the public on the changes needed and providing expert advice.

Addressing fuel poverty

As we scale up deployment of energy efficiency measures and zero emissions heating systems, we need to support people through the heat transition, and continue to work more widely to tackle fuel poverty. We will set out our wider approach to eradicating fuel poverty in the Fuel Poverty Strategy by the end of 2021.

Zero emissions heat running costs

The running costs for zero emissions heat systems depend on a variety of factors, including how well insulated and how large the building is, the efficiency of the heating system, and the price of energy offered by energy suppliers. In some cases, zero emissions systems will cost more to run than the fossil fuel systems they replace.

High standards of energy efficiency are essential to reduce the overall demand for energy. Alongside energy saving behaviours these measures can help to ensure running costs remain affordable. We will continue to take a fabric first approach as it underpins the successful roll-out of low and zero emissions heating, as well as being an important aspect of tackling fuel poverty.

We believe that homes with households in fuel poverty should reach higher levels of energy efficiency. We want all fuel poor households to benefit from an energy efficiency rating equivalent to EPC C by 2030 and equivalent to EPC B by 2040.

As we transform our homes and buildings it will be imperative that we do so in a way that continues to help eradicate fuel poverty and protect our most vulnerable citizens. We will be guided by the following principles:

Guiding principles to ensure alignment with fuel poverty objectives

1. We are committed to ensuring that poor energy efficiency is removed as a driver of fuel poverty. As such, improving the fabric of buildings will be central to how we decarbonise heat.
2. We recognise that heat decarbonisation is essential to address the climate emergency, and that in decarbonising our homes we must not make fuel poverty worse. We commit to delivering measures to help those in fuel

poverty to manage their running costs. As such, it is essential that, whenever possible, measures that both promote decarbonisation and lower fuel costs are supported.

3. We will assess our heat in buildings capital delivery programmes for their impact on those households experiencing fuel poverty– both at installation and throughout their lifespan. This assessment should be proportionate to the expected impacts.

4. Where an intervention can lower running costs, fuel poor consumers should be targeted for support as soon as possible, including support for the up-front installation costs of these measures. Factors affecting the ability of consumers experiencing fuel poverty to take up these measures should be considered as part of this process, as should the provision of advice and support to ensure that households in fuel poverty derive the maximum benefit from new measures.

5. We will develop mitigation measures to be deployed across our capital funding programmes where there are demonstrable cost increases on those in or at risk of fuel poverty. Success of these measures should be regularly assessed and, if appropriate, these measures should be adjusted to better meet the needs of these households.

6. In cases when zero emissions heat interventions are assessed as likely to increase energy costs even after mitigation measures are put in place, government supported measures should be focused on consumers who are not at risk of fuel poverty.

7. In some cases, wider change will be needed for decarbonisation measures to become suitable for those in fuel poverty, including areas that are reserved to the UK Government. We will continue to urge the UK Government to take necessary action in reserved areas and will use the research and practical experience gained through our decarbonisation schemes to support us in building appropriate evidence and pushing for systemic improvements.

8. Communications should be presented in formats accessible to a wide range of consumers, taking into account differing circumstances and accessibility needs.

Consumer protection

Consumer organisations have highlighted consumer protection and mis-selling in the zero emissions and energy efficiency sector as an area of current and growing concern as the rate of installations increases.

Consumer protection is reserved to the UK Government, with only powers over consumer advocacy and advice devolved to Scottish Ministers. As we continue to develop our heat and energy efficiency policies, regulations and

delivery schemes, we will create the necessary environment to allow exemplary practice to become the norm. In addition we are taking a proactive approach to ensuring consumers have access to high quality work (see section 9 below) and plan to publish a separate policy statement covering quality assurance for our Heat in Buildings Strategy later in 2021.

4. Place

We know the heat transition may look different in different communities and will require approaches tailored to place. It will be important for local communities to shape and be involved in decisions about solutions that are most appropriate for their local area.

Local Heat and Energy Efficiency Strategies

LHEES Strategies will set out the long-term plan for decarbonising heat in buildings and improving their energy efficiency across an entire local authority area.

Accompanying the Strategies will be Delivery Plans, which will be developed in partnership with key stakeholders, and provide a strong basis for action for local communities, government, investors, developers and wider stakeholders, pinpointing areas for targeted intervention and early, low-regrets measures.

Scotland's planning system

As we revise our National Planning Framework, which in future will incorporate the Scottish Planning Policy, we will look to provide stronger support for sustainable, low and zero carbon developments including ways to actively facilitate decarbonised heating and electricity generation and distribution.

5. Preparing Scotland's Energy Infrastructure for Decarbonised Heat

Decarbonising heat will substantially change the way we use our existing energy infrastructure and influence where we develop new infrastructure such as heat networks, energy network upgrades and additional electricity generation capacity.

We will be transforming the way we heat our homes and non-domestic buildings at the same time as we decarbonise transport and industry. It will be important that we can consider and manage these impacts in the round. We will publish an Energy Strategy and Just Transition Plan for consultation in Spring 2022.

The Electricity System

By 2030, a much larger proportion of heat demand will be electrified compared to today. Delivering this change in a way that is resilient, affordable and low carbon means ensuring that we have sufficient low carbon generation in Scotland, that our electricity networks are capable of

delivering that electricity, and there is sufficient flexibility to balance supply and demand.

As electricity policy and regulation is reserved to the UK Government, action from the UK Government and Ofgem to ensure that renewable electricity generation is properly supported and enabled will be crucial. We continue to seek assurances from the UK Government and energy regulator on the measures that they will take to ensure that this need is met.

Electrifying a significant proportion of our heat over the course of this decade will substantially increase the amount of energy that our local electricity distribution networks need to deliver to buildings. We will continue to work with distribution network operators (DNOs) as they prepare to submit final business plans in December this year. We have set up a new Heat Electrification Strategic Partnership with the Scottish DNOs as a forum for working together.

Gas networks

To meet our emissions targets, we must reduce eventually phase out entirely our use of natural gas. By 2030 at least 1 million homes will have to have switched to zero emissions heat.

Blending alternatives to natural gas – currently biomethane but in future also hydrogen – into the gas network delivers near-term emissions reductions and helps to build supply systems that over time may be able to fully displace natural gas. Over this decade we need to see an increasing blend of biomethane used in our gas networks. We will work with the UK Government and project partners in Scotland to maximise investment under the UK's Green Gas Support Scheme.

We are working with the gas network sector and the UK Government to explore opportunities for blending hydrogen in the gas network. We continue to keep under review the benefits and cost-effectiveness of increased hydrogen blending at GB-level. The Scottish Government's Hydrogen Policy Statementⁱ sets out our wider vision for the role of hydrogen in Scotland.

Regulation of the gas network is a matter for the UK Government. We are urging the UK Government and regulator to expedite changes to regulation to facilitate greater levels of gas blending.

In the longer term, should demonstration and safety case trials prove successful, conversion of parts of the gas network to carry 100% hydrogen could play an important role in reducing emissions from buildings to very near zero. For hydrogen to play a role in helping to meet our 2030 decarbonised heat ambition, sources of low carbon and renewable hydrogen need to be developed rapidly, alongside conversion of the network itself. Our work with the sector will inform our Energy Strategy and Just Transition Plan, where we will set out in more detail the options and timescales for deployment.

Creating the conditions to secure growth of heat networks in Scotland

We continue to support the deployment of heat networks in Scotland. The centrepiece of our efforts is our Heat Networks (Scotland) Actⁱⁱ which, was unanimously agreed by the Scottish Parliament. The full regulatory regime will take time to establish and a phased approach may be needed to enable the heat networks industry to adjust to new requirements. We remain committed to working with the heat networks sector as we develop detailed regulations and aim to put in place a functioning regulatory system, subject to public consultation by 2024.

We will continue to support heat networks through our funding and delivery programmes such as the successor to the Low Carbon Infrastructure Transition Programme (LCITP) and the refocused District Heating Loan Fund (DHLF).

To help support and encourage investment in heat networks, we have introduced a 90% relief from non-domestic rates until 31 March 2024 for new networks run from renewable sources. This goes beyond the existing 50% relief that is in place for heat networks.

It is imperative that we create a sustainable and investible market for heat networks. The Heat Networks (Scotland) Act already includes many of the key ingredients to make heat networks an attractive proposition for investors. We know that investors need confidence in future revenues and in order to create this demand assurance securing key anchor buildings is vital. Later this year we will consult on detailed proposals to:

- require anchor buildings in the non-domestic sector to make adaptations to become 'heat network ready' to connect, and
- use the non-domestic rates system to encourage such buildings to go on to use a local heat network.

These changes would provide the substantial, long-term and secure customer bases needed, and along with wider sector regulation will enable commercially viable heat networks to develop at the scale needed to meaningfully contribute to Scotland's climate change targets.

New heat networks will need to be powered using low and zero emissions sources of heat, for example from heat pumps or surplus or waste heat. When regulation of the heat network sector is implemented we will only consent heat networks with low and zero emission heat sources.

Heat networks are technically complex infrastructure projects requiring a range of specialist expertise. In order to drive projects forward, we will launch the Heat Network Pre-Capital Support Unit in 2021, expanding on the previous role of the Heat Networks Partnership. This will support the development of a pipeline of projects across Scotland.

6. Kick starting investment in the transition

Transforming Scotland's homes and buildings over the next 24 years is a significant investment opportunity that will support supply chains, jobs and a healthy economy.

The Scottish Government will kick start this transition with at least £1.8 billion of capital funding during the next five years, allowing us to accelerate energy efficiency upgrades and renewable heating deployment, creating new jobs and supply chain opportunities across Scotland.

We will use our investment of at least £1.8 billion to build upon, expand and improve existing programmes, and bring forward new mechanisms where necessary and maximise investment from other sources. We recognise there are choices to be made around how best to maximise the impact of our funding. We will need to strike a balance between supporting the vulnerable and ensuring that they are not left behind in the transition and making demonstrable and sustained progress in those areas where we have most ground to cover, such as increasing the absolute volume of zero emissions heat installations.

We propose to expand existing delivery programmes to focus on accelerating deployment against four strategic priorities, which received widespread support through the consultation, with at least £465 million to support those least able to pay through our programmes targeted at those in fuel poverty and over £1 billion to support heat decarbonisation and energy efficiency across our other strategic priorities.

The remit of the new National Public Energy Agency will include coordinating the delivery of investment, as well as coordinating national, regional and local government delivery of heat decarbonisation and energy efficiency rollout, working closely with public, private and third sector partners.

Our strategic priorities are:

1. Supporting those least able to pay
2. Investing in strategic technologies in low or no regrets areas
3. Showcasing Net Zero leadership and share learning through early adoption in key areas of focus
4. Investing in innovation and demonstration to drive forward competitive advantage

Supporting home owners, landlords and tenants

Support for early adopters will be essential if we are to deliver our targets. We propose to continue to offer interest-free loans accessed via Home Energy Scotland, with a commitment to run our cashback scheme (or a grant replacement) until at least 2023. We have increased the cashback available on measures to improve the efficiency of buildings and install zero emissions

heating. In 2022/23, we will replace current arrangements with a grant scheme to support energy efficiency and zero emissions heat improvements.

Supporting those least able to pay

Over the next five years, we will invest at least £465 million to support those in fuel poverty in the heat transition and to remove poor energy efficiency as a driver of fuel poverty. Our Heat in buildings Area Based Schemes (ABS) will increase their reach to support higher numbers of households in or at risk of fuel poverty. We expect to deliver an increasing number of 'whole house' retrofits. The Warmer Homes Scotland (WHS) contract is due to end in September 2022 and we propose to replace it with a new and enhanced 7-year national scheme. We propose that both ABS and WHS adopt a zero emissions first approach.

Support for non-domestic and small & medium sized enterprises

SME businesses can continue to access free and impartial advice and support as well as low-cost loans to help spread the upfront cost of investing in energy efficiency and zero emission heat. We propose to continue to run our SME loan cashback schemes (or grant replacement) until at least 2023 to help reduce the cost of investing

Supporting communities

We continue to support communities through the Community and Renewable Energy Scheme (CARES). The current CARES contract period commenced April 2021, and will run until March 2025, and will have a greater focus on supporting heat decarbonisation in community-led projects, while seeking to help and inform decisions, of all those participating in or developing local energy projects as Scotland transitions to a net zero future, and supporting community engagement in Local Heat & Energy Efficiency Strategies (LHEES)

Public sector

We will consult the Scottish public sector during 2022 to develop and agree a series of phased targets with increased funding available to support delivery of these targets – starting in 2024, with the most difficult buildings like hospitals being decarbonised by 2038 – for all publicly owned buildings to meet net zero emission heating requirements by 2038. We will also introduce Fair Work standards as a condition to public sector heat and energy efficiency contracts.

Over the next Parliament, we will invest at least £200 million in the Scottish public sector estate to improve and reduce energy use and install zero emissions heating systems. So far in 2021, we have committed over £15 million of capital funds to public sector estate projects

At scale support

We are developing a successor programme to our highly regarded Low Carbon Infrastructure Transition Programme. This will be the primary mechanism for deploying zero emissions heat at scale, co-ordinating our support for the roll-out of heat networks and heat infrastructure. To achieve this, we will invest £400 million over the next five years in large-scale heat decarbonisation infrastructure

Social Landlords

The Social Housing Net Zero Heat Fund, supports social housing landlords across Scotland. In August 2021, we launched the second £30 million call for this Fund including an additional funding stream focused on energy efficiency as the first step in our commitment to help upgrade the most inefficient and expensive to heat social homes to the highest possible standard in one leap. We will continue to operate the Social Housing Net Zero Heat Fund until 2026 investing £200 million in a sector already leading the way.

7. Working towards a long-term market framework

As we scale up deployment it will be important that this transformation is underpinned by an appropriate market framework, which helps to create the demand for energy efficiency and low and zero emissions heating, helps consumers overcome the upfront investment costs and helps to attract and secure further private investment and finance to help meet the costs of the transition.

We estimate that the total capital cost of converting our building stock to zero emissions by 2045 is in the region of £33 billion¹. Public sector funding will be a part of the solution to deliver the scale of transformation needed by 2045, but private investment must also drive progress.

We will establish a Green Heat Finance Taskforce before the end of this year – a proposal which was widely welcomed in the consultation responses. The Taskforce will forge a new partnership approach between the Scottish public sector, heat decarbonisation experts and the financial sector and will make recommendations on the range of approaches the Scottish Government – working in collaboration with the private sector – should bring forward.

¹ Cost expressed in real terms (today's prices). This estimate is based on a high-electrification pathway. Other pathways could result in a different distribution of costs (for example with lower building level investment costs but higher costs upstream in the energy system). Note that it is possible that as technology develops and the market scales up, real costs could fall over time. By way of comparison, there have already been very significant falls in the costs of renewable electricity generation.

Creating favourable market conditions

As we accelerate deployment of a wider range of heating systems, it is important that the market evolves with it. The current imbalance of gas and electricity costs is incompatible with our net zero objectives and acts to disincentivise take up of zero emissions heating technologies. We reiterate our call for the UK Government to take urgent action to rebalance energy prices so that the running costs of zero emission systems are comparable to fossil fuel incumbents.

8. Developing a regulatory framework for zero emissions buildings

To underpin our investment and provide long-term certainty to the sector and home owners, landlords, owners of non-domestic premises and the public sector, we will introduce primary legislation, subject to consultation and to limits on devolved competence, that provides the regulatory framework for zero emissions heating and energy efficiency, and underpinning powers to support this transition and the wider Heat in Buildings programme. We will engage with the UK Government ahead of introducing this legislation to secure agreement on changes that are necessary to the energy markets in reserved areas, to ensure a just transition to zero emissions heating, or securing further devolution of the powers needed to make such changes in Scotland.

Existing homes

We are revising our approach and developing a regulatory framework for energy efficiency and heat supply that will: reform Energy Performance Certificates; address both heat decarbonisation and energy efficiency; and increase clarity and pace.

Our consultationⁱⁱⁱ on reform of the existing EPC considers options to include three indicators as a basis for future standards: an indicator for energy efficiency which will recommend measures needed to reduce demand for heat; an indicator for heating emissions which will recommend the most appropriate heating system; and an indicator for cost of heating.

The regulatory framework we set out in our 2018 Energy Efficient Scotland Route Map focussed only on energy efficiency. We now need to strengthen this framework so that it covers both energy efficiency and zero emissions heating to the extent that our powers allow. Where required we will seek additional powers from the UK Government to enable this. We propose that under our strengthened regulatory framework a large majority of buildings should achieve a good level of energy efficiency by 2030, equivalent to EPC

C for homes, with all homes meeting at least this standard by 2033, and that all buildings have zero emissions heating systems by 2045 at the latest².

We will bring forward legislation during this Parliamentary term which, subject to devolved competence, will include regulatory proposals to require the installation of zero or very near zero emissions heating systems in existing buildings – in both the domestic and non-domestic sectors. This legislation will support our commitment to phasing out the need to install new or replacement fossil fuel boilers in off gas properties from 2025, and in on-gas areas from 2030.

This would be subject to technological developments and decisions by the UK Government in reserved areas, with our intention that compliance with a new zero emissions heat standard be phased in for off-gas grid areas from 2025 and on-gas grid areas from 2030, with all buildings needing to meet this standard no later than 2045.

We would seek to consult during 2022 on a proposed all-tenure zero emissions heat standard and any legislation needed to underpin this.

Minimum energy efficiency standards

Private Rented Housing: We had previously committed to the introduction of regulations to ensure properties in the private rented sector reach an EPC D by 2025. However, we recognise that the private rented sector has been significantly affected by the ongoing COVID-19 pandemic. As a result we are now working with the sector to introduce regulations in 2025, requiring all private rented sector properties to reach a minimum standard equivalent to EPC C by 2028 where technically feasible and cost-effective, at change of tenancy, with a backstop of 2028 for all remaining existing properties, in line with the direction provided by the CCC^{iv}.

Owner-occupied Private Housing: We will consult on detailed proposals for minimum energy efficiency standards for all owner-occupied private housing. It is envisaged that these will be set at a level equivalent to EPC C. We propose to introduce regulations from 2023-2025 onwards, and all domestic owner-occupied buildings should meet this standard by 2033.

Social Housing: The Scottish Housing Regulator reports that 89% of social rented homes have met the Energy Efficiency Standard for Social Housing 2020 milestone (ESSH1) and social landlords are working towards the second ESSH2 milestone for all social housing to meet, or be treated as meeting, EPC B, or be as energy efficient as practically possible, by the end of December

² Multi-tenure or mixed-use buildings under certain circumstances may be given until 2040-45 to improve both their energy efficiency and install a zero emissions heat supply, depending on the complexity involved in coordinating works and recovering costs between multiple owners, which may necessitate a 'whole building intervention' simultaneously covering energy efficiency and heat supply improvements.

2032. We will review of EESSH2 standard with a view to strengthening and realigning it with wider net zero requirements.

Mixed-tenure and mixed-use buildings: For these buildings, energy efficiency and heat standards may need to apply to the whole building rather than to individual properties or units, such as individual flats or ground floor commercial premises within a tenement. We will consult on options for a regulatory approach which would see these buildings required to reach a good level of energy efficiency and install a zero emissions heating supply. We will introduce regulations from 2023-25 onwards.

Existing non-domestic buildings

We are considering the most effective regulatory approach for non-domestic buildings, taking into account the diversity of building uses and energy demands. We intend to consult on the regulatory approach in 2022 and introduce regulations by 2025 to require owners to reduce demand for heat through energy efficiency improvements where feasible, and install a zero emissions heating supply, within the extent of our powers.

Public sector buildings

We are committed to showing leadership in the 23,000 public sector buildings^v in Scotland. We will develop and agree through consultation a series of phased targets starting in 2024, with the most difficult buildings like hospitals being decarbonised by 2038, and for all publicly-owned buildings to meet zero emission heating requirements, with a backstop of 2038. The Scottish public sector should take a zero emissions-first approach to heating system replacement.

Regulatory trigger points and area-based regulation

There are a range of natural points where changes happen to a building. These could be used as triggers at which regulation could come in to force including: change of tenancy (when a property is empty); point of sale; major refurbishment; or replacement or installation of a new heating system.

In many cases, standards triggered at the individual property level will be appropriate. However, in circumstances where there are common or shared issues across an area it may be more appropriate to require action across a defined area, for example: where there is a common building fabric type or construction archetype; where there are mixed-tenure or mixed-use buildings requiring common works; or where a communal or area-based heat solution, such as a heat network requires action to be taken across multiple buildings in tandem.

As we develop our regulatory approach for buildings we will consult on area- or zone-based triggers to complement those at the individual property level.

New buildings

To ensure that new buildings do not require retrofitting in the future to achieve zero emissions, the Scottish Government is currently developing regulations which will require all new buildings, for which a building warrant is applied for from 2024, to use zero emissions heating.

9. The economic opportunity

Transforming our buildings by making them more energy efficient and converting them to zero emissions represents a sizeable opportunity for Scottish businesses over the next 24 years. The necessary pace of the transition requires a substantial growth in supply chains, particularly in the availability of skilled heating and energy efficiency installers.

Economic opportunities

Overall, we estimate that an additional 16,400 jobs will be supported across the economy in 2030 as a result of investment in the deployment of zero emissions heat.^{vi}

We have partnered with Scottish Renewables to undertake a Heat in Buildings Workforce Assessment Project. This will consider the timing of necessary workforce growth and consider the wider context and demand for skills in multifaceted sectors. The report will provide a view on how best to support people transitioning into key sectors, alongside workforce growth through youth employment.

To augment our Sustainable Energy Supply Chain programme, we will work with industry to co-produce a new Heat in Buildings Supply Chain Delivery Plan by Summer 2022, specifically focussed on strengthening the broad supply chains needed to deliver energy efficiency and zero emissions heat in buildings at the pace and scale we need.

Following consultation feedback, we will adopt the UK PAS 2035/30 standards for our delivery programmes, which will ensure that installers of energy efficiency measures are suitably skilled to undertake required works. We will also consider using the UK government endorsed TrustMark quality assurance framework to ensure compliance with these standards.

We have developed an installer skills matrix which we propose to integrate within the PAS 2030 and MCS installer standards. This will provide more clarity on the qualifications required, as well as the different routes for achieving these. We plan to publish a policy statement in late 2021 which will include our proposals for quality assurance including quality marks and consumer protection.

10. Working with the UK Government

Emissions from buildings cannot be reduced to zero in a fair and just way through action only within devolved competence. We therefore reiterate our

call for the UK Government urgently to set out in its Net Zero Strategy and Heat and Buildings Strategy a clear vision for how the energy markets will be reformed to support decarbonisation of heat and how the UK Government will ensure the costs of the transition are shared equitably.

A broad suite of energy market reforms is needed, including taking strategic decisions, and urgent first steps to implement those, on the future role for the gas network, changes to the ways in which policy costs are applied to energy supply and new safeguards put in place to share the cost of the transition fairly across consumers. Energy generators, as well as network and supply companies, need better incentives to deliver zero emissions heat solutions, and investment from the UK Government and the private sector needs to be significantly ramped up.

In the full strategy document, we set out a clear series of actions that we need and expect the UK Government to take. If the UK Government fails to take these actions, there is significant risk to our ability to achieve the necessary emissions reductions from buildings. The Committee on Climate Change has already highlighted the need for strong coordination and an effective devolution of powers and responsibility to drive delivery.

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- ⁱ Scottish Government (2020) Scottish Government Hydrogen Policy Statement URL: <https://www.gov.scot/publications/scottish-government-hydrogen-policy-statement/>
- ⁱⁱ Heat Networks (Scotland) Act 2021 <https://www.legislation.gov.uk/asp/2021/9/contents>
- ⁱⁱⁱ Scottish Government (2021), Domestic Energy Performance Certificates (EPC) reform: consultation, URL: <https://www.gov.scot/publications/domestic-epc-reform-consultation/>
- ^{iv} Climate Change Committee. (2020), Policies for the Sixth Carbon Budget and Net Zero, Table 3.2, p.80., (Climate Change Committee), URL: <https://www.theccc.org.uk/wp-content/uploads/2020/12/Policies-for-the-Sixth-Carbon-Budget-and-Net-Zero.pdf> (last accessed: 20/01/2021).
- ^v Source: Electronic Property Information Mapping Service (e-PIMS)
- ^{vi} Cambridge Econometrics. (2021), The Economic Impact of Decarbonising Heating in Scotland (publication forthcoming).