

Existing Homes Alliance Scotland Climate Change Plan (RPP3) Briefing

November 2016

1. Introduction

To meet Scotland's climate change targets, emissions from all sectors of the economy will need to be reduced. This includes emissions from homes, which today account for 25% of Scotland's CO₂ emissions. According to the UK Committee on Climate Change's latest advice¹, by 2030 emissions from heating homes will need to have been reduced by 33%² on 2014³ levels to keep Scotland on the most cost-effective path to meeting its climate change targets. Over half of this reduction will need to come from improving the energy efficiency of homes, with the rest achieved by switching to renewable heating systems, including electric heat pumps powered by renewable and low carbon electricity and low carbon heat networks.

This briefing sets out what policies and proposals need to be included in Scotland's forthcoming Climate Change Plan in order to ensure a sufficient contribution to emissions reduction from the existing housing stock. This in turn, will also deliver a range of other benefits in terms of alleviating fuel poverty, boosting the economy, and improving health outcomes.

2. Current policies are insufficient

Although the Scottish Government has laid good foundations for energy efficiency programmes with the introduction of the HEEPS programme in 2013, the scale of current activity is below that recommended by the Committee on Climate Change. Between 2009 and 2014 emissions from housing fell on average 0.8% per year⁴. If this trend were to continue, emissions from our homes in 2030 would be 21% higher than recommended by the Committee on Climate Change, requiring steeper emissions cuts elsewhere in the economy to meet legislated climate targets. The chart below compares the Committee's cost effective pathway with the current trajectory for existing homes.

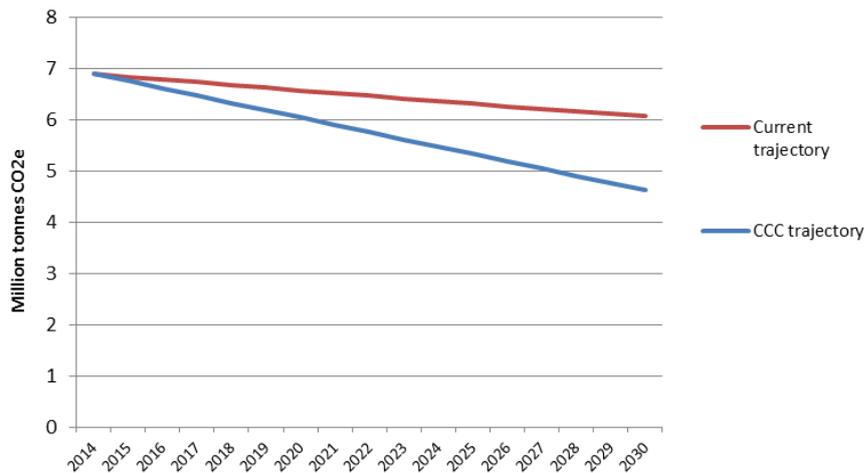
¹ UK Committee on Climate Change (2016) Scottish emissions targets 2028 – 2032: the high ambition pathway towards a low carbon economy, March 2016

² To 4.62 MTCO₂e in 2030 (adjusted figures in Annex 1 to exclude new build)

³ Temperature adjusted value in 2014 (6.9 MTCO₂e) source: CCC (<https://www.theccc.org.uk/wp-content/uploads/2016/07/CCC-response-to-Scottish-Government-request-for-updated-advice-on-Scottish-emissions-targets.pdf>)

⁴ After adjustment for temperature. Source: CCC (2016) Scotland Progress Report

Chart 1: Current trajectory versus recommended pathway for emissions from existing homes



Source: CCC & analysis by WWF Scotland

The emissions savings achieved in the Committee on Climate Change scenario are delivered by both improved energy efficiency and a switch to low-carbon heating.

3. The Climate Change Plan will need to be more ambitious

The Climate Change Plan (RPP3) is an important opportunity to reset the ambition of current policies to ensure that they deliver the scale of activity recommended by the Committee on Climate Change. It will be vital that the new SEEP programme sets the right ambition for energy efficiency and renewable heat.

We recommend that to deliver the right scale of energy efficiency activity will require bringing the vast majority of homes to an EPC Band ‘C’⁵ by 2025, and to facilitate this by setting new targets to increase the use of renewable heat in Scotland by 2030 to around 40%, up from 4% today, with a particular focus on hard to treat homes and in areas that are ‘off grid’. The following sections set this out in more detail.

3.1 Energy efficiency: set a target for vast majority of homes to be EPC ‘C’ by 2025

The Existing Homes Alliance recommends that the National Infrastructure Priority on energy efficiency adopts a target to bring the vast majority of homes to an EPC band C by 2025, over the course of a ten year programme. For the Climate Change Plan, this ambition should also be set out in terms of carbon emissions reduced. This would reduce housing emissions in line with Scotland’s Climate Change Act as well as deliver other benefits like reduced fuel poverty, improved health, and new jobs. Improving the 1.5 million homes currently below an EPC band C⁶ will require a major programme of retrofit⁷. This level of ambition is in line with the Committee on Climate Change’s

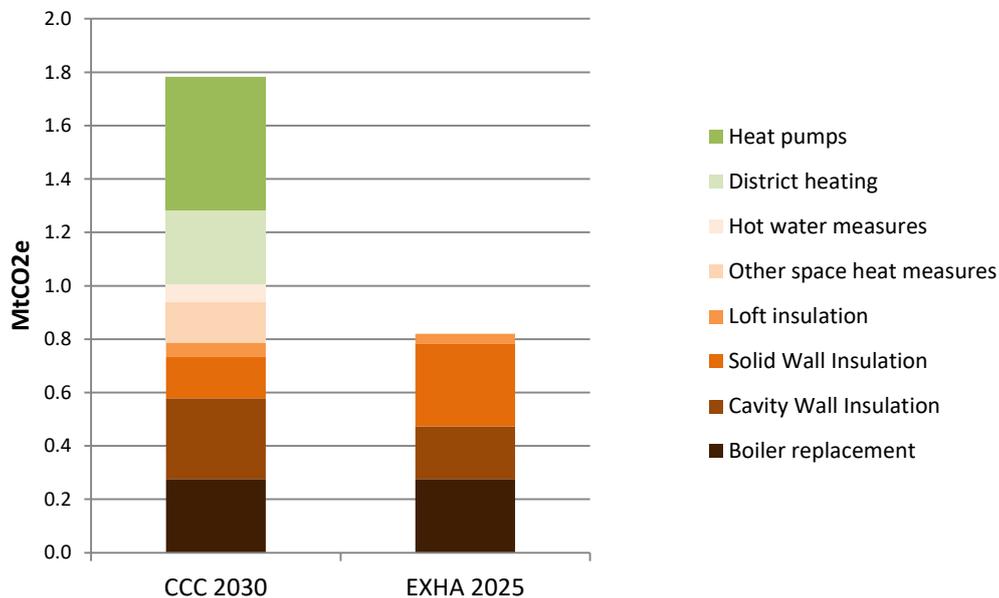
⁵ To support this ambition for SEEP, we recommend the Scottish Government review and improve the assessment methodology that underpins EPC’s, including work with the UK process, how the information is presented, and a review of the quality assurance of assessments.

⁶ SHCS Key Findings 2014

⁷ Realising the potential of Scotland’s Energy Efficiency Programme; Faulk, Andrew; August 2016; Existing Homes Alliance Scotland.

recommended amount of energy efficiency activity required to meet Scotland’s climate change targets most cost effectively between now and 2030.

Chart 2: Emissions abatement from existing homes, CCC vs EXHA 2030/2025 scenarios⁸



The chart above compares the reduction in CO₂ emissions from the package of energy efficiency measures in the CCC’s scenario for 2030 with EXHA’s scenario for 2025. The EXHA scenario estimates what is necessary to bring all homes to a minimum EPC C, using available data about the Scottish Housing stock⁹. The date of 2025 was chosen due to the urgency of addressing fuel poverty and the need to eliminate poor energy efficiency as a driver.¹⁰ It shows lower emissions abatement than the CCC scenario as not all insulation measures are included in the analysis (due to a lack of available data)¹¹.

In reality, these remaining measures would need to be installed up to 2030 to reach the same carbon reduction outcome envisaged by the CCC for 2030 (approximately 1 million tonnes of abatement per annum). Indeed, priority should be given to installing the most cost-effective energy efficiency measures such as hot water tank jackets and draughtproofing. Setting an EPC target band C by 2025 would put Scotland on track to deliver the levels of energy efficiency required to hit climate targets.

⁸ Chart 1 scales the CCC’s abatement from loft, CWI and SWI in 2030 according to EXHA’s deployment figures (for 2025) eg. SWI is doubled, others are reduced. The difference in deployment numbers is a result of different modelling approaches; both scenarios anticipate maximum deployment of remaining loft and cavity wall insulation.

⁹ Scottish House Condition Survey 2014

¹⁰ See recommendation 24 from the report, A Scotland without fuel poverty is a fairer Scotland, October 2016, Scottish Fuel Poverty Strategic Working Group: “The SEEP Programme should include a milestone towards achieving this anti-fuel poverty aim, with all properties of fuel poor households upgraded to at least an EPC band C by 2025 with five-yearly targets set for progress towards EPC band B thereafter.”

¹¹ The EXHA analysis only included significant measures - loft, cavity and solid wall insulation, boilers. It did not include smaller measures such as draught-proofing, heating controls and behavioural measures due to lack of available data. It also did not include district heating and heat pumps, again due to lack of data regarding costs and impact on energy performance ratings.

The Alliance agrees with the CCC’s recommendation for the contribution of low carbon heat to delivering overall abatement from the sector, although we emphasise the need to take a fabric first approach, as heat pumps are best installed in homes that have already received energy efficiency upgrades. We also recommend that an approach based on ‘appropriate’ measures and solutions for different situations is taken, rather than piecemeal or blanket ‘one size fits all’ approaches –as have been practiced in the past. A more tailored, staged approach is more appropriate and will provide more successful outcomes based on attaining ultimate goals rather than short term fixes.

Chart 3 illustrates the number of individual energy efficiency measures that would need to be installed by 2025 to bring all homes to an EPC band C by 2025. Delivering this scale of change will require interventions across different housing tenures, in private rented, social housing and owner occupied homes. Of the 1.5 million homes that are currently below an EPC band C rating, 67% are owner occupied, and 33% are socially or privately rented¹².

Chart 3: Energy efficiency measures require to upgrade homes to an EPC band C¹³

Measure	Number of measures needed by 2025 (homes)
Loft insulation / top up	600,000
Cavity wall insulation	Up to 518,000
Solid wall insulation	Up to 400,000, of which 260,000 fuel poor

3.2 Renewable heat: set targets to 2050

The EXHA scenario does not include an estimate of abatement from renewable heat as this was beyond the scope of the analysis. In practice however, the Alliance supports the CCC findings, which suggest that around 350,000 existing homes should switch to renewable and (where applicable) district heating by 2030¹⁴. This is aligned with independent analysis commissioned by WWF, which suggests that a target for 40% of heat demand from all buildings to come from renewable sources (compared with 4% today) would put Scotland on the cost-effective path to meeting 2030 climate targets cost-effectively¹⁵. Furthermore, the roll-out of energy efficiency improvements is complementary to the deployment of renewable heating, as many technologies such as electric heat pumps work best in well-insulated homes, and we welcome the Scottish Government’s stated aim that the SEEP programme will include renewable heat.

The CCC recommends installing 280,000 electric heat pumps in existing homes by 2030, which is broadly the number of homes currently off the gas network in Scotland and using expensive and higher-carbon resistive electric and oil fired heating. Achieving this scale of transformation will require going much further than current installation levels achieved through the Renewable Heat

¹² Scottish House Condition Survey 2014

¹³ Realising the potential of Scotland’s Energy Efficiency Programme; Faulk, Andrew; August 2016; Existing Homes Alliance Scotland

¹⁴ UK Committee on Climate Change (2016) Scottish emissions targets 2028 – 2032: the high ambition pathway towards a low carbon economy, March 2016

¹⁵ Ricardo Energy & Environment (2016) Renewable energy in Scotland 2030

Incentive, which on current trends would deliver around 80,000 installations in homes by 2030. The CCC also recommends increasing the number of homes connected to district heat networks to around 70,000 by 2030. This will require the expansion of existing and new district heat projects in Scotland, which EXHA believes can be best done through a new regulatory framework, for example through the planned Warm Homes Bill. The provision of heat maps for all council areas by the Scottish Government can support this process.

The above offers up opportunities for skills development within the existing workforce and new job and training opportunities. In the past there have been issues such as poor system sizing and lack of skilled workers to maintain the kit, leading to a lack of confidence in the industry to deliver; this is our opportunity to address this.

We recommend that a trajectory and interim targets for the decarbonisation of heat in existing homes be set alongside an EPC target (driving energy efficiency improvement) within the SEEP programme. Energy Performance Certificates include a separate Environmental Impact Rating (EIR) that measures a building's carbon performance, which could be used to set an indicative trajectory for heat decarbonisation. These could be set to encourage, for example, off-gas grid homes using oil and LPG heating and remaining homes using non-condensing gas boilers to have switched to lower carbon alternatives by 2025, with subsequent targets and standards for later years progressively tightening to require the replacement of natural gas boilers.

4. What is required of the Climate Change Plan and SEEP

Targets are necessary to set expectations and drive activity, but it is the policies, funding and regulations that accompany them that will be essential for delivering their ambition. The Existing Homes Alliance estimates that in order to successfully bring the vast majority of homes to an EPC band 'C' by 2025, the following three-point plan is required:

- Publicly funded grants for the fuel poor.
- Low interest loans to leverage private investment.
- Regulations requiring minimum energy efficiency standards at point of sale or rental.

We estimate the total investment required is in the order of £10.7bn over ten years, with approximately £4.5bn provided by the public sector and £6.2bn by the private sector.

We believe the following policies and programmes will be necessary to ensure the effective delivery of SEEP, achieving the maximum potential to reduce emissions and alleviate fuel poverty. These recommendations are based on the EXHA report, *Realising the potential of Scotland's Energy Efficiency Programme*.

Drivers and enablers: There is not sufficient demand for energy efficiency upgrades, so it is necessary to put in place drivers and enablers to help create a market transformation in how we value energy efficiency. This should be part of a clear strategy to make all new and existing domestic buildings net-zero carbon by 2050. These should be taken forward as a package to be self-reinforcing:

- **Regulation:** Introduce minimum standards of energy performance at the point of sale and rental as soon as possible to capture the worst performing homes that are lagging behind the rest of the stock. Regulating the private rented sector on its own is not sufficient – it is a relatively small number of properties, and may encourage landlords to take their properties off the rental market. Regulation is absolutely essential to move from incremental to transformational change.

We also support the use of additional ‘triggers’ for standards in order to increase demand and accelerate market transformation. We believe there are two opportunities that should be taken up in the short term to apply minimum energy performance standards: 1) for any individual or organisation in receipt of public funds for a housing upgrade; and 2) at the point of major refurbishment. Both of these triggers offer convenient and economic opportunities to install energy efficiency measures.

In addition, over time, building standards could be used to accelerate the shift to renewable/low carbon heat at the point of replacing the heating system.

- **Engagement, advice and support:** Expand efforts to engage, advise and support landlords and homeowners to upgrade their homes. This will include specific support around behaviour change programmes to ensure householders understand how to manage their energy. These activities will require additional funding.

As part of this effort, we think it is important to review existing requirements to include information on energy performance and running costs in marketing materials and Home Reports and enforce existing requirements. It will also be important to ensure that the potential impacts of the roll out of smart meters in Scotland are realised, both in terms of CO₂ and fuel bill savings,.

- **Incentives and finance:** Finance on its own will not create demand for energy efficiency. Demand will need to be driven by a combination of incentives, engagement, and regulation. Nevertheless, finance is an essential piece of the jigsaw that must be in place to ensure SEEP’s success. A variety of mechanisms will need to be deployed to attract private finance, such as loans, tax incentives, and partial grants to suit different householder needs, costs of measures and timescales. The government is already piloting an equity release loan programme which we support.

EXHA commissioned a report¹⁶ that focused on potential short and long term loan programmes for the ‘able-to-pay’ market. It demonstrates how finance can be used to overcome concerns about upfront costs and to support compliance with minimum standards regulation. Experience from Germany and elsewhere has shown that a government supported loan programme represents good value for money from a macro-economic viewpoint.

¹⁶ Financing Scotland’s Energy Efficiency Programme, September 2016, Existing Homes Alliance Scotland

- In terms of incentives, we support the use of the Land and Building Transaction Tax to incentivise more energy efficient buildings. We also support the exploration of other tax incentives, such as the council tax, that could motivate action. However, further research would be needed to understand householders' perceptions of tax incentives to understand the impact this would have. There would also need to be adequate protections to ensure the fuel poor are not penalised. Finally, the UK Government should be encouraged to reinstate the Landlord Energy Savings Allowance to encourage and support landlord action on energy efficiency.

Delivery:

As outlined above, delivery should be tailored to the specific situation and organised through area-based programmes combined with a national fuel poverty programme which responds to the needs of individual consumers in fuel poverty in an integrated way. As a rule, fuel poor households should receive full grants for measures and able to pay households should be provided with low cost finance or partial grants (cash back) to incentivise uptake. Measures for consumer protection must also be included.

In addition, we endorse the Scottish Fuel Poverty Strategic Working Group's criteria for the development and assessment of SEEP (section 3.3.1.1)¹⁷ which provide more detailed guidance on the SEEP delivery programme.

Governance

We support the use of local partnerships to deliver SEEP, bringing together housing improvement and regeneration expertise together with education and health and social care partnerships to maximise impact in terms of climate change, fuel poverty, economic development and health and well-being.

We believe there is a need for a cross-departmental ministerial group to lead the National Infrastructure Priority/SEEP, and that a robust monitoring and evaluation programme should be established from the start, reporting on outcomes at all levels, including economic and health outcomes.

4.1 Benefits of an ambitious SEEP

Beyond the important gains that will be made in terms of reducing and locking in reduced climate emissions, SEEP and the National Infrastructure Priority has the potential to outperform other infrastructure projects in terms of social and economic benefits.

Fuel poverty: raising the vast majority of homes to a high energy performance standard will lift many people out of fuel poverty. The roll-out of district heating is already helping to alleviate fuel poverty and could do more in the future. For homes off the gas grid, switching from expensive oil

¹⁷ A Scotland without fuel poverty is a fairer Scotland, Scottish Fuel Poverty Strategic Working Group report October 2016

fired heating to invest in energy efficiency and low carbon heating like electric heat pumps will reduce their energy bills.¹⁸

Household bills: Fuel costs would be reduced by an average of over £400 pa for households, and research shows that much of these savings would be spent in the local economy. Heat pumps, when installed correctly, substantially reduce heating bills, but they are more expensive to purchase upfront than conventional boilers. The renewable heat incentive is available to householders to ensure low carbon heat systems pay-back rapidly, and ensuring access to low cost finance would help all households manage upfront installation costs in future.

Jobs and economy: SEEP could provide a net increase of up to 8-9,000 jobs per year – with jobs spread around every part of Scotland. This makes it a ‘value for money’ project – creating more jobs and benefits for the wider economy than an alternative fiscally equivalent spending package. District heat networks are capital and labour intensive, with current investment delivered mostly by private sector: the Heat Network Partnership estimates that if the 100 or so feasibility projects in Scotland are given the go-ahead, this would represent investment of between £600m and £1bn.

Health: The project would provide a practical, preventative approach to addressing ill-health and poor mental health in Scotland, thereby reducing costs to the NHS of up to £80m per annum.

5. Conclusion

This briefing sets out our view on the proposals and policies that should be included in the Climate Change Plan in relation to housing. We believe the housing sector has a vital role to play in terms of meeting Scotland’s climate change targets going forward. Good progress has been made, but much more needs to be done if we are to match the UK CCC’s expectations. The National Infrastructure Priority approach has the potential to realise the CCC’s projections, while at the same time providing a real boost to the economy, reduce fuel poverty and improve health and well-being. This will require ambitious objectives supported by a combination of engagement and support, finance and incentives, and also regulation.

¹⁸ Hot off the grid: delivering energy efficiency to rural off-gas Scotland; CAG Consultants, 2016, Citizens Advice Scotland