

Energy Efficient Scotland



EXECUTIVE SUMMARY



Introduction

Summary: Vision and overview



Scottish Ministers designated energy efficiency as a national infrastructure priority in 2015, recognising the many benefits delivered by improving the energy performance of our buildings. Energy Efficient Scotland (the Programme) sees us delivering on this priority.

Energy efficiency has been a long term priority for the Scottish Government – by the end of 2021, we will have allocated over £1 billion pounds since 2009 on tackling fuel poverty and improving energy efficiency. Energy Efficient Scotland builds on our existing, well established and successful schemes.

Achieving our vision will take time. That is why Energy Efficient Scotland is a 20 year programme containing a set of actions aimed at making Scotland's existing buildings near zero carbon wherever feasible by 2050, and in a way that is socially and economically sustainable. By the end of the Programme Energy Efficient Scotland will have transformed the energy efficiency and heating of Scotland's buildings, making our

existing homes, shops, offices, schools and hospitals more comfortable and easier to heat.

Energy Efficient Scotland delivers across two key policy areas of Government: fuel poverty and climate change. Because of this it has two main objectives:

- **Removing poor energy efficiency as a driver for fuel poverty.** As set out in our recent consultation on a new fuel poverty strategy for Scotland³ we are committed to removing poor energy efficiency as a driver of fuel poverty. The Programme will be the primary mechanism by which this is achieved.
- **Reducing greenhouse gas emissions through more energy efficient buildings and decarbonising our heat supply.** The Programme also supports our ambitious targets to reduce greenhouse gases⁴. These targets will see emissions reductions in the residential and services sectors of 23% and

³ <http://www.gov.scot/Publications/2017/11/6179>

⁴ The basket of greenhouse gases comprises carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O), for which the baseline is 1990; and hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆), and nitrogen trifluoride (NF₃), for which the baseline is 1995. Nitrogen trifluoride was added to the greenhouse gas emissions covered by the Act by The Climate Change (Additional Greenhouse Gas) (Scotland) Order 2015

59% respectively by 2032 on 2015 levels. Our Climate Change Plan, published in February 2018⁵, sets out the policies and proposals that will keep Scotland on course to achieve the 2050 target of cutting total greenhouse gas emissions by 80%. To achieve this, emissions from all buildings in Scotland will need to be near zero by 2050. The Plan also sets out that by 2032, improvements to the building fabric of domestic and non-domestic buildings will result in a 15% reduction in domestic heat demand and 20% reduction in non-domestic heat demand respectively.

As a Government our substantial investment in energy efficiency has seen significant improvement in buildings in Scotland. However, we realise that there is much more that needs to be done. To achieve our two key objectives we are proposing to set long term mandatory energy performance standards for all buildings in Scotland to reach by 2040, including more ambitious targets for properties with fuel poor households. We are also proposing that this is achieved in a phased way, recognising different domestic and non-domestic building sectors have different starting points and will be improved at different paces.

Achieving our objectives will create opportunities and realise multiple benefits across Scotland. As well as supporting our ongoing work to eradicate fuel poverty and reduce emissions, it will help to keep bills affordable, make our homes and businesses more comfortable to live and work in, improve health and wellbeing outcomes for our children and more vulnerable Scots, increase the productivity and competitiveness of our businesses and make a positive contribution to the Scottish economy.

This Route Map for the Programme sets out the journey our homes, businesses and public buildings will take to become more energy efficient. It will also guide the decisions that we will be making, with our partners, over the next 20 years. The Route Map has been developed after a series of consultations and stakeholder events that have shaped the decisions we have taken.

To help inform further work on the Programme this Route Map is accompanied by two consultations⁶ covering key areas of work that we will take forward in the next two years during the transition phase of the Programme.

The steps we will take on our journey to 2040 are not set in stone. We have set out our long term destination across the sectors and some of the initial steps we will be taking along the way. But we cannot be sure what the future of our energy system will look like, given emerging technologies and increasingly localised energy systems. To take account of the anticipated changes we will review the Programme's progress on a regular basis (expected to be every four years), aligning where appropriate with review processes for key policy areas such as Fuel Poverty, the Energy Strategy, Climate Change Plans and sectoral standards. This will allow us to thoroughly assess the impact of the programme and flex and shape it to meet the challenges and opportunities that will arise.

⁵ <http://www.gov.scot/Publications/2018/02/8867>

⁶ <https://beta.gov.scot/ISBN/9781788518185>
<https://beta.gov.scot/ISBN/9781788518178>

IMPROVING OUR HOMES

Summary: Setting the long term domestic standard

By 2040 all Scottish homes achieve an EPC C (where technically feasible and cost effective).

When we consulted on the Programme in January 2017 there was a clear consensus around setting long term targets, providing certainty and a clear direction of travel. To give that certainty and clarity we are proposing that all domestic properties are required to achieve an Energy Performance Certificate (EPC) energy efficiency rating of at least EPC C by 2040 at the latest. For more information on EPCs see pages 16 and 17.

We have chosen to use EPCs to set the standard as our consultation in 2017 showed that EPCs are widely known and provide a clear way to model and understand the energy performance of a building. The consultation also raised some issues with EPCs. We have listened and already commissioned research to identify how we can improve EPCs. Following this we will be doing more work with partners to make sure EPCs more accurately record the energy efficiency of buildings.

We know that not all buildings will be able to achieve this standard, and that in some cases the cost of the work may outweigh the benefits in terms of energy savings. We will work with partners over the next two years to identify those buildings that may not be able to achieve the standard but will still need to be improved as far as is reasonable.

Reaching the long term standard will require a mixture of encouragement and regulation that will differ between the social rented, the private rented and the owner occupied sectors. We are setting out below the different journeys these sectors will take to 2040. Chapter 3 has more

details on how and when we will improve our homes.

Summary: Energy efficiency standard in the social rented sector

Maximise the number of social rented homes achieving EPC B by 2032.

Following the introduction of the Energy Efficiency Standard for Social Housing (EESHS) in 2014, homes in the social rented sector are some of the most energy efficient in Scotland, with over 90% already achieving an EPC D or above⁷. We want to continue the excellent progress that has been made and, following the recent review of EESHS, we are launching a consultation on our proposals for social housing alongside the publication of this Route Map⁸.

The consultation proposes a target to maximise the number of homes in the social rented sector achieving EPC B by 2032 and to include air quality and environmental impact requirements. The consultation also proposes that no social housing should be let if the energy efficiency rating is lower than EPC D, and seeks views on when this minimum standard should come into force.

Summary: Energy efficiency standard in the private rented sector

Private rented homes to EPC E by 2022, to EPC D by 2025, and to EPC C by 2030 (where technically feasible and cost effective)

People living in private rented accommodation generally live in homes that have poorer energy efficiency than elsewhere in the domestic sector. We are committed to improving the energy efficiency of homes in the private rented sector, ensuring that tenants are able to enjoy homes that are warmer and more affordable to heat.

⁷ SHCS 2016, based on SAP 2012

⁸ <https://beta.gov.scot/ISBN/9781788518185>

We are proposing that standards will be gradually increased over the lifetime of the Programme. We will be bringing forward regulations to require that where there is a change in tenancy after 1 April 2020 the property will need to be EPC E, extending to all private rented properties to be EPC E by 31 March 2022; and to require that where there is a change in tenancy after 1 April 2022 the property will need to be EPC D, extending to all privately rented properties to be EPC D by 31 March 2025.

We are consulting on our proposal for these homes to achieve EPC C by 2030, where technically feasible and cost effective. More details on this proposal are set out in the consultation accompanying the Route Map.

Summary: Energy efficiency standard for owner occupiers

All owner occupied homes to reach EPC C by 2040 (where technically feasible and cost effective).

Owner occupied homes account for 61% of domestic housing and around 34% of these are EPC C or above. At this stage, we are not intending to compel home owners to improve the energy efficiency of their homes. Instead we will be working with stakeholders and owner occupiers to encourage the uptake of our offer and supporting local authorities to deliver area based schemes that will see 'end-to-end' support from initial advice through to quality assured installation of measures.

We are proposing that a requirement to reach the long term standard will be considered from 2030 and are seeking your views on this in the accompanying consultation.

Summary: Energy efficiency target for households in fuel poverty

All homes with households in fuel poverty to reach EPC C by 2030 and EPC B by 2040 (where technically feasible and cost effective).

To support our work on eradicating fuel poverty by removing poor energy efficiency as a driver we are consulting on setting a more ambitious target for those households in fuel poverty.

There were around 649,000 households living in fuel poverty in 2016, of which 79% lived in homes rated below an EPC C. These are our most vulnerable households and improving the energy efficiency of their homes will have a significant impact on their heating bills. Our draft Fuel Poverty Strategy and the Fuel Poverty (Scotland) Bill will set statutory targets on fuel poverty. Energy Efficient Scotland lies at the heart of that commitment and we are proposing that the homes of all fuel poor households reach EPC C by 2030 and EPC B by 2040. We already spend significant sums to improve the energy efficiency of the homes of fuel poor households through our energy efficiency programmes and we will continue to target our funding to fuel poor households throughout this programme.

IMPROVING OUR NON-DOMESTIC BUILDINGS

Summary: Energy efficiency standard in the non-domestic sector

Our non-domestic buildings will be assessed and improved to the extent this is technically feasible and cost effective by 2040.

There are around 200,000 non-domestic premises in Scotland, including around 20,000 public sector buildings. Given the wide variety of building size and use we are proposing to move to a benchmarking system for assessing energy efficiency and we are seeking your views on this in the Energy Efficient Scotland consultation.

We are also proposing to build on the current regulations under the Climate Change (Scotland) Act. These currently only apply to buildings over 1,000m², and buildings can defer improvement by reporting their energy use. We aim by 2040 to have extended the regulations to all non-domestic buildings and for them to be improved to the extent this is technically feasible and cost effective. We will phase the introduction of regulations with the size of the buildings affected decreasing over time. We are seeking views on this phasing in the accompanying consultation.

We will consult further on our plans for the non-domestic sector in 2019 and set out our proposals for this sector by 2020, ahead of new regulations commencing in 2021.

Alignment with industrial energy

We are also committing to work with industry, aligning our offers of advice and support to consider energy use in its entirety, recognising that reducing the energy used for manufacturing can be as important as ensuring the energy efficiency of the building. More details on our proposals for the non-domestic sector are in Chapter 3.

Summary: Energy efficiency standard in the public sector

The public sector has a strong track record of delivering energy efficiency and many organisations in the public sector are actively working to improve their buildings.

We are committing to working alongside our public sector partners to establish a baseline of the energy efficiency of public sector buildings. Building on this we will work collaboratively to support a continuing role for the public sector in the vanguard of energy efficiency and to enable all public sector buildings to achieve the relevant benchmark ahead of 2040 (where technically feasible and cost effective).

Summary: Delivering the Programme

Energy Efficient Scotland builds on existing legislation and programmes that are already supporting the improvement of the energy efficiency of our homes, businesses and public buildings and the work we are doing with local authorities on the development of Local Heat & Energy Efficiency Strategies (LHEES). The launch of the Energy Efficient Scotland Transition Programme with this Route Map sees us continuing to integrate and streamline our existing support over the next two years during the transition phase.

In year 1 of the Transition Programme we will:

- Continue to allocate funding for fuel poverty programmes
- Offer funding to support development of LHEES
- Fund local authorities to offer end-to-end support for energy efficiency in domestic and non-domestic able to pay markets

In year 2 we will build on our work in year 1 and further integrate our funding streams. We expect that this approach, alongside the on-going development of LHEES will see local authorities developing Action Plans that will serve as the evidence for drawing down a range of Scottish Government funding.

We recently consulted on the introduction of a statutory duty on local authorities to develop LHEES⁹. LHEES would link our long term targets and national policies with delivery of energy efficiency and heat decarbonisation on the ground. They would allow local authorities to prioritise and target work, whether that is supporting owner occupiers and small and medium sized enterprises (SMEs) to install energy efficiency measures or encouraging the development of district heating and other low carbon heat solutions.

⁹ <http://www.gov.scot/Publications/2017/01/9139>
<http://www.gov.scot/Publications/2017/11/6232>

Chapter 4 has more details on how the Programme will be delivered both locally and nationally.

Summary: Protecting Consumers

Consumer protection and quality assurance must underpin the Programme. Through consultation feedback we have identified a set of key principles that will sit at the heart of our work in this area. These principles will ensure that across the board there is robust consumer protection, focussed on high standards of quality, customer care, competence, skills and training, and health and safety. We have set up a Short Life Working Group that will use these principles to develop a quality assurance framework that will be operational in 2020.

Chapter 5 sets out our key principles and more detail on the work we are doing on quality assurance and consumer protection.

Summary: Skills and Supply Chain

The rollout of the Programme has the potential to create a substantial Scottish market and supply chain for energy efficiency services and technologies, with every £100 million spent on energy efficiency improvements in 2018 estimated to support approximately 1,200 full-time equivalent jobs across the Scottish economy¹⁰. As part of our commitment to the Programme we will be working to provide support and actively promote the opportunities of this market for Scottish companies. As well as making sure our companies can benefit from these opportunities we need to make sure that the quality of the work carried out by the supply chain is of a high standard and that installers are suitably qualified.

Because of the close connection between quality assurance, consumer protection and the skills and supply chain, we are considering these issues in the round through the work being undertaken by the Short Life Working Group on Quality Assurance, Consumer Protection, Skills and Supply Chain. More details can be found in Chapter 6.

Summary: Monitoring the Programme

In order to ensure we are on track to achieve the Programme vision, aims and objectives set out in this Route Map we will be monitoring and evaluating the programme throughout its lifetime. This monitoring and evaluation will allow us to adapt and flex the programme where necessary.

As well as looking at outputs we will be monitoring and measuring outcomes, capturing the impact the programme has on people and communities.

We will be publishing a monitoring and evaluation framework which will be ready for implementation by the end of the transition period. Chapter 7 gives more detail.

Summary: Legislation

We are introducing the Fuel Poverty (Scotland) Bill later this year that will set a statutory target to eradicate fuel poverty. Our new Fuel Poverty Strategy will set out a framework of sub-targets showing how we will achieve our overall target.

Outwith the Fuel Poverty (Scotland) Bill, we are considering the need for legislation to create a statutory duty for local authorities to develop LHEES and for regulation of district and communal heating¹¹. We have previously consulted on these issues. We recognise that other new or revised powers or duties may be

¹⁰ Applying the latest construction sector multiplier (for 2014) from the Scottish Government input-output tables, and deflating 2018 spend to 2014 prices using the GDP deflator.

¹¹ References to "regulation of district heating" within this document include 'regulation of communal heating' as set out in the Scottish Government's consultation on this issue - <http://www.gov.scot/Publications/2017/11/6232/downloads>

needed to ensure delivery and funding across all strands of the Programme over its lifetime, and are seeking views within the consultation accompanying this Route Map on what these may be. See Chapter 8 for more details.

Summary: Conclusion

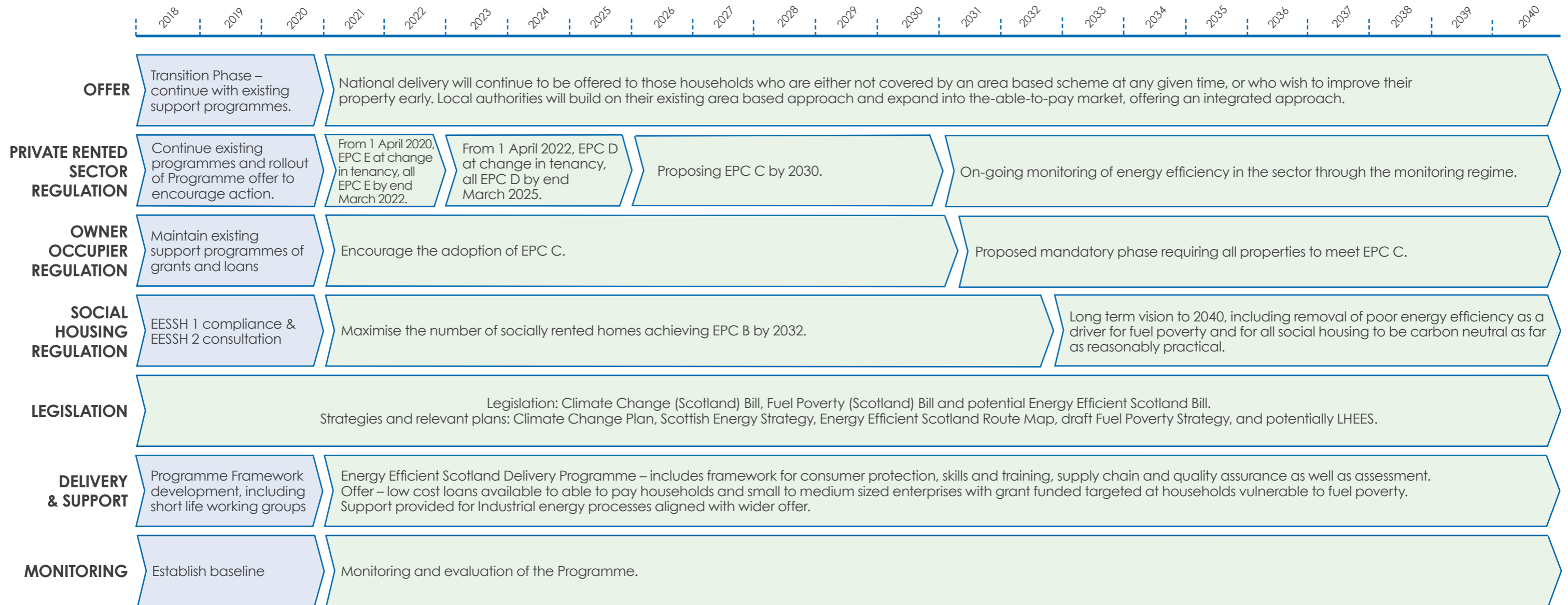
This Route Map is our 20 year plan to improve the energy efficiency of Scotland's buildings and decarbonise their heat supply. We will achieve this by setting energy efficiency standards for our domestic and non-domestic buildings and being clear on how and when these will be achieved. It will help secure an investment in excess of £10 billion over the lifetime of the programme, bringing numerous economic benefits for Scotland. For example, making our homes and buildings more affordable to heat as well as supporting a supply chain that will install the required measures. The Route Map sets out our initial steps on this journey and the Programme and progress we have made will be reviewed on regular basis and adapted to ensure we achieve our objectives.

SUMMARY

DOMESTIC

	• Transition	• General	• Advice	• Delivery	• Service	• Finance	• Service
OFFER	<p>In the Transition Phase we will expand current local delivery programmes into able-to-pay households and businesses, drawing on national advice and financial support.</p> <p>The two year programme will incrementally offer local authorities greater opportunities to plan and deliver integrated energy efficiency projects.</p>	<p>The Programme offer will consist of a universal end-to-end offer made by either a local authority or the Scottish Government.</p>	<p>The foundation of the Programme offer is that all households will be able to access good quality, independent advice and information on improving the energy efficiency of their property and reducing their fuel bills.</p>	<p>Tackling fuel poverty – Area based schemes and Warmer Homes Scotland.</p> <p>National delivery - continue to be offered to provide those households who are either not covered by an area based scheme at any given time, or who wish to improve their property earlier than any proposed backstop date.</p>	<p>Local delivery - Local authorities expand their current approach to delivery by developing a Local Heat and Energy Efficiency Strategy (LHEES) setting out a costed delivery plan for its area.</p>	<p>A mixture of grant and loan funding across different tenure and sectors to tackle fuel poverty and enable achievement of standards.</p>	<p>The Programme customers should be offered a consistent, quality level of service at each stage of the process.</p> <p>Independent advice will be the bedrock, advising property owners on the standards they will be expected to achieve, deadlines, trigger points, programmes and funding.</p>

DOMESTIC PROGRAMME SUMMARY

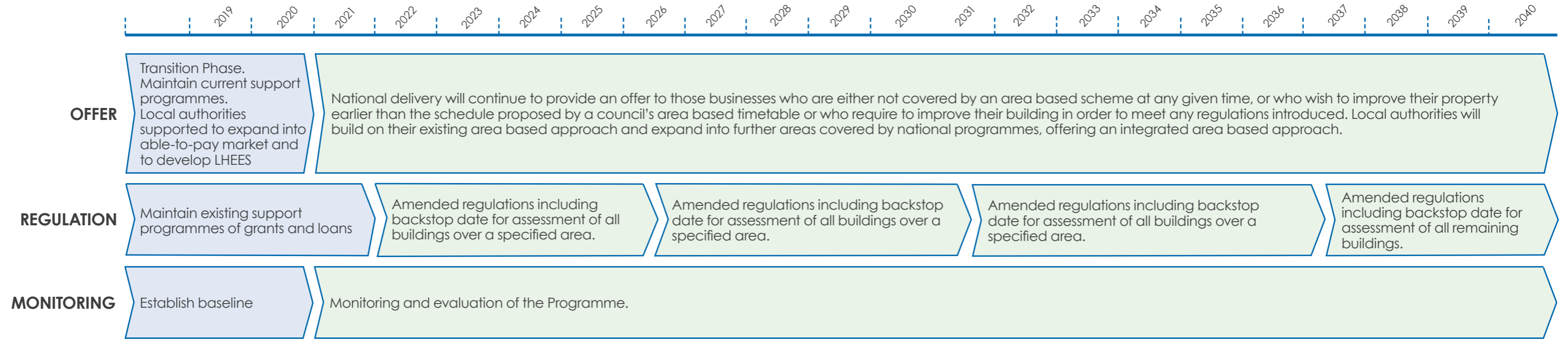


SUMMARY

NON-DOMESTIC

	• Transition	• General	• Advice	• Delivery	• Finance	• Service	
OFFER	In the Transition Phase we will expand current local delivery programmes into able-to-pay households and businesses, drawing on national advice and financial support.		The foundation of the Programme offer is that all businesses will be able to access good quality, independent advice and information on improving the energy efficiency of their building(s) and reducing their fuel bills.	National Delivery - continue to be offered to those businesses who are either not covered by an area based scheme at any given time, or who wish to improve their property earlier than backstop date.	Local authorities expand their current approach to delivery by developing a Local Heat and Energy Efficiency Strategy (LHEES) setting out a costed delivery plan for its area.	Subsidise cost of interest free loans for SME sector. As non-domestic baseline developed there is potential to consider a more targeted approach to certain businesses (in terms of size or sector). Large businesses and public sector have ready access to finance resources.	
REGULATION	The scenario proposes the use of building floor area to bring a roughly equal proportion of buildings under regulation within a five yearly review of regulations.	The Assessment of Energy Performance of Non-domestic Buildings (Scotland) Regulations 2016 introduced a requirement for owners of larger non-domestic buildings (>1,000 m ²) to assess and improve the emissions and energy performance of their buildings. The requirement is triggered by sale or rental.	The output of an assessment is an 'Action Plan' that records both the improvement targets and the measures that will be undertaken to meet them, based upon advice from a registered Advisor.			Energy and emissions improvement targets will be set at a level that will pay back investment over an appropriate timescale. This will reinforce the message that 'simple improvements make sound business sense'.	

NON DOMESTIC PROGRAMME OVERVIEW



What are Energy Performance Certificates?

Energy Performance Certificates (EPCs) provide information on how energy efficient your building is, and how it could be improved. Buildings are rated on a scale from A-G, with A being the most efficient. Information is also provided on measures which could be made to improve the energy efficiency and an indication of the cost for each improvement. An EPC must be produced when a new building has been constructed; and when a building is to be sold or rented to a new tenant¹². An EPC must also be obtained and displayed in a building over 250 m² in area, which is occupied by a public authority and frequently visited by the public.

EPCs are valid for 10 years.¹³ They are based on information such as the size and layout of a building, how it has been constructed and the way it is insulated, heated, ventilated, and lighted. Since people use buildings in different ways, the calculation is based on standardised assumptions of occupancy and use.

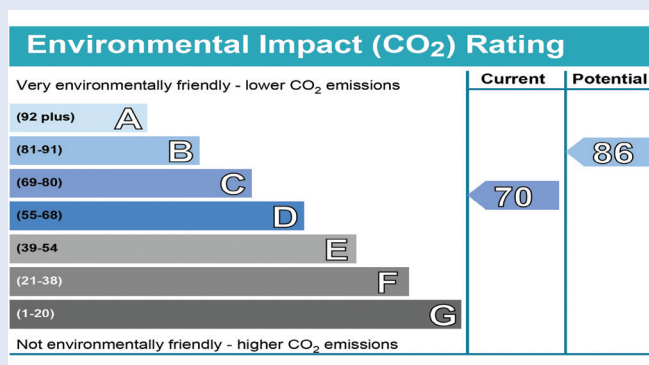
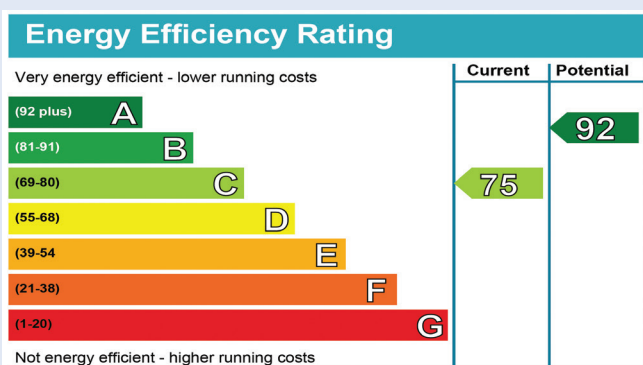
What do domestic EPCs show?

Domestic EPCs display an Energy Efficiency Rating (EER) and an Environmental Impact Rating (EIR). The EER is rated in terms of energy costs, while the EIR is rated in terms of carbon emissions.

Domestic EPCs also have numerical ratings, with a higher number suggesting greater energy efficiency.

On an EPC the numbered arrows show the current rating based on the existing energy performance of the property and the potential rating if the suggested improvements are implemented.

Responses to the Scotland's Energy Efficiency Programme consultation in 2017 showed that EPCs are well understood and provide a clear way to model and understand the energy efficiency performance of a building. There was a greater awareness of the EER measurement in the EPC compared to the EIR. This, as well as the existing use of the EER in the social housing sector, is why we will use the EER to set the long term standard.



¹² Stand-alone non-domestic buildings below 50m², temporary buildings with planned use of no more than two years, non-domestic buildings whose function implies low energy demand and buildings sold for demolition are currently all exempt.

¹³ <https://beta.gov.scot/policies/building-standards/>

How are non-domestic EPCs different?

The non-domestic EPC only contains one rating, which is based on projected carbon emissions rather than energy cost considerations. Therefore, in contrast to domestic ratings, a lower numerical rating for a non-domestic building suggests greater energy efficiency.

The approximate energy use for the non-domestic building (used to calculate emissions) is reported on an EPC but not expressed on a rating scale.

