

**energy
saving
trust**

Home energy programmes delivered by Energy Saving Trust on behalf of the Scottish Government

January 2022



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1. Introduction

This report, updated annually, describes the home energy programmes that Energy Saving Trust delivers on behalf of the Scottish Government. Over recent years Energy Saving Trust has received an increasing number of enquiries about these programmes. These are often from organisations who are seeking to influence policy in other parts of the UK. There has also been increasing interest from stakeholders in other parts of Europe and elsewhere keen to learn more about the Scottish experience of delivering home energy programmes.

This publication responds to this demand for information and is updated annually to reflect relevant programme developments over the course of each year. This is the report's second annual update.

The body of the report starts, at Section 2, with an overview of why the Scottish Government is taking action to improve the energy performance of Scotland's homes. Section 3 outlines relevant medium and long term policy objectives. A distinctive element of the Scottish home energy policy programme is the emphasis put on advice to householders and Section 4 explains the Home Energy Scotland advice service. Section 5 details the financial support made available to homeowners, tenants and landlords in Scotland to help them improve the energy performance of their homes. Section 6 focuses on programmes designed to improve the delivery of home energy improvements by the supply chain, social landlords and local authorities. Appendix A is a detailed table summarising how each of Scotland's main government home energy programmes is administered and delivered (contractual arrangements, quality assurance, evaluation, etc.).

What do we mean by "home energy programmes?" This report discusses programmes that promote energy improvements in homes: insulation, low and zero emissions heating systems, other domestic renewables systems, energy storage, and behavioural advice. These programmes can also cover wider support to address fuel poverty: helping people get on the right energy tariff and access all of the welfare benefits they are entitled to.



2. Context

Recent years have seen the rapid evolution of the home energy efficiency landscape in Scotland. This has been driven by a significant policy focus on both climate change and fuel poverty.

Scotland was one of the first countries in the world to declare a climate emergency and the Scottish Government has committed to end Scotland's contribution to climate change *"definitively, within one generation."*¹ To this end it has legislation in place which sets a target date for net-zero emissions of all greenhouse gases by 2045 with interim targets for reductions of at least, 75% by 2030, and 90% by 2040.

Scotland's housing stock is responsible for 13% of Scotland's greenhouse gas emissions and the Scottish Government recognises that *"reducing emissions from our homes and buildings is one of the most important things we can do to help end Scotland's contribution to climate change"*². Reducing emissions from Scotland's housing stock will not only require improved energy efficiency to reduce demand for energy it will require the rapid deployment of low and zero emissions heating systems such as heat pumps and heat networks such that by 2030 over 1 million homes are using these systems instead of fossil fuelled boilers³.

Improving the energy efficiency of Scotland's homes also helps lower fuel bills. Fuel poverty remains a significant issue in Scotland with 24.6%⁴ households estimated to be in fuel poverty in 2019. Scotland has statutory targets set out in the 2019 Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act that in 2040 no more than 5% of households should be in fuel poverty, that no more than 1% of households should be in extreme fuel poverty and that the median fuel poverty gap of households in fuel poverty is no more than £250 in 2015 prices before adding inflation. The Scottish Government have stated that at the "heart" of their emissions reductions efforts will be *"a defining mission for a just transition to net zero – leaving no person, industry or community behind"*. This includes continuing efforts to eradicate fuel poverty. To this end they set up an independent Just Transition Commission in 2019. The Commission's role was to provide recommendations for action that will *"maximise the economic and social opportunities that the move to a net-zero economy by 2025 offers, build on Scotland's existing strengths and assets"* and that will *"understand and mitigate risks that could arise in relation to regional cohesion, equalities poverty (including fuel poverty), and a sustainable and inclusive labour market"*⁵. The Commission published its final advice earlier this year and the Scottish Government has committed to implement this over the next 5 years and to retain a Just Transition Commission to advise on delivery.

¹ See: <https://www.gov.scot/policies/climate-change/>

² See: <https://www.gov.scot/publications/heat-buildings-strategy-achieving-net-zero-emissions-scotlands-buildings/documents/>

³ See: <https://www.gov.scot/publications/heat-buildings-strategy-achieving-net-zero-emissions-scotlands-buildings/documents/>

⁴ See: [Scottish house condition survey: 2019 key findings – gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/scottish-house-condition-survey-2019-key-findings/documents/)

⁵ See: <https://www.gov.scot/groups/just-transition-commission>

2.1 Energy Saving Trust

Energy Saving Trust is an independent organisation dedicated to promoting energy efficiency, low carbon transport and sustainable energy use. We aim to address the climate emergency and deliver the wider benefits of clean energy as we transition to net zero.

We empower householders to make better choices, deliver transformative programmes for governments and support businesses with strategy, research and assurance – enabling everyone to play their part in building a sustainable future.

Energy Saving Trust was established by UK government in 1992 as a grant funded agency to support householders to improve the energy efficiency of their homes. Following devolution in 1997, the Scottish Government began funding Energy Saving Trust directly as a delivery partner for work on home and community energy, and – more recently – transport⁶.

The Scottish Government provides funding to Energy Saving Trust to deliver an extensive range of home energy programmes, which are the focus of this report. That is only part of the work we undertake together. Energy Saving Trust also manages programmes on behalf of the Scottish Government in community energy, district heating and sustainable transport. There are increasing linkages between our programmes covering homes, communities and transport. For example, the Home Energy Scotland advice network is able to support related policies such as those on sustainable transport and sustainable water use.



⁶Some of Energy Saving Trust's programmes for the Scottish Government are grant-funded under the terms of the Environmental Protection Act (1990). Other programmes are delivered for Scottish Government by Energy Saving Trust on the basis of commercial procurement.

3. Home energy programmes in Scotland

3.1. GB wide programmes

Generally, home energy policies in Scotland are set by the Scottish Government but some policies that impact on the energy performance of Scottish homes are set by the UK Government at GB level, for example, the Renewable Heat Incentive (RHI), the smart meter roll out and the Energy Company Obligation (ECO)⁷. Some of the approaches the Scottish Government has taken to the delivery of energy efficiency can be understood as trying to maximise the impact of these GB-wide funding schemes and policies in Scotland.

3.2. The Scottish policy framework for home energy

At the end of 2020 an updated Climate Change Plan was laid before Parliament which sets out the Scottish Government's approach to reducing emissions in line with Scotland's new climate change targets to reduce emissions by 75% by 2030 (compared with 1990) and to net zero by 2045. The updated plan puts delivering a green recovery from COVID-19 at its core.

Recognising the need for a clear, long-term vision and policy direction for heat in buildings, the Scottish Government published its Heat in Buildings Strategy in October 2021. The strategy builds on the policies and actions set out in the 2020 Climate Change Plan update and signals a step change in the focus on removing emissions from Scotland's buildings. The Strategy "*sets out a pathway to zero emissions buildings by 2045 and details a series of near-term actions to put us on a clear path towards this, as well as a range of further, longer-term commitments to accelerate the transformation of the nation's building stock*", including a commitment to introduce standards across all tenures for zero emissions heating and energy efficiency, where it is within the Scottish Government's legal competence between 2023 and 2025.

The policies and actions outlined in the Heat in Buildings Strategy built on those in the draft strategy that was published earlier in the year and on the cooperation agreement between the Scottish Government and the Scottish Green Party which committed to developing a strengthened policy and delivery framework for green homes and green buildings. This includes strengthened proposals for long term energy performance standards for homes in Scotland.

The Scottish Government's proposed long term energy performance standards for homes in Scotland are as follows:

- By 2030 a large majority of homes to achieve an Energy Performance Certificate (EPC) rating of C with all homes meeting at least this standard by 2033 (where technically and legally feasible and cost effective).
- The Energy Efficient Standard for Social Housing (EESH) aims to maximise the number of social rented homes achieving EPC B by 2032 and requires that no social housing

⁷ The overall level of ECO and its delivery model across GB is set in Westminster. The Scotland Act 2016 provided Scottish Ministers with powers over some elements of ECO. To date these powers have not been exercised and the Scottish Government continues to participate in the GB-wide scheme.

should be re-let if the rating is lower than EPC D from 2025, subject to some temporary exemptions.

- Private rented homes to reach a minimum standard equivalent to EPC C from 2025, where technically feasible and cost-effective, at change of tenancy, with a backstop of 2028 for all remaining existing properties.
- All homes with households in fuel poverty to reach an energy efficiency rating equivalent to EPC C by 2030 and equivalent to EPC B by 2040 (where technically feasible and cost effective and affordable).
- Multi-tenure or mixed-use buildings may, under certain circumstances, be given until 2040-45 to improve both their energy efficiency and install a zero-emissions heat supply.

The Scottish Government has also committed (subject to technological developments and reserved decisions) to phasing out the need to install new or replacement fossil fuel boilers:

- in off gas areas from 2025 and
- in on gas areas from 2030.

3.3. Scope of this report

This report covers direct home energy programmes for owner occupiers, tenants and small private landlords managed by Energy Saving Trust on behalf of the Scottish Government. It is important to note that Energy Saving Trust does not manage the Scottish Government's Energy Efficient Scotland: Area Based Schemes. However, we want to give the whole picture and Home Energy Scotland (which Energy Saving Trust manages on behalf of the Scottish Government) does refer advice customers and provide other support to these area based schemes. Therefore, this report does briefly describe in Section 5 and Appendix 1 below the Scottish Government's Energy Efficient Scotland: Area Based Schemes alongside the Energy Saving Trust managed programmes.

The report also explains, at Section 6, some of the wider supporting activity delivered by Energy Saving Trust to build the market for home energy improvements.

There are broader policies that impact on home energy improvements that are not covered in this report, for instance funding arrangements for social housing, policies to promote expansion of district heating and policies to tackle housing disrepair.

4. Home Energy Scotland: Advice

4.1. Introduction to home energy advice in Scotland

A key, distinctive element of the policy landscape for home energy in Scotland is the focus given to high quality, impartial advice to support people to take action on energy efficiency.

In Scotland householders (owner occupiers, tenants) and smaller private landlords are able to access free, independent, personalised and impartial advice from the Home Energy Scotland service, provided on behalf of the Scottish Government by Energy Saving Trust. The importance of the advice provided by Home Energy Scotland is stressed in the Scottish Government's Heat in Buildings Strategy which notes that the Scottish Government will "*retain the support and advice services currently operating as Home Energy Scotland and Energy Efficiency Business Support (to become Business Energy Scotland from April 2022) at the core of our delivery schemes*".

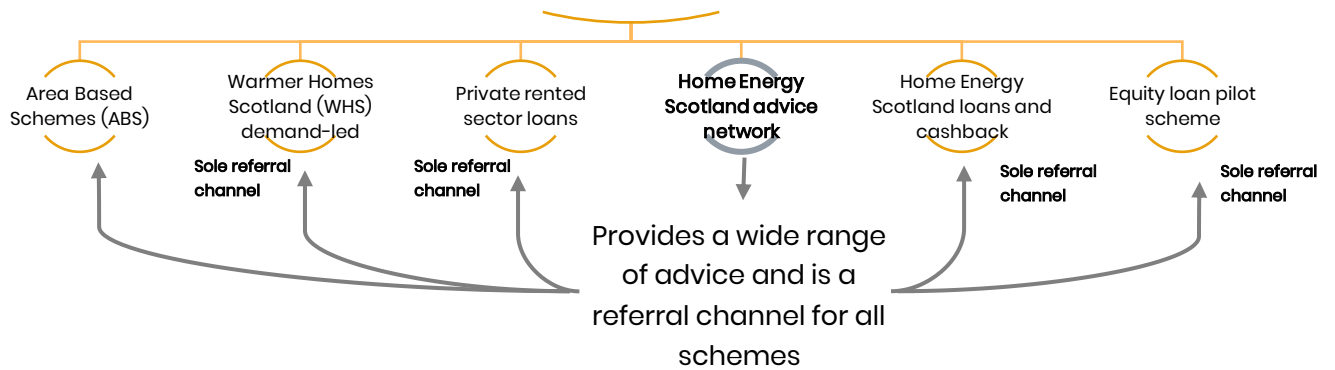
Broadly, three types of advice are provided under Home Energy Scotland:

1. Personalised advice (see section 4.2 for more details) delivered over the phone by trained advisors working from regional advice centres across Scotland. This advice is based on the information received from the customer (in relation to their housing type and tenure, their current circumstances, etc.) but also on other available information on their home and its energy use (including EPCs where these are available).
2. Advice delivered face to face either at events or in the home. In-home expert advice is provided for households identified as needing in-depth advice and support: very vulnerable households, people installing more complex home energy measures such as low and zero emission heating systems, other domestic renewables systems, energy storage and solid wall insulation, and some private landlords. During the initial COVID-19 outbreak we suspended all home visits and face to face outreach activity until national and local lockdown regulations allowed us to offer these again. During those times our focus was on providing the same level of free, impartial and expert advice, with increased reliance on phone calls and emails. All visits since lockdowns have put the health and wellbeing of our customers first, with our advisors carrying out pre-visit checks and all staff taking careful steps to safeguard our customers and themselves. At the time of writing wherever possible, advice is provided remotely.
3. Online advice consisting of bespoke advice by email and social media, a dedicated website and online tools, managed and provided centrally by Energy Saving Trust on behalf of the Scottish Government.

The "Green Homes Network" a library of exemplar low energy/carbon homes reinforces these three advice channels (for further details see Section 6 below).

Home Energy Scotland provides customers with "one-stop shop" access to the financial (and other) support for home energy efficiency offered by the Scottish Government, which we explain in Section 5 below and as shown in the diagram below:

Home Energy Efficiency Programmes for Scotland

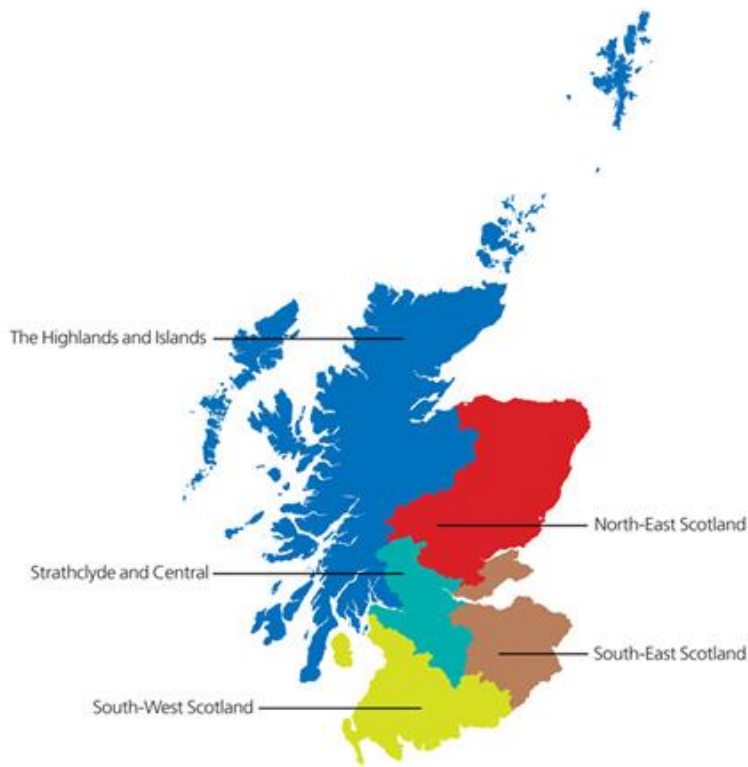


In addition to advice on home energy improvements and on accessing Scottish Government funding programmes, Home Energy Scotland also provides:

- Information on ECO schemes run in Scotland by energy companies and their installer partners.
- Advice about behavioural energy saving actions.
- Advice on low carbon transport and greener travel.
- Advice on water efficiency, including reducing hot water usage.
- Signposting to tariff/switching advice.
- Help to access benefits and other support.



There are five regional Home Energy Scotland advice centres together with a sixth advice centre offering an out of hours service. The five regional centres cover the areas shown below.



This more localised approach means that the advice provided to householders can be better tailored to reflect local circumstances (e.g. housing types, the installer base, the support available from local authorities and other local organisations, etc.). It also means that the advice centres are able to partner with others working in these areas to reach households through existing customer support networks. In addition, it enables easier access to local events and outreach staff are available to visit households where appropriate in any part of Scotland.

Each year the network helps more than 90,000 customers in Scotland and even with these very large volumes, customer satisfaction is at 97% and the network consistently exceeds its customer service targets. The lifetime carbon saved by customers using the network in 2019–20 is estimated to be more than 382,000 tonnes CO₂. Total lifetime energy bill savings from the network since its inception are estimated to be well over a billion pounds.

Our regular evaluation of the service shows 83% of customers recalled the advice provided over the phone or by email and 44% installed an energy efficiency or renewable energy measure after receiving advice from a Home Energy Scotland adviser. In addition, 38% were planning to install a measure in the subsequent 12 months. 69% of the total savings achieved by customers can be directly attributed to the advice provided by Home Energy Scotland resulting in an average lifetime saving of 4.3 tonnes CO₂ per customer advised verbally. This equates to lifetime financial savings of £1,600 per customer advised verbally.

4.2. Home Energy Scotland personalised advice

The advice provided by Home Energy Scotland advisors is based, not only on the information received from the customer, but also on other available information on the home and its energy use.

Home Energy Scotland advisors are able to access each customer's EPC and talk through the recommendations. For customers whose home does not yet have an EPC, an online 'Home Energy Check' has been developed which provides a rapid assessment of potential energy saving measures, with outputs similar to the EPC.

In addition, we have developed systems that will allow smart meter data to be integrated into the advice delivered by Home Energy Scotland (where a customer has a compatible smart meter and has provided consent for Energy Saving Trust to access their data). This will allow Home Energy Scotland advisors to discuss actual energy consumption levels and patterns for a customer as well as provide more tailored savings estimates.

For customers identified as potentially fuel poor, Home Energy Scotland advisors will:

- Refer for benefit check support. Between April 2009 and July 2021 Home Energy Scotland has helped to unlock a total estimated increase in income from benefits checks of more than £13 million.
- Ensure the tariff they are on is the most efficient and effective for their needs. For those who are able to manage switching themselves Home Energy Scotland show householders where to access resources of partners (e.g. Citizens Advice Scotland) to see the range of tariffs and options available.
- Help customers to access Warm Homes Discount and refer customers for support from local agencies (e.g. Care and Repair), local in-home energy advice and advocacy services and for money advice.
- Help refer customers to fuel credit voucher schemes where available. During COVID-19 lockdowns customers were also referred to sources of other non-energy related support such as services supplying food parcels.

Recognising the complex relationship between electric heating systems, metering and tariff arrangements, and the high level of fuel-poverty amongst this consumer group (43% of fuel-poor households in Scotland use electricity as their main heating fuel), Home Energy Scotland's advisors also provide specialist advice on electric heating systems and restricted meters. We have also produced a series of factsheets and provided training on electric heating, metering and tariff arrangements to other local advice agencies including Citizens Advice Bureaux and Citizens Advice Scotland staff.

Home Energy Scotland works with a number of trusted partner organisations including health and social care organisations, local authorities, charities, food banks etc. to build referral pathways for vulnerable householders. This helps to ensure that those most in need of help are able to access the support available from Home Energy Scotland. While the majority of householders contact Home Energy Scotland through the well-publicised freephone number, online or through outreach activity, a substantial number are referred to Home Energy Scotland from other organisations who have access to and are trusted by vulnerable householders.

During the 2020–21 financial year around 12% of all the unique households advised by Home Energy Scotland were referred from trusted partner organisations. These organisations are able to make seamless referrals to Home Energy Scotland using an online portal which works in real time to put the householder's details directly into Home Energy Scotland's database for advisors to follow up.

4.3. In-home expert advice

For those who need additional in-depth support, specialist in-home advice is also available through Home Energy Scotland. It is available for people installing more complex home energy improvements and for very vulnerable households. It is also available to some private landlords (see Section 4.4 below). As noted in section 4.1 above during the initial COVID-19 outbreak we suspended all home visits and face to face outreach activity until national and local lockdown regulations allowed us to offer these again. During those times our focus was on providing the same level of free, impartial and expert advice, with increased reliance on phone calls and emails. All visits since lockdowns have put the health and wellbeing of our customers first, with our advisors carrying out pre-visit checks and all staff taking careful steps to safeguard our customers and themselves. At the time of writing, wherever possible, advice is provided remotely

In home affordable warmth advice and advocacy for vulnerable households

Following a successful pilot in 2017–19, Home Energy Scotland changed the in-home support it offers to householders, with the introduction of Energycarers. Energycarers are specialist energy advisors who can provide an enhanced level of handholding, advocacy and support, delivered through home visits or, during COVID-19 restrictions, remotely, for very vulnerable households (in private rented or owner-occupied homes) to help them achieve affordable warmth. The service is available to those with issues relating to physical or mental health, disability, family circumstances, low income and expensive heating. Often these audiences are more likely to be in fuel poverty and are less able to make full use of the freephone service and website or email advice.

As part of enabling affordable warmth for these households, our support includes helping them to deal with structural dampness, condensation and disrepair, including seeking funding for repair and improvement work, advice and support on dealing with fuel supplier issues and contacting and engaging other support agencies.

Home Energy Scotland works with local energy advice organisations, rather than displacing them, so it will always look to access support through local partner organisations before arranging a home visit. If no partner is able to help and a visit would be helpful, an Energycarer meets the householder, sometimes with a relative or carer present, to look at how their home uses energy and see what could be improved.

In-home specialist advice for those interested in more complex measures

Individual owner occupiers in Scotland still encounter significant market barriers when considering the installation of low and zero emission heating systems, other domestic renewables systems, energy storage and solid wall insulation. Some barriers are financial but others involve a lack of awareness and understanding of the options and support that is available due to its complexity and variety. This is further impacted by limited understanding of and lack of confidence in the technologies and supply chains.

It is against this background that the Home Energy Scotland specialist advice service supplies hand-holding support to help clients navigate this complex landscape. The service includes home visits and surveys by specialist advisors or remote advice and assessment where more suitable, tailored advice on suitable low and zero emission heating and other domestic renewables, energy storage systems and solid wall insulation options, information on any financial support available including Scottish Government loans and cashback, guidance on dealing with suppliers, planning issues etc., together with “aftercare” such as assistance with any post-installation performance issues or advice to the client on how to use their new low or zero emission heating system effectively.

To ensure that clients receive a high quality service with a “whole house” approach the specialist advisors have specific training for the energy efficiency assessment of properties, home renewables and solutions for traditional and hard to treat properties.

The specialist advice service has established itself as a key part of the domestic low and zero emissions heating, other renewables and solid wall insulation infrastructure in Scotland and in recent years has had a particular focus on low and zero emission heating systems in off-gas-mains properties. Our evidence shows that where Home Energy Scotland provides specialist in-home advice on more complex measures such as low and zero emission heating and other domestic renewables, energy storage systems, and solid wall insulation around 85% of customers who received this support and took action attributed that action, at least in part, to the support they received.

As a result of COVID-19 restrictions the vast majority of advice in 2020-21 was provided remotely. This differs considerably from previous years (59% of customers received a home visit in 2019-20 compared to just 8% in 2020-21⁸).

In 2020/21, the specialist advice service provided advice to 4,540 customers, of these:

- 556 (8%) were provided with a home visit.
- 3,961 (87%) were provided with remote advice.
- 223 (5%) received both.

Customers supported by the advice service in 2020/21 will deliver total attributed lifetime savings of 71,300tCO₂ and lifetime financial benefits of £30.6 million. The financial benefits comprise fuel bill savings of £21.7 million and Smart Export Guarantee (SEG) and RHI payments of £9.0 million.

⁸ Note: Where customers are reported to have received a home visit, 32% of these were in-home visits and the remainder were remote visits where a property specification is available and detailed modelling is used to create the same report and recommendations as a visit.

Advice through digital channels

The [Home Energy Scotland website](#) is a key resource for large numbers of Scottish householders looking for help to make their home more efficient and cheaper to heat. It covers all of Energy Saving Trust's work in Scotland for the Scottish Government and includes a funding finder and a number of popular online tools and calculators which help show users how to live more sustainably and how to cut their energy bills as well as signposting them to help with making their home more efficient and cheaper to heat. The site also acts as an important driver for traffic to the Home Energy Scotland advice centre network and is also used to reinforce the advice provided by advisors to customers

Householders in Scotland can complete an online Home Energy Check to get a tailored report on the energy efficiency measures appropriate for their home, check the funding finder for financial support available for these measures and then easily contact Home Energy Scotland digitally to ask questions or seek further information. Home Energy Scotland Facebook and Twitter channels actively promote energy efficiency and affordable warmth to householders and stakeholders in Scotland, supported by Energy Saving Trust blogs on emerging technologies, myth-busting, news on funding and other sustainability topics.

Householders are also able to access a number of online renewables tools and resources, including:

- Renewables Installer Finder Scotland – allows potential purchasers of home renewables systems to search for and view information about accredited installers to inform their purchasing decisions and share information about installers with other householders via a review system.
- Home Renewables Selector –this tool helps customers in Scotland to find out what low and zero emissions heating and other domestic renewables might be suitable for their home (as well as information about those technologies) and provides fuel bill (including payments from funding schemes such as Renewable Heat Incentive and Smart Export Guarantee) and carbon saving estimates based on the characteristics of their property. Users are also able to download a report summarising their results and call Home Energy Scotland to talk through their results with a specialist renewables advisor should they wish. This tool was particularly helpful for customers during COVID-19 lockdown restrictions when visits were not available.
- Green Homes Network and Green Network for Businesses – a searchable library of case studies of exemplar homes and businesses to help encourage action by customers of Home Energy Scotland and Energy Efficiency Business Support Scotland. Customers can request visits to example sites near them and/or contact them to ask questions.

4.4. Specialist support for private landlords

The private rented sector contains some of the least energy efficient housing in Scotland. It has traditionally been a difficult sector in which to promote energy efficiency because of the split incentive problem; the landlord must pay to improve the energy efficiency of the property but most of the resultant savings will benefit their tenants. It is for this reason that there have been a number of Scottish Government and UK programmes providing financial support or tax

allowances to private sector landlords. This is also the reason why the Scottish Government is planning to introduce regulations for minimum energy efficiency standards in 2025. These will require all private rented sector properties to reach a minimum standard equivalent to EPC C, where technically feasible and cost effective, at change of tenancy, with a backstop of 2028 for all remaining existing properties.

In addition to these structural issues there are a number of other relevant factors. Many private landlords operate on a small scale with limited investment funds and are often not aware of any financial and other support available to them to help with improving their properties. COVID-19 has also put significant financial pressure on landlords, who may no longer have the same level of funds to invest in their property and tenants who may be struggling to pay their rent. Whilst landlords may have EPCs for their properties they may not properly understand the range of improvement options suitable for the dwelling or how to access the relevant supply chain. This is particularly the case for landlords who have solid wall or other hard to treat properties where solutions can be wide-ranging, complex, disruptive and costly.

To meet these needs, Energy Saving Trust provides specific advice, information and support to private sector landlords through the Home Energy Scotland network, reproducing for landlords the simplicity and accessibility of the “one stop shop” approach the network offers to householders. This is complemented by a more intensive service of either home visits by specialist advisors to interested landlords’ properties or specialist remote advice where a visit is not required. Specialist landlord advisors can also provide advice and support to landlords interested in applying for funding from the Private Rented Sector Landlord loan To ensure that landlords receive a high quality service with a “whole house” approach the specialist landlord advisors, like the specialist renewables advisors, have specific training for the energy efficiency assessment of properties, home renewables and insulation solutions for traditional and hard to treat properties.

4.5. The Green Homes Network and the Green Network for Businesses

Energy Saving Trust manages and promotes networks of exemplar homes and businesses to help encourage action by customers of Home Energy Scotland and Energy Efficiency Business Support.

Energy Saving Trust has developed networks of more than 600 exemplar low and zero-carbon businesses, homes and social housing projects. Interested members of the public can make appointments to visit the properties (subject to COVID-19 restrictions) of Green Network members or speak to the members themselves. In addition, the homeowner or a designated business contact will also respond to email or phone queries about the improvements they have installed if these channels are preferred. Properties are locatable and bookable via interactive online libraries which also provide access to a brief case study of each property; video case studies have been produced for key properties.

The networks are an important resource to promote low and zero carbon technologies, energy efficiency measures and also resource efficiency improvements to homeowners and businesses. They allow property and business owners to show those interested in making improvements how they work in practice and to share their experience of installation and operation, increasing the likelihood that the visitor will install such improvements themselves.

They are a useful tool for Home Energy Scotland, including the in-home renewables and energy efficiency specialists because they allow the experience of installing and living with energy efficiency and renewable improvements to be shared.

The networks are well-used; in 2020-21, 13,000 views of online case studies were made by more than 4,000 unique users and there were around 600 engagements with members by service users through visits, phone calls or events. The annual evaluation shows that more than a quarter of specialist advice customers interact with the green homes network and the evaluation of the green network for business (GNB) shows high impact with 88% of organisations interacting with a business network member subsequently taking action, with 75% of those attributing this action at least in part to the interaction with the GNB.



5. Financial support for home energy efficiency (owner occupiers, tenants and private landlords) in Scotland

To overcome known financial barriers to the installation of energy efficiency improvements and home renewables the Scottish Government fund a range of financial support schemes for owner occupiers, tenants and private landlords in Scotland. These are:

- Warmer Homes Scotland (Scotland's national fuel poverty programme).
- Home Energy Scotland Loans and cashback.
- Private Rented Sector Landlord Loans.
- Equity Loans.
- Area based schemes.

Each programme is described briefly below with additional detail available in Appendix 1. Scotland's national energy efficiency advice service, Home Energy Scotland, provides customers with "one-stop shop" information about and access to these schemes. This ensures that, where eligible, customers can be referred to the most appropriate programme specific to their personal circumstances.

Each programme is designed to work with other energy efficiency programmes by combining funding with other schemes, such as ECO. This helps maximise the opportunities available to households and local authorities and makes it possible to build larger funding pots to help deliver larger and/or more expensive projects.

5.1. Warmer Homes Scotland

Warmer Homes Scotland is Scotland's national fuel poverty programme. It was opened to applications in September 2015 with a commitment to spend at least £16 million plus VAT per year for up to seven years. Additional budget has however been allocated to this programme for a number of years. This year, for example, the Scottish Government has provided "*an additional £18 million for our Warmer Homes Scotland programme targeted at those in fuel poverty, taking the total budget to £50 million this year*".

It is available to households living in or at risk of fuel poverty in the private sector (tenants or owner-occupiers). The programme offers fabric measures, such as insulation, as well as heating measures. It also offers renewable and microgeneration measures (particularly air source heat pumps) to ensure that a wide range of heating options are available to off-gas households. The programme does not provide support for the installation of oil or LPG boilers. In some circumstances, where certain more expensive measures like solid wall insulation are required, customers are required to make a financial contribution towards the cost of the measures, but there are interest free loans available to help with these contributions. The programme also seeks to use innovative measures and approaches where these will benefit its recipients. For example, Q-Bot technology (which uses robots to spray insulation under the floor) has been introduced as a programme measure for insulating under suspended floors.

Cavity wall insulation extraction and replacement is also available under the programme and this is of particular benefit for those households with failed cavity wall insulation and the associated issues. Additional enabling measures have also been introduced, including asbestos removal and the installation of fuel storage tanks and low energy lighting.

Between 1 April 2020 and 31 March 2021 2,904 households received assistance from Warmer Homes Scotland. Each of these households saved an average of £258 per year off their energy bills, which equates to total annual cost savings of around £686,060.

The programme is delivered by Warmworks Scotland which was set up to deliver the Warmer Homes Scotland programme and is a joint venture partnership between Energy Saving Trust, Everwarm and Changeworks.

5.2. Home Energy Scotland and Private Rented Sector Landlord Loans and cashback

Interest free loan funding of up to £38,500 per property is available to owner occupiers (through the Home Energy Scotland Loan) and eligible registered private sector landlords (through the Private Rented Sector Landlord Loan).

These loans help overcome a critical barrier to the installation of energy efficiency improvements, renewables and energy storage; the upfront capital cost. For many householders and landlords the up-front costs of purchasing and installing these improvements continues to be the main barrier to uptake and the interest-free loan is designed to help overcome this barrier.

The loans cover a range of energy efficiency improvements, including up to £17,500 for home renewables systems or connections to an approved district heating scheme powered by a renewable energy source. In 2018-19 energy storage was introduced as an additional eligible improvement.

Evaluation of the renewables loans show that they are highly influential and cost-effective in encouraging the installation of renewables systems; 89% of funded actions were at least partly attributed to the loan and 56% would not have happened at all without the loan. As well as the fuel bill savings and RHI payments generated by the loan there are further benefits; 30% of all loan recipients evaluated said the loan had freed money which was then spent on other renewable energy or energy efficiency technologies, increasing their total investment in sustainable energy. Importantly, those who have received advice from a Home Energy Scotland specialist renewables advisor have reported that the loan is as important a driver to action as the RHI scheme.

In 2020-21 Home Energy Scotland Loans supported 1,221 households to install more than 1,247 renewable measures. The number of heat pumps for which funding was committed through the Home Energy Scotland Loan scheme increased by almost a third, from 586 systems in 2019-20 to 762 systems in 2020-21.

The Private Rented Sector Landlord Loan supported a different demographic, providing funding for 54 measures in 44 properties over the 2020-21 financial year.

For those taking out loans, cashback grants are also available for certain energy efficiency improvements and renewable measures to further increase uptake. Up to 40% cashback for some eligible energy efficiency measures and 75% for certain renewable heating systems (based on total costs and capped at a maximum value) is available. Cashback is subject to available funding and as a result are sometimes available for limited periods of time. The Scottish Government has committed to run the cashback scheme until at least 2023 to help households overcome the upfront cost of taking early action.

5.3. Equity Loan Pilot Scheme

The Scottish Government's Equity Loan scheme was launched in 2017 and is a pilot programme designed to help homeowners improve the energy efficiency of their home and make certain repairs to the fabric of the building.

The programme is currently available in Argyll and Bute, Dundee, Glasgow City, Inverclyde, Perth and Kinross, Renfrewshire, Stirling and the Western Isles. The scheme is delivered by Energy Saving Trust in partnership with Care and Repair and allows applicants to borrow money against the value of their property with the Scottish Government taking a security against the property. The amount borrowed is translated into a percentage equity stake of the total value of the property. Unlike other loans there is no requirement to make ongoing repayments. The borrowed amount is generally only repaid when the property is sold or upon the death of the last applicant. To protect loanees a cap is applied to the amount that is to be repaid ensuring in the event of a sharp rise in property values, the loanee is not unduly penalised.

The scheme was designed to fill a gap in the market for those who were not necessarily eligible for the Scottish Government's standard interest free loans. Instead, they can use the equity in their property to cover the cost of improvements avoiding the usual loan requirements of credit and affordability checks. So far, over £935,000 has been paid towards finalised Equity loans, helping households who may not otherwise be eligible for alternative support to make their homes safer and warmer.

5.4. Energy Efficient Scotland: Area Based Schemes (EES: ABS)

The Scottish Government funds local authorities to develop and deliver energy efficiency programmes (mainly solid wall insulation) in areas with high levels of fuel poverty. This funding is combined with ECO funding, owners' contributions⁹ and funding from registered social landlords who may choose to insulate their homes at the same time. The schemes are designed and delivered by councils with local authority delivery partners. They target fuel poor areas to provide energy efficiency measures to a large number of Scottish homes while delivering emission savings and helping reduce fuel poverty. As noted in section 3 above Home Energy Scotland refers advice customers to Area Based Schemes where appropriate.

⁹ Note: Interest free loans are available to help with these contributions.

6. Programmes designed to improve delivery

6.1. Sustainable Energy Supply Chain support

The Scottish Government-funded Sustainable Energy Supply Chain programme provides assistance and support to businesses in Scotland to help them to participate fully and effectively in the supply chain for low and zero emissions heating, energy efficiency and microgeneration measures and installations. The programme also seeks to raise standards across the supply chain and ensure householders and business can access suppliers regardless of their location.

Scottish Government programmes delivery programmes, together with ECO, RHI and SEG will continue to drive a very large amount of spending on sustainable energy measures in Scotland over the next few years. This means that there are very significant opportunities for Scottish businesses, particularly SMEs, to benefit by becoming installers, surveyors, assessors or suppliers under these initiatives. The Scottish Energy Strategy emphasises the economic benefits of sustainable energy investment and of these opportunities.

To ensure that the supply chain takes advantage of these opportunities and fulfils the Scottish Government's ambitions, businesses within the supply chain will need to both expand and develop their services, which can also contribute significantly to the wider green recovery following the impacts of COVID-19. It is therefore important for Scottish businesses to understand the opportunities available to them and what they need to do to get involved in the associated supply chains.

Since 2013 Energy Saving Trust has delivered a programme for the Scottish Government which supports small and medium-sized enterprises (SMEs) and local suppliers to maximise their share of spend from Scottish Government programmes, ECO, the RHI, and other large-scale sustainable energy investment programmes to the significant benefit of both the overall and the low carbon economies in all areas of Scotland. The focus of this programme is to help businesses in the 'downstream' supply chain, i.e. those who are involved in the process of installing measures, including installers, designers, assessors and architects. The programme also engages with merchants and distributors as they act as a channel for engaging with the wider industry.

Key areas of focus for the programme this year (2021-22) include the provision of extensive direct support to the sector to incentivise training and upskilling of installers, helping with accreditation costs for the Microgeneration Certification Scheme, supporting the costs of attending professional and vocational courses and offsetting the capital cost faced by colleges in the north of Scotland to ensure training rigs for low and zero carbon heating systems are available for trainees to experience first-hand.

6.2. Support for local authorities and housing associations in maximising ECO and other funds

Local authorities and housing associations play a vital role in delivering energy efficiency in the domestic housing sector, both as owners of approximately 25% of housing stock and in their capacity as community leaders.

The Scottish Government funds Energy Saving Trust to work with local authorities and housing associations to help them take a strategic approach to sustainable energy and ensure that the sector takes full advantage of the opportunities provided by ECO, RHI, Scottish Government programmes and other funding initiatives. The requirements for the Energy Efficiency Standard for Social Housing (ESSH) (see Section 3.2 above) continue to drive demand from social housing providers for advice on funding support to help achieve the required targets in their housing stock. This programme 'unlocks' substantial amounts of funding. The funding levered in by local authorities and registered social landlords in 2019-20 was £2.25 million and in 2020-20 was £2.1 million.

This work is delivered on the ground via a dedicated staff member, working through the Home Energy Scotland network as appropriate.

6.3. Data tools and services to plan policies and programmes

With funding from Scottish Government Energy Saving Trust has developed highly sophisticated tools that allow Scottish Government and local authorities to analyse energy efficiency and plan energy improvement strategies at all levels - from an individual home up to national, Scottish level. These tools are available free of charge to local authorities and housing associations.

Energy Saving Trust maintains, the Home Energy Efficiency Database (HEED). This acts as a central repository for data on energy efficiency measures from a number of sources, for example historic energy company obligation work by fuel suppliers and government fuel poverty schemes. This data would otherwise remain fragmented in a number of incompatible systems and could not be accessed, analysed and used effectively.

In addition to the standard HEED reports, Energy Saving Trust also makes available HEED+ which brings in two other major sources of data to provide a more comprehensive view of the housing stock in a given area, these are data from EPCs and Home Energy Check data (see Section 5.2 above) as collected by Home Energy Scotland.

HEED and HEED+ reports allow government, local authorities and other sustainable energy stakeholders to access and analyse this collated energy efficiency data at any level down to individual census sub-area. The data has many uses, informing policy development, assisting analysis and reporting and supporting targeting of programmes such as EES: ABS and EES, resulting in enhanced uptake and cost effectiveness.

Energy Saving Trust has also developed a sophisticated modelling tool, Home Analytics which provides address level data on the energy performance of Scotland's homes. It has been designed for use by Scottish local authorities and housing associations to support the development, targeting and delivery of policies and programmes. Home Analytics data contains elements from both HEED and HEED+ but is designed to provide a more comprehensive profile of the housing stock. It records what is known about dwellings but also provides data on every dwelling in Scotland by drawing on a wider variety of datasets such as data on housing types, age, census and mapping data to model information that is not directly available for a given address.

Finally, in this area, and in response to user need, Energy Saving Trust with funding from the Scottish Government, has also developed the Portfolio Energy Analysis Tool (PEAT): this uses data

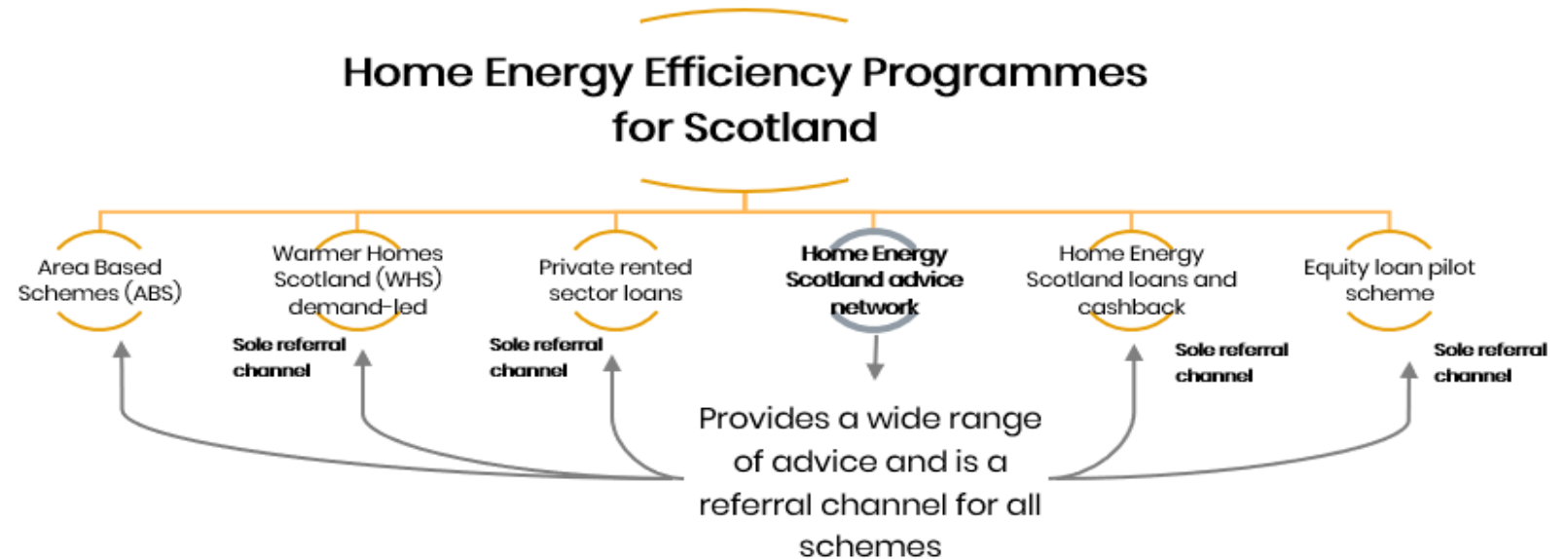
from Home Analytics. PEAT allows the modelling of energy improvement strategies for groups of buildings: for example, to assess the impact of installing cavity wall insulation across a whole street – in terms of the homes' bills, energy and carbon performance. PEAT can also present data on what measures are required to bring all the homes in an area to (for example) Energy Performance Certificate "C" Standard. This is a key tool to help local authorities and social housing providers plan energy efficiency programmes. PEAT is also used as part of the methodology the Scottish Government have developed for Local Heat and Energy Efficiency Strategies (LHEES), which local authorities will use to produce long term plans for heat decarbonisation and the deployment of energy efficiency measures.

6.4. Energy Performance Certificate (EPC) register

Scotland's mandatory EPC scheme was introduced between 2006 and 2008 in response to a European Union (EU) wide directive requiring energy labelling of all buildings at point of sale or rental. The EPC regime in Scotland is delivered by a large number of different stakeholders. These include Approved Organisations and their members, Energy Assessors, who deliver EPC assessments. The Scottish Government is responsible for the legislation and regulation around the system while also playing a quality assurance role, regularly auditing the approved organisations and their assessors. Energy Saving Trust manages the EPC register, a central database where every EPC is lodged. Energy Saving Trust uses EPC data in providing householder advice and planning and delivery work on behalf of the Scottish Government. Sixty two percent of Scottish homes now have an EPC and Scotland's EPC register therefore now constitutes a huge dataset on home energy performance. As mentioned above, the ability to integrate this data with other data sets plays an important role in ensuring programmes are targeted effectively.



Appendix A Programme administration and delivery



	Area Based Scheme (ABS)	Warmer Homes Scotland (WHS) demand-led	Private Rented Sector Landlord Loans	Home Energy Scotland advice network	Home Energy Scotland Loans and cashback	Equity Loan Pilot scheme
Contract	Allocation to 32 local authorities.	Contract with Warmworks.	Contract with Energy Saving Trust.	Grant to Energy Saving Trust.	Contract with Energy Saving Trust.	Grant to Energy Saving Trust.
Management arrangement	Schemes managed by local authorities directly or by their managing agents (e.g. Changeworks manage 4 local authorities' schemes).	Scheme managed by Warmworks (Joint venture company formed by Everwarm, Energy Saving Trust and Changeworks).	Managed by Energy Saving Trust.	Managed by Energy Saving Trust.	Managed by Energy Saving Trust.	Managed by Energy Saving Trust.
Installer/contractor procurement	Installers procured by local authorities or their managing agents. Guidance from the Scottish Government is to design schemes to support the local economy and use local installers as far as possible.	Installers procured by Warmworks for 16 area 'lots' – at least 2 installer/lot.	Landlord chooses their own contractor(s) – it is recommended that for energy efficiency measures the contractor should be PAS2030 accredited and for renewable technology MCS.	Advice contractors procured by Energy Saving Trust for 5 areas 'lots'.	Customer chooses their own contractor(s) – it is recommended that for energy efficiency measures the contractor should be PAS2030 and for renewable technology MCS.	Customer chooses their own contractor(s); Care and Repair are a project partner and can help customers find installers.

	Area Based Scheme (ABS)	Warmer Homes Scotland (WHS) demand-led	Private Rented Sector Landlord loans	Home Energy Scotland advice network	Home Energy Scotland loans and cashback	Equity loan pilot scheme
Quality Assurance	Local authority decides requirements with some additional checks by the Scottish Government. The Scottish Government require statement on QA and every scheme to have an independent clerk of works and meet ECO standards. (some schemes check 100% of jobs).	100% of jobs inspected before payment released. Scottish Government contractor Pennington Choices audits Warmworks.	Applications via Home Energy Scotland means landlords get advice on appropriate measures and ongoing support and advice; loans calls are call quality monitored.	Energy Saving Trust quality monitors advice provision and carries out monthly customer satisfaction survey. Results reviewed monthly and areas of improvement identified and actioned.	Applications via Home Energy Scotland means people get advice on appropriate measures, where grants are available and ongoing support and advice; loans calls are call quality monitored.	Applications via Home Energy Scotland means people get advice on appropriate measures, where grants are available and ongoing support and advice; equity loans calls are call quality monitored; Care and Repair are a partner and quality check work where a householder has opted to take up their support.
Measures Available	Primarily ECO-eligible energy efficiency measures decided by local authority with the main focus on insulation (priorities solid wall insulation and hard-to-treat cavity wall insulation); doors and/or windows only provided as a secondary measure. Councils can propose special projects that are more flexible and/or include heating, micro-generation and battery storage measures.	Package of energy efficiency, heating and micro-renewable measures determined by EPC survey. Private tenants cannot access measures their landlords are required to provide under the Repairing Standard.	Maximum loan amount depends on measure e.g. <ul style="list-style-type: none"> - External/internal wall insulation: £10,000 - Heating system (gas boilers): £5,000 - Glazing (only available for improving single glazing and not for replacing or improving existing double glazing): £4,500 <p>See full list at: https://energysavingtrust.org.uk/scotland/grants-loans/private-rented-sector-landlord-loan-overview</p>	Energy efficiency and renewables advice on measures and behaviours, including advice delivered in the home; referrals for financial support for measures, benefit checks, tariff checks and support with switching, referrals and signposting to local and national sources of support, such as money advice, energy suppliers' priority services registers. Sustainable transport advice including active travel.	Maximum loan & cashback amount depends on measure e.g. <ul style="list-style-type: none"> - Heat pumps (either air source to water, ground source to water, water source to water or hybrid air source to water): £10,000 (£2,500 loan plus up to £7,500 cashback) - Solid wall insulation: up to £10,000; £6,000 loan plus £4,000 cashback - Solar photovoltaic or solar water heating systems: £5,000 (loan) <p>See full list at: https://www.energysavingtrust.org.uk/scotland/grants-loans/home-energy-scotland-loan-overview</p>	Repairs which reduce heat loss or damp or moisture, energy efficiency and renewable energy measures as recommended by an EPC, Home Energy Scotland report, or Care and Repair officer. <p>Up to £40,000 based on equity on the property, repaid at point of sale of the house.</p> <p>A minimum of 55% of the loan value must be used for energy efficiency improvements.</p>

	Area Based Scheme (ABS)	Warmer Homes Scotland (WHS) demand-led	Private Rented Sector Landlord loans	Home Energy Scotland advice network	Home Energy Scotland loans and cashback	Equity loan pilot scheme
Criteria	<p>Areas with high fuel poverty targeting the most in need first. Private sector properties only through coordination with Registered Social Landlords. Council tax bands A-C (+D where EPC E-G).</p>	<p>Private sector + SAP<=67 or lower + qualifying benefit recipient + be:</p> <ul style="list-style-type: none"> - Pensioner with no working heating. - >75. - Pregnant or with child under 16. <p>With disability (PIP/DLA higher rate/Armed Forces Independent. Payment/ Industrial Injuries Disablement benefit).</p> <ul style="list-style-type: none"> - A carer. 	<p>Registered private landlords, acting either as an individual or a business that owns privately rented properties, can apply. Funding is only available for businesses owned:</p> <ul style="list-style-type: none"> - by an individual in their capacity as a sole trader. - by some or all of the members of an incorporated association in trust for the association. - by either: a limited company; a limited liability partnership; a trust; a partnership; a registered society under the Co-operative and Community Benefit Societies Act 2014; - or a Scottish Charitable Incorporated Organisation, or - in any other capacity which Energy Saving Trust or the Scottish Government considers to be a business. 	<p>Any household.</p> <p>Support also provided to communities, local authorities, housing associations, businesses.</p>	<p>Owner occupiers based in Scotland.</p>	<p>Homeowner or private landlord in Perth and Kinross, Stirling, Dundee, Glasgow City, Inverclyde, Renfrewshire, Argyll and Bute or the Western Isles, and finding the costs of making energy efficiency home improvements prohibitive.</p> <p>Owners of properties in Council Tax bands A - C, or owners (or permanent occupiers, like partners or children) who receive qualifying benefits.</p> <p>Private landlords with no more than two properties to rent that are in Council Tax bands A - C, or whose tenants receive the qualifying benefits. A landlord must be classed as a 'natural person' (meaning they're not registered as a business) and cannot own more than two properties.</p>
Principles Applied	<p>Priority is fabric first but also to ensure all properties reach an EPC rating of C or better by 2030. In some circumstances households can benefit from measures provided by EES: ABS and through WHS. Grant-in-aid is typically not available for PRS landlords owning</p> <p>more than three properties (including their own home). Councils can use up to 20% of funding towards enabling and administrative costs. Households must be referred to HES if a contribution/loan</p> <p>is required and advice services should be equivalent to that provided by Home Energy Scotland.</p>	<p>Scheme emphasises a "fabric first" approach to measures installation.</p>	<p>Application through Home Energy Scotland to ensure landlord is informed of any grants and receives advice on the appropriateness</p> <p>of measures they are considering – and can also get follow up advice post installation. Home Energy Scotland can also ensure landlord understands the flexibility they have to choose an installer.</p>	<p>Advice must be:</p> <ul style="list-style-type: none"> - Impartial. - Expert . - High quality. <p>It must also present all options to customer to enable customer choice.</p>	<p>Application through Home Energy Scotland to ensure householder is informed of any grants and receives advice on the appropriateness</p> <p>of measures they are considering – and can also get follow up advice post installation. Home Energy Scotland can also ensure householder understands the flexibility they have to choose an installer.</p>	<p>Application through Home Energy Scotland to ensure applicant is informed of any grants and receives advice on the appropriateness</p> <p>of measures they are considering</p> <p>– and can also get follow up advice post installation. Home Energy Scotland can also ensure applicant understands the flexibility they have to choose an installer.</p>

	Area Based Scheme (ABS)	Warmer Homes Scotland (WHS) demand-led	Private Rented Sector Landlord loans	Home Energy Scotland advice network	Home Energy Scotland loans and cashback	Equity loan pilot scheme
Relationship with ECO Funding	Councils are expected to maximise leverage of ECO financing to allow more properties to benefit and achieve more energy efficiency improvements.	ECO levered in by the managing agent and used to increase total number of households benefitting.	Advice on ECO provided by Home Energy Scotland.	Advice on ECO provided.	Advice on ECO provided by Home Energy Scotland.	Advice on ECO provided by Home Energy Scotland.
Client Contribution	Client contribution may be required. Typical value of grant-in-aid is from £7k to £8k but higher levels are available to households in extreme fuel poverty and in remote rural/island areas (£14k-£16k). Interest free Home Energy Scotland loans available and must be flagged.	Client contributions not normally required unless measures additional to the package are requested (e.g. additional radiators). Home Energy Scotland loan available for any client contributions.	Successful loans are subject to an administrative fee of 1.5% of the total loan value, up to a maximum of £250. Applicants with five properties or fewer in their portfolio will not be subject to interest. Applicants with six or more properties in their portfolio will be subject to interest at a rate of 3.5% APR.	No cost to customers – Freephone number free to call from mobiles and landlines.	Successful loans are subject to an administrative fee of 1.5%, up to a maximum of £150.	Successful applications subject to a £737 administration fee to cover the processing of the application and the legal work by the Scottish Government's solicitors to create the loan offer. Householder pays any fees charged for a property valuation and work by their own solicitor, but these costs can normally be included within the loan.

	Area Based Scheme (ABS)	Warmer Homes Scotland (WHS) demand-led	Private Rented Sector Landlord loans	Home Energy Scotland advice network	Home Energy Scotland loans and cashback	Equity loan pilot scheme
Also Includes	<p>Behaviour change advice from Home Energy Scotland on using heating systems effectively once insulation has been installed.</p> <p>General advice about care/maintenance of installed measures should be offered to customers by all local authorities/managing agents.</p>	<p>SSEN/SGN funded enabling measures where these go beyond limit of Scottish Government funding provision.</p>		<p>Specialist advice for private landlords; specialist in home advice for renewables and complex energy efficiency measures; water efficiency advice and water saving packs funded by Scottish Water; survey booking for Warmer Homes Scotland funded by Warmworks; advice talks on waste reduction funded by Zero Waste Scotland.</p>		
Useful Links	EES ABS	Warmer Homes Scotland	Private Rented Sector Landlord loans	Home Energy Scotland	Home Energy Scotland Loans and cashback	Equity loans pilot