

Heat in buildings strategy – achieving net zero emissions

Business and Regulatory Impact Assessment

November 2021

Heat in buildings strategy - achieving net zero emissions

Business and Regulatory Impact Assessment

1. Title of proposal

Heat in Buildings Strategy : Achieving Net Zero Emissions in Scotland's Buildings

2. Purpose and intended effect

2.1 Scope

This Business and Regulatory Impact Assessment (BRIA) accompanies the Scottish Government's finalised Heat in Buildings Strategy, following public consultation.

The Heat in Buildings Strategy provides an update to the Energy Efficient Scotland Route Map (2018) and the Heat Policy Statement (2015) and brings together ambitions for energy efficiency and heat decarbonisation into a single strategy outlining how we will reduce greenhouse gas emissions from homes, workplaces and community buildings across Scotland in line with our statutory climate change and fuel poverty targets.

This document provides an indicative assessment of the impact of the strategy on various parties and sectors within the Scottish economy.

2.2 Objective

The Strategy sets out how we plan to transform Scotland's homes and workplaces so they are warmer, greener and more efficient.

The Strategy:

- establishes principles that will underpin our policies and actions on energy efficiency and heat, including principles to prevent fuel poverty worsening.
- sets out strengthened action and increased investment to support delivery of energy efficiency and zero emissions heat.
- considers whole-system energy issues and how these are to be managed over the course of the transition.
- outlines the scale of the economic opportunity presented and identifies the measures necessary to realise this and to ensure a just transition.

The Strategy sets out actions that will put us on a path consistent with our statutory climate change and fuel poverty targets. As well as an ambitious programme of at least £1.8 billion investment over the course of this Parliament, the strategy sets out longer term action on the market framework for zero emissions heat and energy efficiency and details the Scottish Government's intention to introduce a regulatory framework for zero emissions heating and energy efficiency, subject to consultation and to limits on devolved competence.

As we accelerate our efforts to make our homes and non-domestic properties warmer, greener and more energy efficient we must lock-in and secure a wider set of outcomes that will benefit Scotland's people and places. These 'heat in buildings' outcomes, aligned with our National Performance Framework, will guide our decision making and support the development of a holistic, people centred approach to the transition ahead.

Heat in Buildings Outcomes

1. Heating our buildings no longer contributes to climate change
2. The costs of heating our homes and businesses is affordable and those occupying them have a high comfort level.
3. We have reduced our demand for heat and poor energy efficiency is no longer a driver of fuel poverty.
4. The systems we use are smart and resilient and provide us with a reliable source of heat.
5. We have a secure supply chain with high value, local, sustainable jobs across Scotland and people have been helped to transition to new, secure jobs as part of a just transition.
6. Our indoor and outdoor spaces are filled with cleaner air.
7. Our heating systems enable and efficiently use Scotland's renewable energy resources.
8. Electricity and non-electrical fuels are produced from sustainable sources in a way which is consistent with net zero emissions and biodiversity targets.
9. Our heating systems enable the flexible and stable operation of our energy networks.

These 'heat in buildings' outcomes, aligned with our national outcomes within the National Performance Framework¹, will guide our decision making and support the development of a holistic, people centred approach to the transition ahead.

National Outcomes

- **Economy:** We have a globally competitive, entrepreneurial, inclusive and sustainable economy.
- **Environment:** We value, enjoy, protect and enhance our environment
- **Poverty:** We tackle poverty by sharing opportunities wealth and power more equally
- **Health:** We are health and active
- **Fair Work and Business:** We have thriving and innovative businesses, with quality jobs and fair work for everyone
- **Communities:** We live in communities that are inclusive, empowered, resilient and safe

¹ <https://nationalperformance.gov.scot/>

This Strategy is aligned with Scottish Government policy across the areas of Housing, Energy, and Climate Change. The actions the Strategy sets out align with the Buildings chapter of the Climate Change Plan Update (see below) as well as our Housing to 2040 Strategy², which also presents further details on how our housing can support achievement of our net zero ambitions, whilst also delivering against wider objectives. Transforming our homes and buildings will also have an impact on our wider energy systems and will coincide with action in other sectors to reduce emissions. Scotland's Energy Strategy Position Statement³ takes into account the whole system issues raised by the Heat in Buildings Strategy and our wider net zero climate targets. This will be further refined in the refreshed Energy Strategy in 2022, ensuring a coherent whole-system view of the heat transition and its interaction with other sectors. In addition:

- We will set out our approach to eradicating fuel poverty in the Fuel Poverty Strategy by the end of 2021.
- We have committed to carrying out the previous Just Transition Commission's recommendations and we will embed our evolving policies on zero emissions heat and energy efficiency within our wider approach to delivering on a Just Transition
- We will develop our approach to heat in an 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 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.

3. Context

3.1 Climate Change Targets

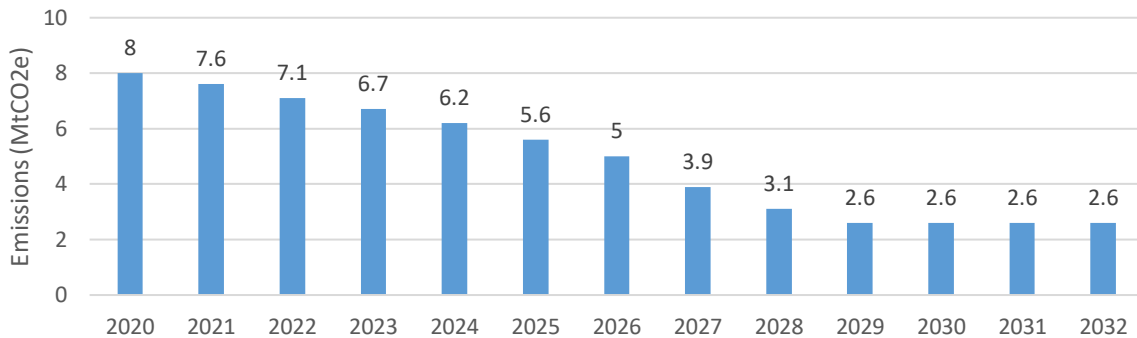
The Climate Change (Emission Reductions Targets) (Scotland) Act 2019 increases Scotland's ambition to reduce greenhouse gas emissions, including a target for net-zero emissions by 2045, and interim targets for reductions of 75% and 90% by 2030 and 2040 respectively. In response the Scottish Government updated its Climate Change Plan in December 2020,⁴ setting out how the accelerated targets will be achieved. The Climate Change Plan update sets out emissions envelopes for the Buildings sector (covering both domestic and non-domestic buildings) as shown in Figure 1. Using a 2020 baseline, this represents a 68% reduction to 2030.

² <https://www.gov.scot/publications/housing-2040-2/>

³ <https://www.gov.scot/publications/scotlands-energy-strategy-position-statement/>

⁴ *Securing a green recovery on a path to net zero: climate change plan 2018–2032 – update*
<https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/>

Figure 1. Scotland’s Climate Change Plan 2018-2032 (2020 update), Emissions Reduction Pathway for Buildings

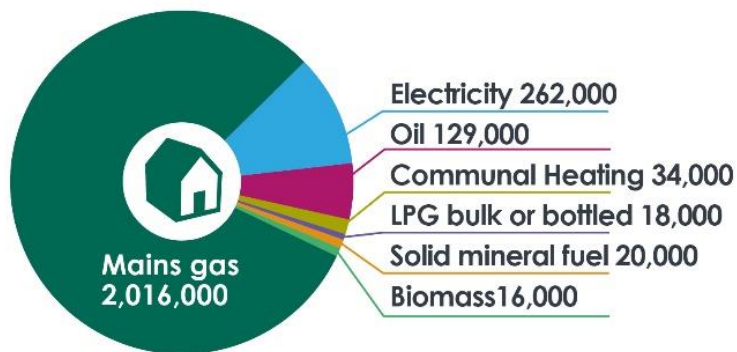


Sector-level emissions envelopes run to 2032. In order to achieve our economy-wide net-zero target, by 2045 all of our homes and buildings will need to significantly reduce their energy use and use a zero emissions heating system.

3.2 Heat supply and emissions across residential housing

Figure 2 shows that the vast majority of Scottish homes rely on fossil fuel boilers; 81% of Scottish homes use mains gas, 5% use heating oil, and a further 2% use LPG or solid mineral fuels⁵. Together these high carbon fuels account for an estimated 88% of the Scottish residential fuel mix, none of which are compatible with our net zero emissions ambition.

Figure 2– Main heating fuel across Scottish housing, 2019



Source: Scottish House Condition Survey 2019

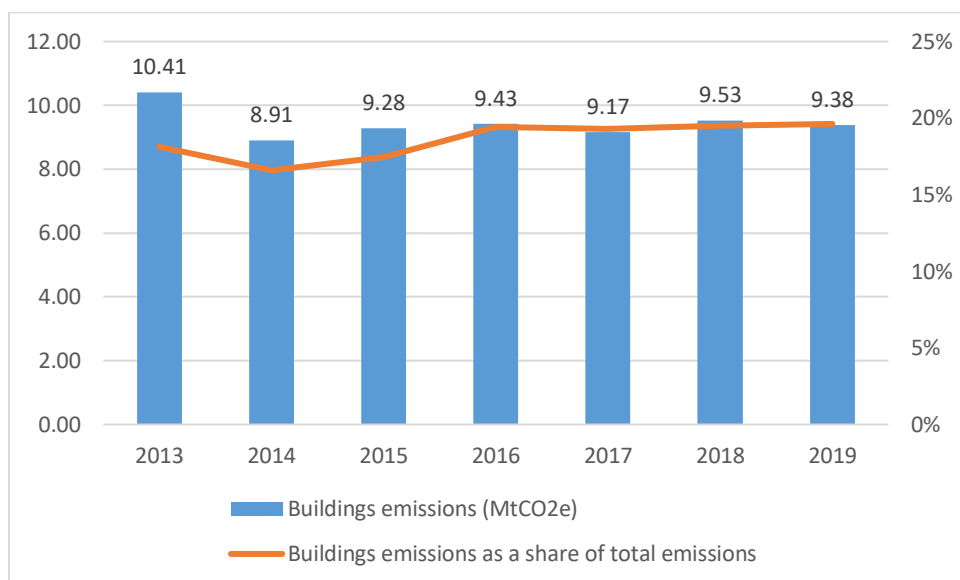
Only around 11% of households currently have a renewable or very low emissions heating system, such as a heat pump, biomass boiler or electric storage heating⁶.

⁵ [Scottish house condition survey: 2019 key findings - gov.scot \(www.gov.scot\)](http://www.gov.scot/publications/scottish-house-condition-survey-2019-key-findings/pages/10_to_14.aspx)

⁶ An estimated 34,000 homes are connected to heat networks, however these are predominately fuelled by gas and not considered renewable/zero emissions.

The Energy Saving Trust estimate that over half of non-domestic properties already use low or zero emissions sources, mainly electrical. However, the non-domestic stock varies significantly in size, and some of the largest non-domestic buildings are more likely to have mains gas systems⁷.

Figure 3 Greenhouse Gas Emissions from Buildings, 2013 to 2019



Source: Scottish Greenhouse Gas statistics⁸

Emissions from the Buildings sector have decreased from 10.41 MtCO₂e in 2013 to 9.38 MtCO₂e in 2019. Yet given reductions in emissions across other sectors of the economy, most notably power supply, the share of total emissions from the Buildings sector has increased slightly from 18.1% in 2013 to 19.6% in 2019.

To meet the interim statutory targets set out above, around 50% of homes, or over 1 million households, will need to convert to zero emissions heating systems by 2030. At the same time, we will need to convert the equivalent of 50,000 of Scotland's non-domestic properties to zero emissions sources of heat⁹.

Currently around 3,000 renewable heating systems are installed in Scotland's homes per year¹⁰ (primarily heat pumps, with a smaller number of biomass and solar thermal installations). The Heat in Buildings Strategy sets out that to maintain progress towards our statutory emission reduction targets, zero emissions heat installations must scale up to provide a total of at least 124,000 systems installed between 2021 and 2026. The installation rate is expected to peak at over 200,000 new systems per annum in the late-2020s. This must be accompanied by significant demand reduction through improvements to energy efficiency and growth of blending green gas in the grid.

⁷ Source: Unpublished analysis by the Energy Saving Trust (EST)

⁸ [Scottish Greenhouse Gas statistics: 1990-2019 - gov.scot \(www.gov.scot\)](http://www.gov.scot)

⁹ In practice, this number will depend on the sequencing of non-domestic conversion due to the significant variation in size and energy consumption of our non-domestic buildings.

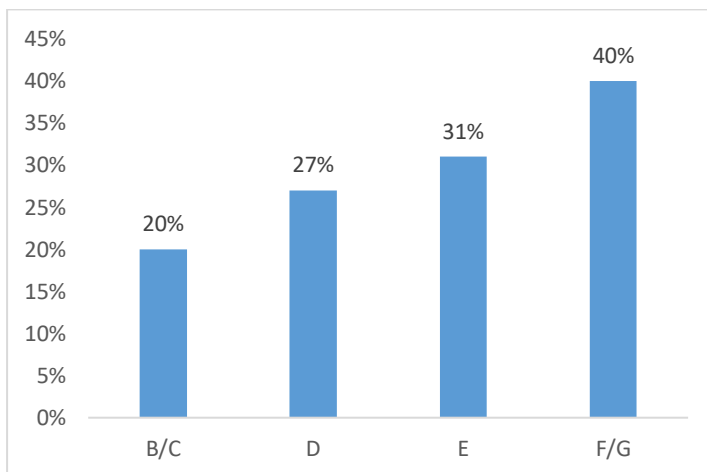
¹⁰ [Renewable-Heat-in-Scotland-2019_new.pdf \(energysavingtrust.org.uk\)](http://energysavingtrust.org.uk)

3.3 Fuel Poverty Targets

The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019¹¹ requires that by 2040 no more than 5% and 1% of all households should suffer from fuel poverty and extreme fuel poverty respectively and that the median fuel poverty gap should be no more than £250 (adjusted for 2015 prices). These targets apply at local authority level as well as nationally¹². In 2019, 24.6% of all households were living in fuel poverty, 12.4% were living in extreme fuel poverty and the median fuel poverty gap was £700 (adjusted for 2015 prices).

Poor energy efficiency is one of the four main drivers of fuel poverty, the others being low household income, high household energy prices and how energy is used in the home. Figure 4 shows that 40% of households living in the least energy efficient properties (rated EPC F or G) were in fuel poverty in 2019, compared with 20% of households in B/C-rated properties. We want our all homes to be as energy efficient as possible, meeting a minimum standard equivalent to EPC C, and through our delivery programs, we want to reach higher standards for households in fuel poverty, meeting a minimum standard equivalent to EPC B, in order that we can remove poor energy efficiency as a driver of fuel poverty.

Figure 4 Fuel Poverty rate in all tenures, broken down by EPC band of dwelling – 2019



Source: Scottish House Condition Survey 2019 ¹³

¹¹ <http://www.legislation.gov.uk/asp/2019/10/enacted>

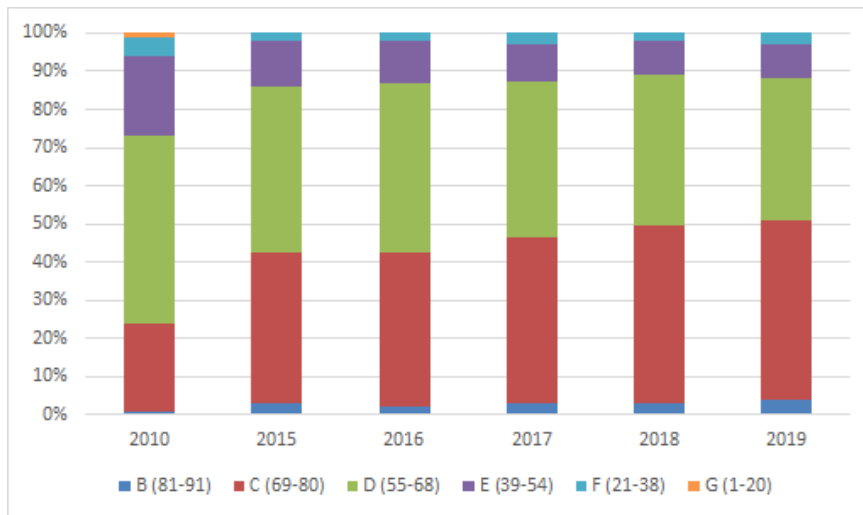
¹² A household is defined as being in fuel poverty if, in order to maintain a satisfactory heating regime, total fuel costs necessary for the home are more than 10% of the household's adjusted net income (i.e. after housing costs), and if after deducting those fuel costs, benefits received for a care need or disability and childcare costs, the household's remaining adjusted net income is insufficient to maintain an acceptable standard of living. The remaining adjusted net income must be at least 90% of the UK Minimum Income Standard to be considered an acceptable standard of living with an additional amount added for households in remote rural, remote small town and island areas.

¹³ The data presented is a best estimate based on the new fuel poverty definition as at Stage 2 of the Bill process. The first official measurement of fuel poverty, fully compatible with all elements of the Act, requires additional data to be collected and the production of a new Minimum Income Standard for remote rural, remote small town and island areas. 2020 Scottish House Condition Survey fieldwork was suspended on March 17th due to the effects of COVID-19 and the restrictions around travel. The 2021 physical survey is being carried out by an external-only inspection (carried out only in COVID

3.4 Energy efficiency

As figure 5 shows, the energy efficiency of Scotland's homes is improving. Since 2010, the share of the most energy efficient dwellings (rated EPC C or better) has increased by 27 percentage points¹⁴. In 2019, 45%¹⁵ of Scotland's homes were rated EPC C or better, with social housing generally more energy efficient (56% of homes having attained EPC C) than the private sector (41%).

Figure 5 Distribution of the Scottish Housing Stock by EPC Band (SAP 2009), 2010 and 2015 to 2019



Source: Scottish House Condition Survey: 2019 Table 17.

Our non-domestic buildings are hugely diverse and analysis shows that almost three in four of all non-domestic premises have a current EPC rating of E or worse with only 5 percent rated B or better.¹⁶ This varies significantly by building type, as shown in Figure 6.

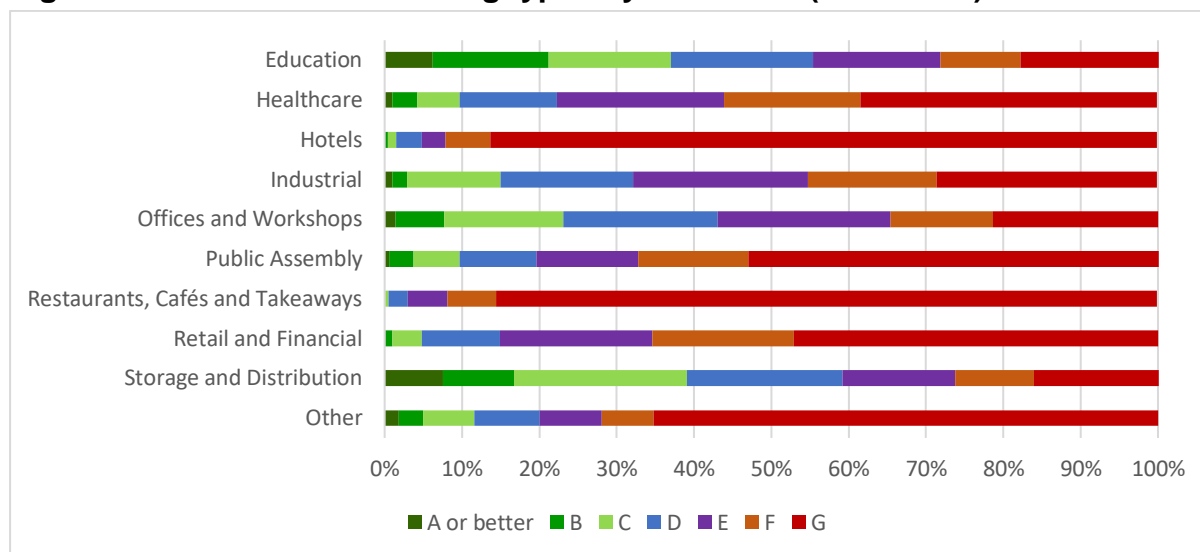
protection levels 0,1 and 2), supplemented with alternative sources of data and the householder providing information to surveyors via telephone. More details can be found at: <https://www.gov.scot/publications/coronavirus-covid-19-impact-on-scottish-household-survey-and-scottish-house-condition-survey-fieldwork-in-2020-and-2021/>). Therefore it may be late 2022 / early 2023 before fuel poverty estimates are produced, fully accounting for all elements of the new definition.

¹⁴ Based on SAP 2009.

¹⁵ Based on SAP 2012, RdSAP v9.93.

¹⁶ [Scotland's non-domestic energy efficiency baseline: report - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/scotland-non-domestic-energy-efficiency-baseline-report-2020-2021/)

Figure 6: Non-domestic building types by EPC band (as of 2017)



Source: Scotland's non-domestic energy efficiency baseline: report

More progress must be made across both residential and non-residential buildings. Reducing heat demand through fabric measures is key to minimising the operating costs of zero emissions heating systems, while also minimising the demand on the electricity grid.

4. Rationale for Government Intervention

We need to reduce the demand for heat in buildings through the installation of fabric efficiency measures, and transition heating systems to zero emissions technologies. This section briefly describes why the presence of market failures means it is unlikely we will achieve the scale of decarbonisation at the pace required to meet our climate change targets in the absence of government intervention.

4.1 Negative Externalities

The harmful greenhouse gas emissions resulting from the continued combustion of fossil fuels imposes a wider cost on society, including the cost of climate change adaptation and those associated with natural disasters and biodiversity loss resulting from rising global temperatures. These wider costs are not reflected in the price of carbon intensive fuels such as natural gas and heating oil. Therefore, action is required to align private incentives with societal goals.

4.2 Distributional impacts

The transition to zero emissions heat will require additional investment over and above a business-as-usual scenario. How additional costs are distributed depends on a range of factors including the energy market framework, taxes and subsidies, the technologies deployed, and those displaced.

Three significant distributional risks arise which require government intervention:

- Impacts on low-income households and those currently in or vulnerable to fuel poverty. Government intervention will be necessary to ensure those unable to

pay increased energy costs are not harmed or left behind in the energy transition.

- Fairness between those who make the transition early (and so potentially face higher lifetime costs) and those who do so later. In the absence of government intervention, building owners / occupants may resist converting to zero emissions heat on grounds that delay could expose them to lower lifetime costs.
- Access to the benefits of low carbon, smarter technologies, for instance lowered costs through integrating energy storage or taking part in demand side response, may be uneven due to varying ability to pay upfront costs, digital literacy or resilience to risks. Government intervention may be needed to ensure that appropriate access is available.

4.3 Imperfect information

Evidence suggests a significant proportion of consumers are not aware of the contribution of their fossil fuel-based heating system to Climate Change¹⁷.

Furthermore, challenges in quantifying reductions in fuel bills following energy efficiency measures or the health impacts of heat and energy efficiency can lead to inaction amongst homeowners and landlords even where the private net benefit is positive. Empirical evidence suggests that consumers can have difficulties when evaluating consumption decisions where the costs are imposed up front but the benefits are realised over a longer time horizon.

4.4 Immature market for zero emissions heating systems

Early adopters may face limited choice between market participants for zero emissions technologies due to current low annual volumes of zero emissions heat installations. Government intervention is needed to grow levels of demand for zero emission heating technologies. This will give installers confidence to invest in the equipment and skills necessary to deliver the rollout of low and zero emission heat, whilst also achieving economies of scale and learn-by-doing effects.

4.5 Coordinating collaborative efforts

The transition to low and zero emissions heat requires coordinated action across building owners, network operators and energy generation/production facilities, which markets in their current form are unable to deliver. The need for coordination is particularly acute in the case of mixed and multi-tenure buildings. Certain fabric measures such as cavity and solid wall insulation in multiple occupancy buildings require mutual consent and collective efforts from each household.

5. Consultation

5.1 Strategic Heat Decarbonisation Policy Board

Development of the Heat in Buildings Strategy was supported by a Heat Decarbonisation Policy Board, comprising Scottish Government Officials from the following Directorates:

¹⁷ [Net Zero: A Consumer Perspective - Energy Systems Catapult](#)

- Directorate for Energy and Climate Change
- Directorate for Housing and Social Justice (Better Homes Division);
- Directorate for Chief Economic Advisor (Officer for the Chief Economic Advisor - Economic Analyses);
- Directorate for Local Government and Communities (Buildings Standards, Planning and Architecture)
- Directorate for Economic Development (Enterprise and Innovation)

The policy board also included representatives from the following government agencies and partners:

- Highlands and Islands Enterprise,
- Scottish Enterprise
- Scottish Futures Trust.

5.2 External Advisory Group

The Strategy has also been supported by an External Advisory Group. Drawing on a breadth of stakeholder knowledge and expertise, research, project and case study lessons, the Group have advised on the key issues and potential options for decarbonisation of heating in Scotland. The following organisations were represented on the External Advisory Group:

- Association for Decentralised Energy
- Changeworks
- Citizens Advice Scotland
- Convention of Scottish Local Authorities (COSLA)
- Energy Saving Trust
- Energy UK
- Existing Homes Alliance
- Highlands and Islands Enterprise (HIE)
- The Industrial Biotechnology Innovation Centre (IBiolC)
- Ofgem
- Oftec
- Scottish Futures Trust (SFT)
- Scottish Gas Networks
- Scottish and Northern Irish Plumbing Employers Federation (SNIPEF)
- Scottish Power Energy Networks
- Scottish Renewables
- Scottish and Southern Energy (SSE)
- Strathclyde University
- WWF Scotland

5.3 Public Consultation

A public consultation on the Strategy was launched on 5 February 2021 and closed on 30 April 2021. To support this consultation, we held a series of engagement events (on a virtual platform) with key stakeholders. This included specific engagement with business, communities, individuals, network operators, local authorities and the supply chain sector.

The consultation received 178 responses from a broad range of respondent types, including but not limited to community groups, energy suppliers and distributors, professional bodies across various sectors and product manufacturers, suppliers and installers. The submissions received were very diverse, with variation based on focus, structure and length, along with the number of questions answered. 142 respondents opted to have their submissions published online on the Scottish Government consultation hub¹⁸.

The consultation analysis was conducted by independent consultants and has been published alongside the final Strategy.¹⁹ The results informed the final Heat in Buildings Strategy – for example the increased funding commitment to at least £1.8 billion, and increasing the clarity and pace within our proposed regulatory framework. More broadly, the consultation responses and the detail and examples they present, will continue to inform further specific policy development, including the next steps set out in section 2.2 above.

6. Options

Option 1 – Business as Usual (no regulation)

The continuation of existing Scottish Government programmes including Warmer Homes Scotland, Area Based Schemes, the Low Carbon Infrastructure Transition Programme, CARES, and the Home Energy Scotland loan and cash back mechanism at recent funding levels, alongside UK Government support mechanisms such as the Green Gas Support Scheme. This is likely to result in static deployment rates. Currently, around 3,000 renewable heating systems are installed per year (equivalent of around 0.1% of homes). To deliver our emissions reduction targets, zero emissions heat installations must scale up to provide a total of at least 124,000 systems between 2021 and 2026. The installation rate will need to peak at over 200,000 new systems per annum in the late-2020s

Option 2 – A combination of regulatory, economic and behavioural change initiatives as part of a cohesive strategy (the Heat in Buildings Strategy)

Introduce non-regulatory measures to boost public engagement and enhance support for households, the public sector and businesses through consumer advice and advocacy and a range of financial and funding mechanisms, whilst targeting supply chain and skills development to support the transition and maximise economic opportunities. This will pave the way for a coordinated programme of regulations (subject to competence) beginning to take effect from 2025, providing certainty to the market and greater assurance that legislated targets are met.

The Heat in Buildings Strategy sets out the Scottish Government's approach to reducing emissions from heat across a range of policy and delivery actions. By bringing this range of interventions together it presents a coherent package aimed at

¹⁸ https://consult.gov.scot/energy-and-climate-change-directorate/heat-in-buildings-strategy/consultation/published_select_respondent

¹⁹ [Heat in Buildings Strategy - achieving net zero emissions in Scotland's buildings - gov.scot \(www.gov.scot\)](https://www.gov.scot/Heat-in-Buildings-Strategy-achieving-net-zero-emissions-in-Scotland-s-buildings)

tackling the challenges of heat decarbonisation and keeping costs as low as possible.

The key components of this package are:

- Local Heat and Energy Efficiency Strategies, to provide an area-based long-term framework for planning, delivery, coordination (e.g. with network investment) and potentially triggering regulation.
- Expanding Scottish Government support to at least £1.8 billion over the next five years, evolving and expanding existing delivery mechanism to reflect focus on Heat in Buildings and our four key priorities (1) supporting those least able to pay, (2) investing in strategic technologies in low- and no-regrets areas, (3) showcasing Net Zero leadership and (4) innovation and demonstration.
- Working towards a long-term market framework, including development of new finance mechanisms and work to align financial incentives around zero emissions heating choices.
- Working with the supply chain on a new action plan to ensure skills and supply chains are adequate to deliver the transformation needed across our buildings and energy systems, maximising the economic benefits to Scotland by building local supply chains, maximising local job creation, and ensuring a just transition.
- Development of a regulatory framework for zero emissions buildings providing certainty and clear end-points to building owners and across supply chains. Regulations will require buildings to reach minimum energy efficiency standards (equivalent to EPC C), with a backstop date of 2033. Subject to competence, we will bring forward proposals to require installation of low or zero emissions heating systems in existing buildings from 2025, with a backstop date of 2045.
- Working with network companies, Ofgem and UK Government to ensure the wider energy system is able to supply the energy needed for heating buildings in Scotland through the transition.
- Working more broadly with the UK Government to ensure coherence across reserved and devolved areas, including regulations, investment and market mechanisms, customer protection, product standards, taxes, levies, data access and GB wide schemes.
- A public engagement strategy and action plan to enable people to actively participate in shaping the decisions that affect them, and support to enable communities across Scotland to play a role in the developing heat transition.
- Developing and agreeing through consultation a series of phased targets starting in 2024, with the most difficult buildings like hospitals being decarbonised by 2038, and for all publically-owned buildings to meet zero emission heating requirements, with a backstop of 2038.
- Establish a virtual National Public Energy Agency to accelerate the transformational change in heat and use energy in homes and buildings, to inform and educate the public on the steps they will need to take to decarbonise heat as well providing advice and co-ordinating delivery programmes.

The package will continue to develop as policy implementation, evidence and experience progress. In the near term this will include: work to refine our coherent whole-system view of the heat transition and its interaction with other sectors through the refreshed Energy Strategy in 2022; setting out our approach to eradicating fuel poverty in the Fuel Poverty Strategy by the end of 2021; and embedding our evolving policies on zero emissions heat and energy efficiency within our wider approach to delivering on a Just Transition.

7. Sectors and groups affected

Transforming the way we heat our homes and buildings will touch the lives of almost everyone in Scotland. Unlike the decarbonisation of our electricity system, the transition to zero emissions heating systems will directly affect people's everyday lives as we upgrade and roll out new heating technologies and energy efficiency measures to homes, workplaces and community buildings across Scotland.

The following sectors and groups have been identified as being affected by the proposals.

7.1 Building owners and occupants (including households, businesses, and public bodies)

Upgrading the energy efficiency and switching to zero emissions heating systems will have widespread impacts, though the scale and nature of these impacts will vary across different buildings and different zero emissions heat options.

Fabric and heating system upgrades may be disruptive. Disruption may arise from insulation, installation or reconfiguration of an internal distribution and radiator system, ventilation, and replacement of heating, cooling and cooking appliances. In instances where this is required new or upgraded connection to network infrastructure may also require excavation of outdoor space and streets. The extent of disruption will vary from case to case. The Strategy identifies a need for over a million homes and the equivalent of 50,000 non-domestic buildings to adopt zero emissions heat by 2030, and that the strategic technologies available in the near term are predominantly replacement of fossil fuel boilers with electric heat pumps and heat network connections. A significant proportion of buildings in Scotland will therefore undergo some disruption over the 2020s.

Social housing has already made significant progress, but additional investment will be needed as landlords work towards the Energy Efficiency Standard for Social Housing to 2032 (ESSH2). We will bring forward the review of ESSH2, to respond to the gathering pace of decarbonisation as a priority for change across all housing, how that affects what social landlords are being asked to do, and how it makes a difference to local heating strategies and shared tenure housing. We established a Zero Emissions Social Housing Task Force (ZEST), independent of government, which has advised on requirements in social housing to meet net zero targets. ZEST have recommended that the ESSH2 review is undertaken sooner than 2023, the date proposed in the draft of this Strategy, and we are currently considering this recommendation alongside the others outlined in their report.

The cost faced by building owners in upgrading energy efficiency and installing zero emissions heat will depend on how measures are funded and financed. In the near term financial support is available under GB-wide and Scotland-specific programmes. The Scottish Government has committed to investing at least £1.8bn in heat and energy efficiency programmes over the next parliament, building upon, expanding and improving existing programmes. The first two priorities identified above will directly support building owners manage upfront costs:

1. Supporting those least able to pay: expanding our domestic energy efficiency programme to support more households eliminate poor energy efficiency as a driver of fuel poverty and accelerate the deployment of zero emissions heat across Scotland's social housing stock.
2. Investing in strategic technologies in low or no regrets areas. Targeting at-scale deployment of strategic technologies and maximising private investment through the successor to the Low Carbon Infrastructure Transition Programme.

Aligned with these priorities, the Strategy proposes to continue to offer interest-free loans accessed via Home Energy Scotland, with a commitment to run a cashback scheme (or a grant replacement) until at least 2023 to help households overcome the upfront cost of taking early action. The Scottish Government has increased the cashback available to home and building owners on measures to improve the efficiency of buildings and install zero emissions heating. In 2022/23, the current arrangements will be replaced with a grant scheme to support energy efficiency and zero emissions heat improvements.

The Strategy identifies a need to mobilise and work in collaboration with the private sector to leverage investment beyond that provided by the public sector. A Green Heat Finance Taskforce will be established before the end of 2021, and the Strategy commits to setting out options for future financing and delivery in 2023. In addition, the Strategy outlines the Scottish Government's commitment to establishing a virtual National Public Energy Agency to inform and educate the public on the steps they will need to take to decarbonise heat as well as providing advice and co-ordinating delivery programmes.

The impact of changing heating systems on running costs in the medium- to long-term will be influenced by tariffs available in the energy market. At present, the difference in gas and electricity prices is partly a result of policy costs, such as social and renewable electricity obligations, being recouped primarily through consumer electricity bills. Powers to shape gas and electricity tariffs are reserved to the UK Government. In its Energy White Paper, the UK Government committed to begin a strategic dialogue on affordability and fairness. The outcome of this process will potentially have a significant impact on the relative running costs of using fossil fuels and zero emissions heating. The Strategy underscores the importance of the market evolving so as not to disincentivise switching to zero emissions systems, and to reduce the risk of tension between our climate change and fuel poverty targets.

7.2 Supply chains business

The heat and energy efficiency sectors in Scotland currently generate an annual turnover of £2 billion, with full-time equivalent employment of around 12,500. Of these, zero emissions heating manufacturing is estimated to employ around 2,000 people, and design, manufacture and installation of energy efficient products 8,200 people²⁰. Recent research commissioned by the Scottish Government suggests the additional jobs supported in 2030 will exceed those displaced by an estimated 16,400 as a result of investment in the deployment of zero emissions heat. Job displacement will take place in high carbon sectors as a result of reduction in demand for high carbon systems and fuels, while jobs will be created in low carbon sectors as a result of increased demand.

To meet the increased demand for zero emissions heating, and ensure that workers can benefit from new employment opportunities, we will need to grow the skills base in Scotland across the following areas:

- Building assessment
- Manufacture and installation of energy efficiency measures
- Manufacture, installation and servicing of heat pumps
- Design, installation and servicing of heat networks
- Ancillary services including smart heating controls, support services, innovation and financing
- Delivery, conversion, maintenance and servicing of hydrogen ready boilers, if this becomes a relevant technology in the next decade.

The Strategy commits to building local supply chains, maximising local job creation, and ensuring a just transition. A new Heat in Buildings Supply Chain Delivery Plan, to be developed by Summer 2022, will aim to deliver these objectives across the zero emission heating supply chain activities above, as well as others that may be identified.

The Supply Chain Delivery Plan will be co-produced with industry, and will review existing supply chain sector support, set out how the public sector and industry will address barriers and fill gaps identified to deliver targets, identify global opportunities and mechanisms for supporting export potential and include a focus on developing local supply chains, specifically those in remote rural and island areas.

7.3 Local authorities

Local authorities will be affected in various ways beyond their role as building owners/occupants.

- Implementation of LHEES: We continue to work with local authorities and COSLA on progressing LHEES. We believe Strategies and Delivery Plans should be developed on a statutory basis, and we are committed to resourcing their development accordingly.
- Potential role in enforcement of regulations: As we strengthen our framework for heat and energy efficiency regulation, we will work with local government to identify where responsibility for enforcing standards should lie.

²⁰ [Low carbon and renewable energy economy estimates - Office for National Statistics \(ons.gov.uk\)](https://ons.gov.uk)

- Role in supporting deployment, including building on our Area Based Schemes and our developing approach to heat network support, which will facilitate local authorities achieve their own fuel poverty and net zero ambitions.

8. Costs and Benefits

This section provides a qualitative assessment of the Heat in Buildings Strategy (option 2) as compared with BAU (option 1). Given the proposed option comprises a comprehensive policy package, covering both regulatory and non-regulatory action most of which is in the early stages of development, it is not possible to provide a detailed appraisal of the costs and benefits at this stage. Each regulatory element will go through its own consultation phase, accompanied by a respective BRIA.

8.1 Qualitative Assessment

The following provides a brief qualitative assessment of the two options against relevant criteria arising from the policy objectives and outcomes presented above.

Climate Change mitigation

Option 1 (do nothing) will not achieve the levels of deployment of energy efficiency or zero emissions heat required to achieve emissions reductions for the Buildings sector and thus wider Climate Change objectives. This is due to a combination of supply and demand constraints, including a lack of public engagement, misaligned incentives, underdeveloped supply chains and skills gaps which taken together suggest the continued deployment of zero emissions heat will be limited and an ongoing reliance on fossil fuelled heating systems. Through a coordinated approach, including regulatory and non-regulatory action, Option 2 (the Heat in Buildings Strategy) provides a framework to drive the required deployment and ensure emissions targets are met, aiming to decarbonise over 1 million homes and the equivalent of 50,000 non-domestic buildings by 2030.

Fuel Poverty reduction

The Heat in Buildings Strategy recognises reaching emissions reduction and fuel poverty targets simultaneously is challenging, but we are committed to ensuring we decarbonise in a manner that does not increase the rate or depth of fuel poverty. The Strategy acknowledges that zero emissions heat can be more expensive to run than a modern efficient fossil fuel boiler. It commits to taking forward no action that could have a detrimental impact on fuel poverty rates, unless additional mitigating measures can also be put in place. To do this, the Strategy sets out a range of guiding principles, which include:

1. We are committed to ensuring that poor energy efficiency is removed as a driver of fuel poverty. As such, a fabric first approach will be central to how we decarbonise heat in buildings.
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 UKG 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.

Economy

Analysis suggests the heat transition, through investment in the deployment of energy efficiency and zero emissions heat, could significantly benefit the Scottish economy through employment opportunities. In particular, research suggests the additional jobs supported in 2030 will exceed those displaced by an estimated 16,400 as a result of investment in zero emissions heat. Under Option 1, without further action investment and deployment will remain marginal and the extent of the economic benefits outlined will not be realised. In contrast, Option 2, through coordinated regulation and non-regulatory support schemes, will provide certainty to the market and drive deployment, securing and maximising economic opportunities. By promoting innovation and skills development, not only will the Heat in Buildings Strategy provide high quality jobs, it may also position Scotland to take advantage of export opportunities. It is important to note, however, the potential for displacement such that the level of positive net impact on jobs may be more limited, and that while certain sectors are likely to benefit from the transition (energy efficiency, and low and zero emission fuels and technologies), others may see a reduction in their market (high carbon fuels and technologies). However, existing firms may be able to switch from supply associated with fossil fuel to zero emissions, and policy development will

seek to ensure barriers to entry are minimised. We are committed to building local supply chains, maximising local job creation, and ensuring a just transition. We will work with Scottish businesses so that they can play a significant part in the transformation of Scotland's homes and buildings, and work with industry bodies to enable existing gas and oil boiler installers to offer expert knowledge on alternative systems.

Deliverability and quality

Without additional direct government intervention and the certainty and clarity provided by proposed regulation, it is unlikely that the zero emissions heat sector will have sufficient incentives to invest in developing supply chains and upskilling their workforce to match the deployment levels required to meet emissions reduction objectives, which are far higher than current rates. This could lead to lower standards, with poor performance resulting from misspecification, particularly in the case of heritage or other hard-to-treat buildings where a specialised skillset may be required. Therefore, Option 1 poses risks in terms of deliverability and quality, which are addressed specifically under Option 2, in the Heat in Buildings Strategy, which sets out how we will engage with the UK Government, skills delivery partners and the supply chain to ensure the necessary skills, quality assurance, accreditation and standards are in place to support deployment and drive high standards.

Affordability and Value for Money

The upfront costs of installing a zero emissions heating system is often significantly higher than replacing incumbent fossil fuel boilers, and as noted above, may lead to increased fuel bills. Therefore, there are affordability concerns associated with the mass deployment of zero emissions heating systems. However, steps can be taken to ensure affordability and value for money. As the zero emissions heat market is relatively immature, there may be opportunities for economies of scale as demand increases and businesses can increase the efficiency of their production processes, leading to lower costs for consumers. Under Option 1, without kick-starting deployment at scale, it is unlikely that these efficiencies will be realised. There may also be increased running costs associated with misspecification where skills and standards are not in place, or where energy efficiency and zero emissions heat are not considered in tandem, potentially leading to suboptimal outcomes. Option 2, by taking a holistic view to energy efficiency and zero emissions heat, whilst targeting skills and embedding standards, is more likely to lead to cost-effective outcomes for households and businesses. Furthermore, the Strategy commits to establishing a Green Heat Finance Taskforce to explore potential new and value for money innovative financing mechanisms for both at-scale and individual level investment. Our holistic approach to heat in buildings reflects our broader commitment to taking a whole system view, and will support identification of least cost options and coordination efficiencies.

The heat transition will necessarily require significant investment, and by putting in place both regulatory and non-regulatory support, there is increased likelihood of attracting private sector investment, while putting in place mechanisms to support those less able to pay. Taking a holistic and strategic approach allows an accurate

assessment of how costs will be recovered to ensure these, alongside benefits, are distributed fairly.

Population and Human Health

Option 1 will not deliver significant changes to health outcomes. Option 2, through the deployment of energy efficiency, may provide health benefits through improvements to thermal comfort and in particular prevent fuel poverty worsening. Furthermore, switching away from fossil fuel heating systems may have additional benefits in terms of reducing pollution and improving air quality.

8.2 Quantitative Assessment

This section provides estimated costs and benefits of the transition to zero emissions heating as set out in the Heat in Buildings Strategy. As the specific policies outlined in the Strategy are still in the early stages of development, this is necessarily a preliminary assessment. All figures should be treated as indicative and viewed in the light of current uncertainties around key aspects of the transition.

The changes to our buildings and energy systems that are needed to eliminate emissions from heating comprise both capital investment and ongoing costs. Different pathways and options have different balances as to where these costs arise in the system. For example, heat pumps have a high building-level capital cost relative to other zero emissions heat systems (and incumbent fossil fuel systems), while hydrogen concentrates a higher proportion of capital costs upstream in networks and hydrogen production facilities²¹ How heat consumers are exposed to these costs, e.g. whether through bills, upfront costs, or taxes, depends on policy choices, energy market frameworks and new business models (such as heat-as-a-service). This diversity in potential outcomes further underscores the rationale for this impact assessment to take a broad qualitative approach, with quantitative assessment deferred to more specific policy development.

Our analysis indicates that to remain within the Buildings sector emissions envelopes published in the recent Climate Change Plan update, over 1 million households and the equivalent of around 50,000 non-domestic buildings will need to convert to a zero emissions heating system by 2030, with the remainder converting by 2045 at the latest. The Strategy identifies strategic technologies for the near term while acknowledging that other options may be cost effective in the longer term, and proposes to handle this uncertainty by targeting deployment of strategic technologies in low and no regrets areas.

We estimate that the total cost of converting our building stock to zero emissions by 2045 is in the region of £33 billion, with additional investment required to upgrade energy networks and ensure sufficient energy generation capacity. This is an estimate of the gross cost and does not take account of investment in fabric measures and boiler replacements in a business-as-usual scenario. For example, it would cost around £5 billion to replace existing fossil fuel heating systems in the

²¹ Imperial College Centre for Energy Policy and Technology 2016 "Comparing the impacts and costs of transitions in heat infrastructure" <https://www.imperial.ac.uk/media/imperial-college/research-centres-and-groups/icept/Heat-infrastructure-paper.pdf>

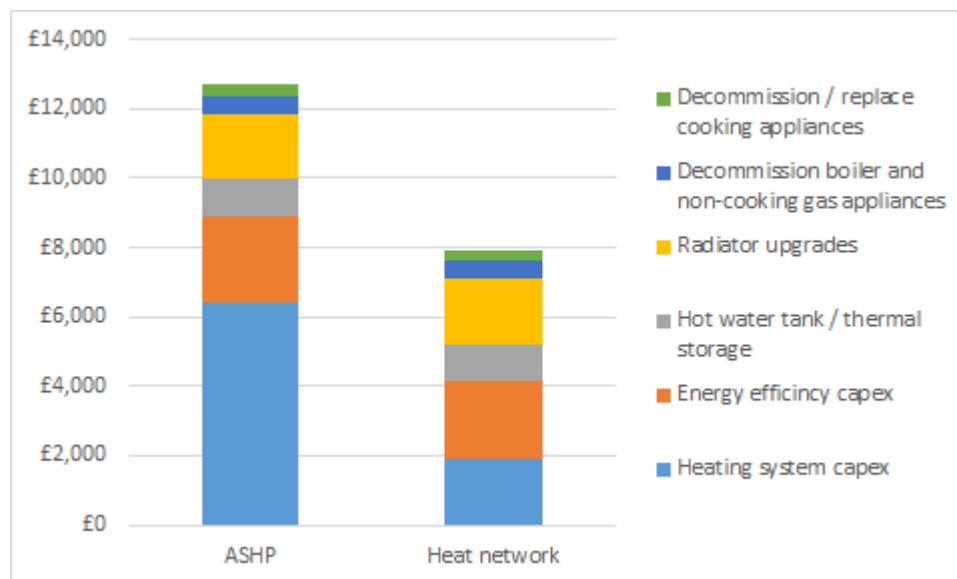
domestic sector on a like-for-like basis. We also anticipate that, under the current market framework and electricity pricing structure, zero emissions heat could result in increased running costs for some, however this may be partly or fully offset by the higher efficiency of some zero emissions heating systems, demand reduction through improved energy efficiency and targeted support where appropriate. While cost projections are subject to considerable uncertainty, the finding that low and zero emissions heating is likely to add whole-system lifecycle costs relative to the incumbent system is robust, reflecting a wider range of estimates.²²

Residential Buildings: Upfront building-level costs

The Strategy identifies heat pumps and heat networks as strategic zero emissions heating technologies available in the near term, and underscores the importance of deploying them to buildings and areas that are no- or low-regrets.

Figure 7 shows average capital costs for converting a home from a fossil fuel boiler to either an air source heat pump or a heat network connection. Including fabric upgrades the average building-level cost of installing an air-source heat pump is just over £12,000, and for connection to a heat network just under £8,000. By comparison, replacing a fossil fuel boiler (and not upgrading fabric) costs in the region of £2,000 to £3,000.

Figure 7: UK-average capital costs to convert from fossil fuel boiler to zero emissions heating (2020 estimate).



Source: Element Energy (2020) “Development of trajectories for residential heat decarbonisation to inform the Sixth Carbon Budget” study for the Committee on Climate Change.²³

Residential Buildings: Operating costs

The impact on energy bills of converting a home from fossil fuel heating to a zero emissions system depends on property characteristics such as build form,

²² Energy Research Partnership 2017 “Transition to Low Carbon Heat“ <https://erpuk.org/project/low-carbon-heat/>

²³ <https://www.theccc.org.uk/publication/development-of-trajectories-for-residential-heat-decarbonisation-to-inform-the-sixth-carbon-budget-element-energy/>

occupancy levels, and fabric efficiency. The retail cost of energy is also an important factor. The Strategy identifies the role of environmental and social obligation costs (levies) in shaping the relative costs of different options. The development of UK Government policy in this area, along with future evolution of wholesale and other system prices, means forecasting future relative operating costs is challenging. Therefore, this section considers the impact on fuel bills of adopting strategic zero emissions heat technologies under current market conditions.

Heat pumps are a key zero emissions technology, and a very efficient way of using electricity to provide heat. Although one kWh of electricity is currently more expensive than one kWh of gas (currently by a factor of about 4-5), the higher efficiency of a heat pump means the amount of energy needed can be less than a third the amount of energy needed by a gas boiler to produce an equivalent amount of heat. This means that for some properties, heat pumps can help reduce bills where they are replacing older, more inefficient oil and gas heating systems, or where they are combined with upgrades to the efficiency of the building's fabric. Modelling undertaken using the National Household Model shows that for the vast majority of Scottish dwellings that are currently using fossil fuels and which are below the equivalent of an EPC C, modelled fuel costs can fall where a heat pump is installed along with fabric measures, supplemented in some cases by solar PV or solar thermal. Conversely, properties currently using fossil fuels that have already attained the equivalent of an EPC C may have fewer options to offset the increase in fuel costs due to change in heating system. This latter group comprises around half of homes that use gas and around 8% of homes that use oil.²⁴

Running costs when using a heat network are more difficult to generalise, as they are dependent on the configuration of the network infrastructure (and hence capital cost that are recovered through bills) and the particular heat sources used. Heat networks are best suited to high density areas where per-connection network costs can be minimised. Larger networks are able to generally supply at lower cost, due to their lower average cost of development and operation, driven by factors such as more consistent demand, storage potential, renewable usage and available business models. Evidence collated by KPMG to inform the Heat Networks (Scotland) Bill Business and Regulatory Impact Assessment²⁵ suggests that heat networks could provide bill savings, with a potential saving of around 17% or 1.29 p/kWh in 2019 under a central scenario, and potentially ranging up to 36% under a high scenario. While further work is needed to estimate the range of heat network operating costs faced by users should networks extend to lower density areas, in this BRIA we assume they will generally be lower than levelised costs of alternative zero emissions options, as this represents an efficient resource allocation.

²⁴ See Table 22 in [Scottish house condition survey: 2019 key findings - gov.scot \(www.gov.scot\)](http://www.gov.scot/publications/scottish-house-condition-survey-2019-key-findings/)

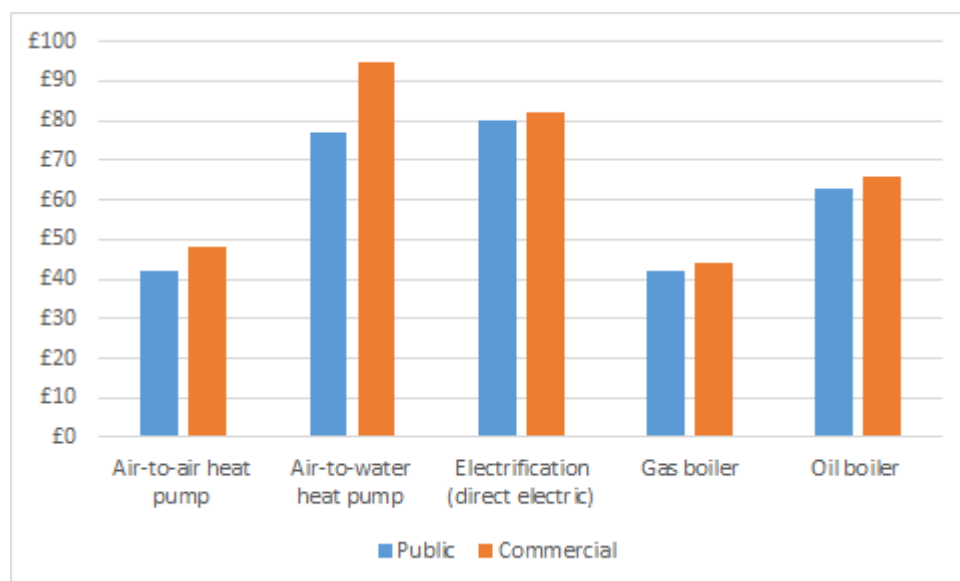
²⁵ <https://www.gov.scot/binaries/content/documents/govscot/publications/impact-assessment/2020/03/heat-networks-scotland-bill-business-regulatory-impact-assessment/documents/heat-networks-scotland-bill-business-regulatory-impact-assessment/heat-networks-scotland-bill-business-regulatory-impact-assessment/govscot%3Adocument/heat-networks-scotland-bill-business-regulatory-impact-assessment.pdf>

Non-Domestic Buildings costs

Figure 8 shows the estimated levelised costs associated with zero emissions heating options for non-domestic buildings, alongside equivalent costs for gas and oil boilers. These are presented on a £ per MWh basis. This is because the size, use and energy demand of non-domestic buildings varies significantly and to a much greater extent than residential buildings. As such, average costs are unlikely to provide an accurate representation of the cost of zero emissions heat in the non-domestic sector.

The levelised²⁶ costs of an air-to-air heat pump are similar to those of gas boilers at around £40-50/MWh. They present a potential saving in comparison to oil boilers, which are around £60-70/MWh. Air-to-water heat pumps are more expensive than both gas and oil boilers, at £77/MWh for public buildings and £95/MWh for commercial buildings, reflecting the relatively high upfront capital costs of air-to-water systems. Direct electric heating is also more expensive, at around £80/MWh, reflecting high fuel costs.

Figure 8: Levelised cost of energy for heat technologies in the non-domestic Buildings sector (£/MWh)



Source: CCC Sixth Carbon Budget. Note: costs of capital of 3.5% assumed for public sector and 7.5% assumed for commercial

Energy infrastructure and other costs

By 2030, a much larger proportion of heat demand will be electrified compared to today, supplied through either individual heat pumps or larger scale heat pumps supplying heat networks. In the wider context of policy initiatives to decarbonise other sectors such as transport and industry, there is significant potential for increased electricity demand in the future. This could have implications for both electricity generation capacity and distribution networks. Therefore, there is likely to be costs associated with increasing capacity and reinforcing networks. Given the

²⁶ This is the smoothed cost over the technology lifetime for an installation in a given year, incorporating assumptions on capex, opex, fuel costs and efficiencies of each technology.

electricity system's role in decarbonising services other than heat, the sharing and apportionment of these additional costs to zero emissions heat is difficult to specify. Due to the significant complexity and interdependencies, a robust estimate of these costs is not available currently. However, as set out in the Strategy, research is being commissioned to explore the likely range of network investment costs and potential impacts on consumers.

In addition to electrification decarbonised gas is also likely to play a, albeit more limited, role in emissions reduction to 2030. This will involve increasing amounts of green gas (currently exclusively biomethane, but in the future also potentially hydrogen) being blended into the gas network. As committed to in the Strategy, the costs and benefits of increased hydrogen blending will be kept under review. Furthermore, subject to successful demonstration and safety case trials, parts of the gas network could be converted to 100% hydrogen and in the longer term this could play a vital role in decarbonising Scotland's building stock. This will require continued demonstration and rapid investment, in hydrogen generation, storage and the repurposing of the gas grid. The Energy Strategy refresh will provide more detail on the pathways to decarbonised gas and options for hydrogen for heat, and it is not possible to provide robust estimates of potential investment costs or the impact on consumers in the meantime. However, in all instances the evolution of energy infrastructure costs (both for electricity and gas) depends on UK Government action, as energy policy and regulation remains reserved.

9. Scottish firms impact test

The objectives of the Heat in Buildings Strategy will have two broad categories of impact on firms in Scotland:

- Impacts on firms in the energy industries and zero emissions heat supply chains
 - Switching buildings from fossil fuel heating systems to zero emissions will reduce demand for the manufacture, installation and maintenance of fossil fuel heating systems, and in the extraction, refinery and supply of these fuels. Demand for zero emissions heating technologies will increase. On balance, it is likely that the net effect on employment will be positive with more jobs created in manufacturing and services than are displaced. The Scottish Government commissioned a study of the economic impacts of the heat transition which estimated 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.
 - The impact on individual firms involved in heating technology supply chains will depend on the extent to which they switch technology focus.
 - The development of a market for zero emissions heating systems in Scotland on a faster timescale than the rest of the UK has potential to build competitive advantage for firms active in Scotland to then deliver products and services in the rest of the UK.
- Impacts on firms as owners / occupants / users of buildings.
 - The transition to zero emissions heat will likely on average create a net lifecycle cost at building level relative to continuing the use of incumbent fossil fuel technologies. The size of this cost (and hence

firms' competitiveness with others not facing equivalent costs) will be dependent on developments across energy markets, reserved energy policy, financing options and subsidies.

For this BRIA, these impacts have been judged qualitatively. This reflects the high-level, strategic nature of the Heat in Buildings Strategy and the dependence of impacts on future decisions.

10. Competition Assessment

Will the Measure directly or indirectly limit the number or range of suppliers?

The transition to zero emissions heat will alter the market for heating systems, energy efficiency and energy. However, this need not have a detrimental impact on the number or range of suppliers as existing firms are likely to be able to switch from supply associated with fossil fuel to zero emissions, and policy development will seek to ensure barriers to entry are minimised, and firms are supported to switch to ensure a just transition

Will the measure limit the ability of suppliers to compete?

The Strategy proposes development of regulations that would place restrictions on some suppliers to continue to supply certain products (e.g. fossil fuels or fossil fuel boilers). These regulations are subject to further policy development and consultation, which will allow a fuller assessment of the impact of specific proposals.

Will the measure limit suppliers incentives to compete vigorously?

There are no measures in the Heat in Buildings Strategy which limit suppliers' incentives to compete vigorously by either incentivising suppliers to coordinate their behaviour, exempting suppliers from competition law, or introducing or amending an intellectual property regime.

Will the measure limit the choices and information available to consumers?

The Heat in Buildings Strategy proposes a comprehensive regulatory framework which when introduced may limit the choices of heating systems to zero emissions heating systems, and within that limit choice further to certain types of zero emissions heating system depending on various factors including location, local infrastructure availability and proximity to the gas grid.

Regulations requiring installation of zero emissions heating systems will limit choices available to consumers, though by supporting development of zero emissions alternatives, such as heat network connections or hydrogen, that are currently unavailable to individual consumers (for example, due to infrastructure limitations), the total range of options available need not reduce in all cases. Development of regulations will be accompanied by further Business and Regulatory Impact Assessments of the specific proposals as they develop.

The Strategy commits to scaling up advice services and the development of further public engagement, enabling people to actively participate in decisions that involve them. Information about options will form an important part of this activity, and will potentially identify additional policy measures needed to ensure consumers are able to make informed choices.

11. Consumer assessment

Does the policy affect the quality, availability or price of any goods or services in a market?

Yes, the Heat in Buildings Strategy will effect a change in the way we heat our homes and businesses. Specific impacts on quality, availability and price are dependent on interacting factors, and will be assessed as more detailed policies are developed. The Heat in Buildings Strategy aims to provide certainty, signalling to the market the need to upscale to meet future demand. Measures are consulted on to ensure the quality of good and services is maintained alongside rising demand.

Does the policy affect the essential services market, such as energy or water?

Yes. The Strategy aims to ensure the costs of heating our homes and businesses is affordable and those occupying them have a high comfort level, as the systems supplying heat transition to zero emissions.

Does the policy involve storage or increased use of consumer data?

No impact on the storage or increased use of consumer data identified.

Does the policy increase opportunities for unscrupulous suppliers to target consumers?

Yes, a significantly increased installation rate for insulation, low or zero emissions technologies and heat networks increases the risk that customers will have poor experiences, either through poor installations or poor service, or will be victim to criminals who take advantage of the increased activity to commit fraud or other crimes. There is precedent in previous schemes where bad actors exploited customers, poor quality installs were not 'made right' and consumer confidence in energy efficiency programmes was significantly damaged.

Work will be undertaken to develop and encourage the adoption of standards that ensure good quality advice exists to help consumers make informed decisions, ensure that installers meet required standards and that there are adequate redress procedures within the limits of Scottish Government's devolved powers and assistance in place for when things go wrong.

Does the policy impact the information available to consumers on either goods or services, or their rights in relation to these?

No negative impact identified.

Does the policy affect routes for consumers to seek advice or raise complaints on consumer issues?

No negative impact identified.

12. Test run of business forms

No new forms will be introduced.

13. Digital impact test

Not yet known.

14. Legal aid impact test

No impact identified. The Strategy itself will not create a new procedure or right of appeal to a court or tribunal, any change in such a procedure or right of appeal, or any change of policy or practice which may lead people to consult a solicitor. The regulation of heating systems may create such procedures, but that impact will be assessed as the Scottish Governments' approach to regulation is further developed.

15. Enforcement, sanctions and monitoring

The Heat in Buildings Strategy proposes to strengthen the regulation of energy efficiency and introduce new regulation for heating. While this will have implications for enforcement, sanctions and monitoring, those dimensions of the strengthened regulatory regime will be the subject of future policy development and an accompanying BRIA, and so cannot be assessed at this stage.

16. Implementation and delivery plan

The Strategy sets out both near term and longer term actions out to 2045. The Strategy will evolve to reflect latest thinking and developments in the UK, Europe and elsewhere in the world. The strategy will be reviewed in the mid-2020s, making any adjustments required and setting out more detailed actions to accelerate and drive progress through the second half of the decade to 2030.

17. Summary and recommendation

This BRIA lays out the rationale behind the Heat in Buildings Strategy. The consultation will be used to shape and finalise the strategy. The final BRIA will be informed by the consultation responses.

18. Declaration and publication

I have read the Business and Regulatory Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options. I am satisfied that business impact has been assessed with the support of businesses in Scotland.

Signed:



Scottish Government contact point:

heatinbuildings@gov.scot

Energy & Climate Change Directorate
Scottish Government
Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU



Scottish Government
Riaghaltas na h-Alba
gov.scot

© Crown copyright 2021

OGL

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3 or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available at www.gov.scot

Any enquiries regarding this publication should be sent to us at

The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

ISBN: 978-1-80201-556-0 (web only)

Published by The Scottish Government, November 2021

Produced for The Scottish Government by APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA
PPDAS942207 (11/21)

W W W . g o v . s c o t