

Impact of the Highland EES:ABS Programme

For The Highland Council & SSE Renewables

HILLIAM RESEARCH AND ANALYSIS

Executive Summary

This report explores the impact of the Highland Council's Energy Efficient Scotland: Area Based Scheme (EES:ABS), focusing on the 2023 to 2025 period. The scheme aims to reduce fuel poverty and lower carbon emissions by providing funding for energy efficiency measures, such as insulation improvements and renewable technologies (including air source heat pumps and solar PV).

The review was undertaken by Hilliam Research and Analysis using a combination of desk-based analysis of available literature, reviewing domestic energy efficiency data and installation reporting data, interviews with key stakeholders and, in-depth discussions with the Highland Council Climate Change team.

Potential benefits and challenges

There are a wide range of benefits that can arise from domestic energy efficiency programmes beyond a reduction in the energy required (and cost) to heat and or use buildings. These include: wider impacts on the environment and contribution to national carbon emissions reduction targets; a range of mental and physical health and wellbeing benefits for householders; fuel poverty reduction, and; positive impacts for communities in terms of employment, skills development and benefits to the local economy.

The challenges to improving domestic energy efficiency in Highland are significant and unique. These arise as a result of a range of key factors comprising: a large and remote geography; the dispersed nature of housing; the nature and variety of housing stock; the significant number of properties requiring upgrades; the limited supply-chain, and; significant retrofit-related skills gaps in the area. These factors not only mean the opportunities for retrofit are more challenging, but they are also more expensive and less scalable than in other areas. While the challenges of delivery are more extreme than other areas of Scotland, the level of need, as a result of the relatively high fuel poverty levels, higher costs of living, higher proportion of off-gas properties and more extreme weather, mean that, when compared to other areas of Scotland, there is also a higher level of urgency to complete upgrades to housing.

These potential impacts and key challenges highlight both the importance of the scheme to the community in Highland and the unique challenges of delivering a successful scheme in this local authority area.

Scheme delivery and impacts

In response to these challenges and to best achieve these benefits, Highland Council have developed an in-house team to deliver their EES:ABS to enable long term retrofit programme planning. This approach is not universal across Scottish local authorities and enables them to retain expert knowledge and experience and, importantly in the case of Highland, has enabled co-ordination of EES:ABS funding with other funding schemes (such as the now discontinued ECO scheme and any future replacement) and to apply for additional funds (such as grant funding from SSE) to deliver enhanced and co-ordinated energy efficiency projects. Although requiring more internal resourcing, the approach enables funding to be more effectively targeted and redistributed across homes. The Council's approach is viewed positively by stakeholders and as best practice for local authority-led retrofit delivery — both technically and administratively — with praise and recognition in particular in relation to the ability to mix funding streams within regulations, their ability to lever this to provide better solutions for households and, their in-house knowledge. The in-house team presence also facilitates the development of place-based projects and more effective alignment of work with the Council's Local Heat and Energy Efficiency Strategy (LHEES).

The programme has generated significant levels of demand, reflecting both the urgent need and large scale of retrofit required in Highland, and the success of the scheme promotion and delivery. The demand for participation in the scheme is now more than can be met through the currently available funding. The scheme has achieved real and impactful savings for households in terms of increased comfort and energy and carbon savings. The importance of the Council's work in developing and supporting the skills base in

Highland to deliver wider community benefits was also recognised. Stakeholders both involved in, and aware of, this work in Highland consistently described Highland Council as proactive and collaborative and, through their co-ordinated approach, being a leading organisation in the delivery of local authority-based energy efficiency in Scotland.

These positive findings sit within a context of significant unmet need for energy efficiency upgrades in the Highland Council area, and recent increased uncertainty in funding for energy efficiency. The core EES:ABS funding is provided on a year-on-year basis which limits the ability to effectively plan installations over the long term and best meet the needs of householders. The UK Government has also recently cancelled ECO funding whilst not yet confirming how its replacement will be delivered. The securing of the SSE Renewables Grant funding is a significant achievement, but despite its successes it is clear that there remains a need for enhanced funding for energy efficiency activity in the Highland Council area.

Introduction and Overview

This review explores the impact of the Highland Council's Energy Efficient Scotland: Area Based Scheme (EES:ABS), focusing on the 2023 to 2025 period. Initially established in 2013, EES:ABS is a Scottish Government programme that provides annual funding to local authorities to develop and deliver energy efficiency activity in areas with high levels of fuel poverty.

The Highland EES:ABS scheme¹ currently focuses on reducing fuel poverty and lowering carbon emissions by providing funding for energy efficiency measures, such as insulation and renewable technologies like air source heat pumps and solar PV. Their approach has been to fund projects in specific areas to make homes warmer, more affordable to heat, and greener.

During this period the Highland Council have developed the scheme to enable funding from the Scottish Government to be co-ordinated alongside other sources of funds, including the (now discontinued) Energy Company Obligation (ECO)² and SSE Renewables grant funding³ to deliver more holistic energy efficiency and fuel poverty alleviation measures to domestic properties in the Highland region.

The Highland EES:ABS Scheme is managed by the Council and operates in partnership with a range of other key stakeholders: Home Energy Scotland (HES) provides free impartial advice and is a key point of contact for householders seeking advice. HES offer support to check eligibility for energy efficiency improvements and signposting to the EES:ABS scheme. Union Technical are the main contractor for the delivery of installations across the area.

Hilliam Research and Analysis was commissioned by the Highland Council and SSE to complete this review. It focuses on an overview of the impacts of the scheme over the last two financial years (2023/24 and 2024/25), using internal Highland Council data on demand and delivery, wider literature and data reviews, analysis of householder surveys and interviews with key stakeholders involved in, or aware of, the programme.

¹ [Energy Efficient Scotland: Area Based Scheme | Energy and sustainability | The Highland Council](#)

² [Energy Company Obligation Flex \(ECO4 Flex\) and Great British Insulation Scheme Flex \(GBIS Flex\) Eligibility | Energy and sustainability | The Highland Council](#). The UK Government announced the ending of the ECO scheme in the Autumn 2025 budget, which signalled a significant reduction in the resources available to deliver home energy improvements (Highland Council utilised £1.6m of ECO funding in 2023/24 and £1.8m in 2024/25)

³ The Council successfully applied for £1 million of grant support from the [SSE Renewables Highland Sustainable Development Fund](#) to provide additional funds to reduce or remove entirely householder contributions for those in extreme fuel poverty.

Method and Approach

The review was undertaken through the combination of desk-based analysis of available data and literature, alongside some primary data collection. The key elements of the project are described in this section.

A review of available data provided by Highland Council

The Highland Council provided access to their data on the domestic energy efficiency requirements and status of homes across the area. The Council holds multiple data sources (including Home Analytics, Scottish House Condition Survey, fuel poverty/ SIMD indicators, EPC data) and have cleaned and combined these datasets to provide high level data on:

- Characteristics of housing stock (EPC levels, heating types, insulation etc.)
- Characteristics of households (levels of fuel poverty, eligibility for programmes)
- Installations achieved in 2023/24 and 2024/25 (by type and location)
- Summary data on responses to marketing / requests for measures received
- EES:ABS annual reports

Elements of the EES:ABS applications to the Scottish Government were also provided for review, including the planned target areas for the programme.

A rapid review of publicly available literature

Two rapid literature reviews were undertaken to explore two key areas: The first review covered evidence of the social and environmental impacts of improved domestic energy efficiency for both householders and wider society. This was undertaken to provide context for exploring and identifying the benefits achieved by the Highland Council programme. A second review was undertaken to identify any independent evidence on the scale of the challenge for domestic energy efficiency in Highland. This data was used to complement the internal analyses and data provided by Highland Council and perceptions of key stakeholders.

A very limited number of sources specific to the Highland Council area were identified, and much of the evidence focused more widely on the Highlands and Islands in general or on rural areas in Scotland and the UK. To support this limited evidence, the search was expanded to identify evidence relating to the challenges of housebuilding and maintenance in the Highland Council area (as the process of retrofit requires similar, if not identical, skills to building and building maintenance). Additional wider stakeholder engagement (discussions and email contact with representatives of Highlands and Island Enterprise, Scottish Government and industry representatives) confirmed the limited levels of publicly available data and evidence specific to these topics in the Highland Council area.

Interviews with key stakeholders

A series of semi-structured qualitative interviews were held with 7 key stakeholders and experts who were either linked to delivering, or who were aware of, the Highland Council EES:ABS scheme. The interviews were all held online and lasted between 40-60 minutes. The interviews covered the following topics:

- Stakeholder perceptions on the scale of challenge in Highland
- Importance of the EES:ABS programme: successes, wider impacts
- Impact on households of the scheme
- Impressions of the approach of integrating public and private funding sources
- Key successes and areas for improvement

The interviewees were with representatives of the following organisations: Home Energy Scotland; Union Technical Services Limited; SSE; Warmworks, and; Energy Saving Trust. All interviews were transcribed, and a thematic analysis was undertaken on the data to explore key themes identified in the data and literature reviews.

In-depth discussions with the Highland Climate Change Team

In addition to the elements described above, a number of in-depth discussions were held with the Highland Climate Change team to explore their approach to managing the scheme and targeting areas for measures.

Data considerations and limitations

Due to data protection and licencing restrictions, it was not possible to access the primary datasets relating to housing stock, building performance and impacts of measures installed. This data was analysed and verified by the team at Highland Council, with outputs passed on to the research team.

Approach to reporting

The report is presented in the following sections.

- A brief review of the impacts of improved energy efficiency, using data from the literature review
- A review of the specific domestic energy efficiency challenges within the Highland Council area, based on the literature review, data shared by Highland Council and stakeholder interviews
- An overview of the context for delivery within the Highland Council and the impacts of the in-house management model used in Highland
- The role and impacts of Highland Council's programme in overcoming energy efficiency challenges
- Impacts of the programme on householders
- Overall summary

The Social and Environmental Impacts of Improved Energy Efficiency

Domestic energy efficiency programmes provide insulation, heating and energy consumption improvements to properties and support to residents. These result in direct improvements in thermal efficiency, a reduction in the energy required by the occupants to heat and or use buildings and reduced carbon emissions. There are, however, a range of other direct and wider positive impacts that arise from the delivery of improved domestic energy efficiency programmes. These are outlined briefly in this section to provide context for this report and are grouped around: impacts for the climate and environment, impacts for householders, and impacts for the wider economy.

Impacts for Climate and Environment

Domestic energy efficiency is a cornerstone of UK climate policy. Energy efficiency measures reduce greenhouse gas emissions by decreasing energy consumption through improved thermal efficiency. They also support the transition to a low or zero carbon society through the replacement of fossil fuel-based heating systems (gas, oil, coal) and electricity supplies to low and zero carbon sources such as heat pumps and solar technology.

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"* (EST, 2024). The Scottish Government's Heat in Buildings Strategy states that the Government *"want all fuel poor households to benefit from an energy efficiency rating equivalent to EPC C by 2030 and equivalent to EPC B by 2040"* (Scottish Government, 2021)

At the national level, Scotland has achieved a leading position within the UK for domestic energy efficiency scheme progress. This is a consequence of consistent support from the Scottish Government and a suite of domestic energy efficiency programmes which provide a strong framework of grants and government backed loans for households and support to local authorities, in tandem with clear regulatory support and a largely consistent policy framework. Scotland has a higher proportion of households that have received the main insulation measures (cavity wall, loft and solid wall insulation) than the rest of the UK (Dept. for Energy and Net Zero, 2025) which will directly link to greater reductions in carbon emissions.

Impacts for householders: Health and wellbeing and fuel poverty reduction

Multiple systematic reviews and studies have demonstrated that improving the energy efficiency of properties through insulation and heating upgrades leads to measurable health improvements. There is now a large body of peer reviewed work demonstrating the positive impacts of energy efficiency improvements; it is beyond the scope of this study to provide a comprehensive analysis of all of this work but some illustrative examples are given as follows.

Having warmer homes provides a range of physical benefits including reductions in cold related illnesses (stroke, heart disease, asthma) and improved mental health outcomes arising from healthier environments and reduced stress (due to alleviating concerns around physical health, increasing comfort in homes and reducing concerns related to the costs of home heating). Maidment et al. (2014) highlight significant wellbeing gains, with *"a small but significant improvement in the health of residents"*.

Other studies have highlighted the impact on health costs, with Citizens Advice (2023) indicating that improving the energy efficiency of 13 million homes across the UK to EPC C could result in savings to NHS of up to £2 billion by 2030. A reduction in energy bills directly impacts on household bills and thereby contributes to alleviating fuel poverty. Citizens Advice (2023) suggests that upgrades to domestic properties could reduce consumer bills by £24 billion by 2030.

Impacts for Economy and Community

A Scottish Enterprise assessment (2023) estimates that the market potential for retrofitting housing to achieve EPC C in Scotland (across social, private rented, and owner-occupied sectors) is over £30 billion. This has significant potential to generate employment in local communities, stimulate skills development and provide wider economic benefits. Income gains from reduced energy bills can also support economic development through increased spending by households.

The IEA's 'Multiple Benefits of Energy Efficiency' framework (2014, updated 2025) highlights the full range of more high-level benefits from (domestic) energy efficiency beyond householder and environmental benefits. These include: job creation, economic growth, property asset value increases and reducing pressure of electricity grid developments.

The Domestic Energy Efficiency Challenges in Highland

A rapid review of the literature, the data provided by Highland Council and interviews with key stakeholders has identified a range of key challenges affecting domestic energy efficiency programmes in Highland. These can be grouped around the following key themes:

- Nature of housing stock, heating sources and heat demand
- Levels of fuel poverty and household incomes
- Supply chain and delivery costs
- Public trust, engagement, and communication

Where available, evidence and data on these themes is compared with other areas (the whole of Scotland where possible and to the UK as a whole where Scotland data is not available) to demonstrate the particular characteristics of the Highland Council area.

Housing stock, heating sources and heat demand

The energy efficiency performance of housing in the Highland Council area is particularly challenged by three factors: fabric of the stock; fewer than average households having access to mains gas, and a higher heating requirement for housing due to colder wetter climatic conditions than the rest of Scotland and the UK.

When compared to other areas of Scotland, the housing stock in Highland is older and hard to treat with energy efficiency measures. Many of the properties are solid-walled dwellings with poor insulation and single glazing. This results in a housing stock that is markedly less energy efficient than Scotland as a whole. As shown in the table below, Highland has nearly three quarters (74%) of its properties below EPC band C or with no EPC (35% below band C, 39% with no EPC). It is not possible to assess what proportion of the properties without EPC would be below band C, but even with this missing data, a much greater proportion of domestic housing in Highland is within the lowest E, F and G bands (17% or approx. 22,000 homes), compared to Scotland as a whole (9%).

Domestic EPC levels (Highland Council Area)

EPC Band	Scotland* (% Properties)	Highland** (% properties)
A-B	7	9
C	49	17
D	34	18
E	7	10
F-G	2	7
NO EPC	n/a	39

*Scottish House Condition Survey: 2023, [Energy Efficiency tables](#) and figures (pub. Jan 2025)

**Highland Council / Home Analytics Data

Data provided by the Highland Council using the Energy Saving Trust's 'PEAT-OR' tool (table overleaf) clearly demonstrates the scale of the retrofit requirements across the area. The tool was used to assess all recommended measures regardless of current EPC status. This therefore presents an aspirational, ultimate energy efficiency 'target' for all domestic properties in the Highland Council area if there was no budget limit. The resulting analysis shows the significant number of properties in Highland requiring heating and insulation measures – for example approximately 45,500 homes (35% of the total housing stock) would still require some form of wall insulation under this scenario.

In addition to the number of measures required, stakeholders interviewed as part of this project also noted a relative lack of common building archetypes, the large proportion of traditional properties, and high numbers of properties with extensions as factors making retrofit more complex (and therefore expensive) across the area.

Estimated recommended energy efficiency measures: domestic properties (Highland Council area)

Measure type	No. Properties Requiring Measure	Proportion Properties Requiring Measure*
Windows	101,070	78%
Doors	99,650	77%
Heat pump	94,500	73%
Underfloor	83,950	65%
Solar	71,726	56%
Room in roof	22,159	17%
Storage heaters	21,501	17%
Internal wall	19,237	15%
Loft	18,823	15%
Cavity wall	14,156	11%
External wall	12,186	9%
Water tank insulation	3,834	3%
Flat roof	3,257	3%
Wind turbine	1,643	1%
Gas boiler	1,060	1%
Thermostatic radiator valves	1,177	1%
Biomass	202	0%

*Based on total 129,197 properties in Highland; sufficient data was only available to recommend measures for 128,964 properties

Further to these challenges, a very large proportion (62%, or approximately 78,000 properties) of Highland households are off the mains gas grid - this compares to 20% for Scotland as a whole (UK Government, 2025). This is the highest proportion of properties off-gas of the mainland Scottish local authorities and a significantly larger number of off-gas properties than any other local authority in Scotland (the next closest is Glasgow City with approx. 57,000 off-gas properties). Only two other local authorities in Great Britain have a greater number of off-gas properties.

These properties have to rely on electricity, oil, LPG, and solid fuel. These fuels are more expensive, and (with the exception of electricity) rely on delivery costs and often require upfront bulk payments (e.g. £500+ minimum oil delivery) (Poverty Alliance, 2024, p.21). Reliance on electric storage heating also exposes households to higher standing charges and unit rates (AliEnergy et.al, 2025) with standing charges for electricity in northern Scotland amongst the highest in the UK⁴.

To compound these challenges, the Highland climate is colder, wetter, and windier, than other areas, leading to higher heat loss and increased heating demand. Changeworks (2023) note that remote rural households use around 25% more electricity for heating than the Scottish average.

The scale of the challenge in terms of nature and number of properties requiring improvements, and the geographical factors affecting the cost of fuel supply, is clearly particularly significant for the Highland Council area and was recognised by interviewees in this study.

Fuel poverty and lower incomes

The research has identified multiple different fuel poverty estimates for the households in the Highlands, but all suggest that those living in this area experience disproportionately high levels of fuel poverty when compared to other areas of Scotland.

⁴ <https://www.ofgem.gov.uk/information-consumers/energy-advice-households/get-energy-price-cap-standing-charges-and-unit-rates-region>

Based on estimates of fuel poverty levels in April 2022, nearly half (47%) of households in the Highland Council area are fuel poor, compared with 36% for the whole of Scotland (Changeworks, 2023, p.28). The more recent SHCS (2025) data indicates that 34% of all households in Scotland were estimated to be in fuel poverty in 2023. Information provided by Highland Council indicates that in 2023 householders in the area had an average fuel bill of £1,337 per annum vs £937 for Scotland as a whole (i.e. on average householders in the Highland area have to spend 43% more on meeting fuel costs than households elsewhere in Scotland).

The 'fuel poverty gap' (the amount by which fuel bills need to be lowered to lift a household out of fuel poverty) is also much higher. Figures from 2023 indicated that the whole Highlands and Islands region (i.e. a larger area that includes the Highland Council area), had a fuel poverty gap of £1,260 per year compared with £750 nationally (Changeworks, 2023, p.34).

The minimum cost of living in remote rural Scotland is also between 15% to 30% higher than urban areas of the UK (Scottish Fuel Poverty Advisory Panel, 2025, p.9; Scottish Government, 2021), with households facing a 'rural premium' on goods and services (transport, food, utilities), reducing disposable income.

Household demographics, with higher proportions of older residents and people working from home, also increase demand for heating and appliance use [Changeworks, 2023; Poverty Alliance, 2024]. The Highland Council [population data](#) highlight an aging population, with a high proportion of the population aged over 65 (24.6%) when compared to Scotland as a whole (20.5%) (NRS, 2025). Changeworks (2023) also noted that depopulation is a key concern in northern areas of Highland (Caithness and Sutherland), with these areas forecasted to lose 21% and 12% of their populations respectively by 2041 resulting in a lack of economically active people as well as an older remaining population in need of increasing support (See also Scottish Government (2025a)).

It is clear from the above that there is a coincidence of several factors in the Highland Council area (higher than average fuel and living costs and a household demography indicating higher heating needs and lower than average incomes, in addition to the built stock challenges noted previously) which make the incidence of fuel poverty higher and more acute for householders than elsewhere in Scotland.

Supply chain and delivery costs

The size and remoteness of Highland make project delivery expensive and complex. Limited local suppliers, large travel distances, lack of accommodation for installers, and transport of materials are noted as key challenges. Contractors face long travel times and higher mobilisation costs, which then inflate per-unit retrofit prices (Changeworks, 2023). The stakeholder interviews also noted these higher costs:

“One of the first ones I would probably say challenges... will be logistics... the area of the Highland Council... is massive compared to some of your smaller councils.” — UTS

“It’s such a big area... you probably want about five jobs saved up to make it worth setting up compounds and travelling up there.” — EST

There is limited literature on the increased costs of retrofit specifically in Highland, but evidence focusing on housebuilding in rural and island communities in Scotland (a practice requiring similar skills and materials) highlights similar challenges. This evidence highlights that deliverability is affected by construction capacity and supply chain challenges (Scottish Government, 2025a), higher development costs in rural and remote areas (Audit Scotland, 2020) and increased complexity and cost when compared to Scotland (Scottish Government 2025b)

The literature also highlights a lack of locally based PAS 2035-qualified installers in the Highlands. Training opportunities are often centralised, requiring significant travel, which discourages participation (Poverty

Alliance, 2024, p.22). This shortage leads to dependence on outside contractors, increasing costs and eroding trust (AliEnergy et.al, 2025, p.34). These findings were echoed in the interviews:

“it’s worse in Highland and harder to get accreditation... the lack of PAS and SVQ support.” — WW

“PAS standard that we need to work to... for smaller companies it’s not cost effective [to become accredited] for them currently.” — UTS

Public trust, engagement, and communication barriers

The literature also highlights the importance of public trust in those delivering or promoting schemes (e.g. local authorities, installers and energy companies etc.) to encourage uptake of retrofit. The use of local stakeholders is viewed as particularly important in building trust (Long et.al 2015, Changeworks, 2023; AliEnergy et.al, 2025). The challenge is magnified in Highland due to the issues around limited local skills and providers described above, as many installers necessarily have to be non-local and this lack of local identity could be a barrier in building trust. One stakeholder interviewed also highlighted the importance of installers and organisations that are promoting and managing schemes being perceived as having local identities within Highland, which may also influence uptake of an authority-wide scheme:

“A lot of it goes down to trust...for delivery that can be problematic for national agencies. So the more local that you can get to in terms of a delivery programme, So ... we are shifting our approach from the Highlands and Islands to a place-based approach. We are finding much higher engagement rates with individuals because there’s an understanding of recognition that those that are actually promoting the idea” HES

The local delivery and place-based engagement was, however, described as being successful in Highland in building trust:

“Importance of the local community organisation ... because one, the person that was doing it was just brilliant, knew everybody, understood it, got it, understood the impact, but also the development trust just had the complete trust of that community.” — HES

The complex funding environment for energy efficiency was also identified as a barrier. The multiple options available include the programmes that the Council directly engage with (e.g. EES:ABS, ECO, etc.) alongside the other main Government funded scheme, Warmer Homes Scotland, which operates on a national level. This can create confusion for households, especially when there are multiple actors engaging with households and communities at the same time.

Context within Highland Council for Managing Domestic Energy Efficiency

In-house delivery

The Highland Council, similar to approximately half (15 of 32) the other local authorities in Scotland, manage their EES:ABS scheme in house (rather than using an external ‘managing agent’). The team within Highland Council has been developing its capacity and remit since 2017 and as of 2023/24 had a team of 5.44FTE with a team of 4.34 FTE staff in 2024/25. In 2022/23, the Council took the decision to fully retain project management, ECO declarations, and funding coordination in-house, at which point they secured Union Technical as their main delivery contractor for EES:ABS.

Although there may be some slight variation across local authorities, these core management roles typically comprise:

- identification of suitable properties
- sign up of households
- assisting householders with the application process,
- appointing a works contractor
- quality assurance

Although outsourcing of these roles simplifies the task of managing an EES:ABS scheme and reduces the administrative and staff burden for a local authority, bringing these services in-house has allowed the Highland Council to develop a holistic approach and develop place-based projects which maximise investment opportunities, create economies of scale and support skills development. In addition, the in-house delivery enables long term retrofit programme planning, retains knowledge and experience of the housing stock and household needs within the authority. Importantly, in the case of Highland, this has enabled co-ordination and integration of EES:ABS funding with other funding schemes to deliver enhanced and co-ordinated energy efficiency projects. This is of particular importance as EES:ABS (and other schemes such as ECO) have rules on what types of measures and households can and cannot be funded. The Council has been able to proactively utilise multiple funding streams (in particular, EES:ABS, ECO, and the grant from SSE Renewables) to deliver a more co-ordinated and holistic offer at a single point for households.

Approach to delivering ‘blended’ energy efficiency projects

The in-house delivery enables the Council to cost each household’s retrofit needs individually rather than using national averages for costing (as is typically the case for EES:ABS schemes delivered by a managing agent). Although requiring more internal resourcing, the approach enables funding to be more effectively targeted and redistributed across homes. The Council’s approach to costing and improvements follows a fabric-first approach (in line with best practice) and seeks to strategically use different funds in a particular order for each household to provide the best solutions (typically ECO funds are used first, followed by ABS then SSE funds are used to top up shortfalls such as possible customer contributions and to support extreme fuel-poor households). This approach is recognised as a significant achievement:

“They’ve managed to... mix funding in order to enable the best measures for a household... that’s been amazing in terms of outcome... it’s not something that is common across the patch.” — HES

This approach has stretched available funding, enabled funding of alternative measures (e.g. battery storage), and sustained levels of installations despite higher costs to install measures in the Highland area. The Council’s approach also reduces friction for householders engaging with the programme and therefore generates significant benefits to householders as the combined nature of funding means that the number of different agencies that they engage with is reduced, and more measures are installed in a single visit.

This has been achieved despite the challenges of meeting the needs of diverse funders and eligibility criteria – an achievement that has been recognised by key stakeholders:

“Highland Council should be commended for how they’ve been able to ... understand the reporting requirements of the different funders, the different drivers and being able to bring it in a way that every funder has felt confident in their approach” SSE

Complex funding environment

It is important to note that the EES:ABS funding is awarded on an annual basis to all Councils and must be spent within one financial year. This significantly limits the ability of all councils to both plan schemes long term and places pressure on installers to survey assess, design and schedule installs within a short period. These factors were compounded in 2023/24 when the release of funding was delayed by a number of months (historically funding has often been delayed to June or July with completion required by May the following year) . This resulted in the Highland Council taking a decision to prioritise measures that required less preparation time and could be installed more quickly (thereby excluding measures such as EWI that require longer lead-in time, but may have increased long term benefit to some householders). Multi-year funding would enable more stability and potentially reduce costs as a result of the ability to plan more effectively.

The additional SSE funding that the Council have obtained is of particular note. This funding was secured from a community development fund and used to complement statutory funding to help to close gaps for those in extreme fuel poverty who could not self-fund measures. This funding also helped to maintain progress on retrofit planning and delivery whilst waiting for wider funds to be allocated.

The UK Government announced the ending of the ECO scheme in the Autumn 2025 budget, which signalled a significant reduction in the resources available to deliver home energy improvements (Highland Council utilised £1.6m of ECO funding in 2023/24 and £1.8m in 2024/25). At time of writing the UK Government have just published a £15 billion UK Warm Homes Plan which sets out future funding, but the mechanisms for delivery are yet to be finalised and how much of this support will be available to Highland properties (and when) is not yet known.

Networking, collaboration and in-house expertise

The level of in-house resource also means that there is capacity to deliver effective collaboration and engagement with wider stakeholders and to take a more strategic approach to delivery. This, for example, includes building and maintaining effective relationships with Home Energy Scotland (e.g. ensuring that households are enabled to make the best decisions through impartial advice from HES and coordination of communications to ensure consistent messaging to households) and wider networking with other stakeholders around capacity and skills development.

The development of a core Highland Council team has supported staff development and retention of significant expertise within the Council, both in terms of general and specific expertise on elements of energy efficiency to better understand the particular technical challenges of the area. This was recognised by many of the stakeholders involved in the interviews:

“one good thing they’ve got is that they do have very good staff involved... [who are] pretty forward-thinking and think laterally” EST

“They know the geography... there’s not a managing agent that I can think of that would have the level of knowledge and understanding of the housing type and geography... they’ve got it.” HES

The in-house resource has also enabled the Council team to make significant contributions to help align local training provision with regional retrofit demand and to foster a sustainable local supply chain. This includes

the development of retrofit and insulation training courses with UHI (University of the Highlands and Islands) to support local providers to upskill and be in a position to deliver the work of the schemes.

Finally, the Council team has also established a new Energy Efficiency Framework for use across other Council departments on energy efficiency works outwith the EES:ABS scheme. This complements the work on the local supply chain and allows future wider contracts and potential future ABS procurement to be streamlined through local suppliers.

Achievements and impact

The Council's approach is viewed positively by stakeholders consulted as part of this study as best practice for local authority-led retrofit delivery — both technically and administratively — with praise and recognition in particular in relation to the ability to mix funding streams within regulations, their ability to lever this to provide better solutions for households and their in-house knowledge.

"They're probably leaders... maximising delivery, looking at other ways to contribute multiple funding opportunities." UTS

"I think they're one of the best and most forward thinking of local authorities and it's just doing that sort of very sort of clever and joined up approach." EST

These impacts will be explored further in the next section.

The Role of Highland Council's Programme in Overcoming Energy Efficiency Challenges

This section describes evidence on the overall impact of the programme, based on both data provided by Highland Council and from stakeholder feedback.

Targeted, pragmatic approach to identifying eligible households

Given the particular challenges of delivering energy efficiency in the Highland Council area (as described above), targeting the right properties, building trust with households and communities and ensuring that the best possible measures in the highest number can be installed is a significant challenge.

The Council's approach to selecting and recruiting households has taken a balanced approach to targeting; using a data-driven assessment of need whilst also accounting for the realities of practical delivery and previous experience across the area. In practice this has meant that the Council has analysed Home Analytics data, (thereby using all available data sets such as EPC ratings, fuel poverty levels, assessments of energy efficiency levels and improvement potential in other properties which do not have an EPC) to identify broad areas of need, and combined this insight with an assessment of where previous uptake was strong, where community engagement is higher (or could be developed, e.g. in partnership with HES, local communities etc) and where delivery is more feasible for contractors. In working with the available datasets they also recognise limitations of the application of conventional energy modelling techniques to the non-standard and varied housing stock within the Highland area and use their direct experience to allow for this where possible.

As a result, the 2023/24 EES:ABS programme targeted four grouped council wards to allow logistical clustering and economies of scale. Households were offered the scheme through targeted letter marketing and word of mouth. The promotion and awareness raising was also delivered in partnership and there were several routes for households to apply including, referrals through HES, direct contact with the Council and directly with the contractor.

The 2024/25 programme pursued a Highland-wide approach due to the very high levels of awareness raised in 2023/24 and a large number of engaged and interested households from across the whole area. This buoyant level of demand created a waiting list of households and resulted in the Council having to step back from active promotion or risk the dissatisfaction of households and negative reputational damage caused by a long waiting list and delays in installation. This high level of demand demonstrates not only the success of the scheme, but also emphasises the high level of need for retrofit to improve housing in Highland, and the limited options for households to achieve support for improvements.

Summary of EES:ABS engagement

Engagement type	2023/24	2024/25
Direct letters to households (to selected areas)	3,814	None*
Householder enquiries from Home Energy Scotland to Council (referred to installer after passing eligibility checks)	388 (345)	None*
Enquiries direct to Council via website (referred to installer after passing eligibility checks)	213 (157)	197 (156)
In-home surveys completed (by installer)	537	266
Properties with installations achieved	142	175

*Due to the success of promotion in 2023/24 a large 'waiting list' of properties, no letters were issued during this period, and HES did not directly refer to the scheme so as to not further extend this waiting list.

The Council's targeted approach and data analysis were also recognised by the scheme installer as being supportive of their planning and operational delivery:

“The Council’s data ... has massively assisted in how we can actually take a bit of a structured approach... the data that they’ve got from the Home Analytics is massive in allowing us to review and structure what we think the best approach should be.” UTS

Due to the pragmatic approach taken to identifying households for retrofit, it is not possible as part of this review to make a quantitative assessment of the extent to which the scheme has successfully targeted the areas and households most in need. However, the current level of demand for retrofit significantly exceeds the capacity of the scheme (see p. 9-10) and all properties and households that have participated in the programme have passed eligibility assessments and surveys related to needs in order to secure funding. As a result, it is clear that the funding has been directed towards properties and householders that have a confirmed need for improvements and therefore that the programme can be described as successful in targeting the right properties.

Funding and Achieved Installations

The tables below describe the number of installations achieved by type and by location over the 2023 to 2025 period. There has been a particular focus on solar PV and battery installs due to the special funding obtained. The relatively low levels of external and internal wall insulation installed in 2023/24 are explained by the delayed funding award from the Scottish Government in that year (see p.14).

Measures installed by type

Measure Type	2023/24	2024/25
External Wall Insulation	0	15
Internal Wall Insulation	0	15
Cavity Wall Insulation	23	17
Room in Roof Insulation	9	15
Loft insulation	27	37
Underfloor Insulation	9	4
Flat Roof Insulation	1	5
Air Source Heat Pump	44	67
Solar PV & Battery	120	155
TOTAL	233	330

The significantly higher number of measures installed when compared to the number of properties with installation highlights the success of the programme in achieving multiple measures per household. Approximately 60% of households received more than one measure: in 2023/24, 85 of 142 households received multiple measures and in 2024/25, 106 of 175 properties.

The table below shows that installations have been spread across the area, with the slightly higher levels of installations in Lochaber, Inverness, Easter Ross and Wester Ross reflecting the areas targeted in the 23/24 programme engagement.

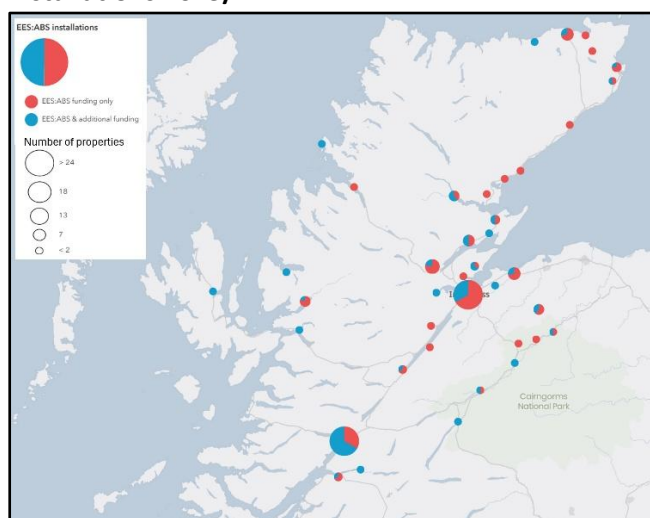
Measures installed by location

Budget area	23/24	24/25
Badenoch and Strathspey	19	5
Black Isle	7	1
Caithness	26	30
Dingwall and Seaforth	10	8
Easter Ross	12	32
Inverness	53	45
Lochaber	57	130
Nairn	11	2
Skye and Raasay	2	42
Sutherland	15	13
Wester Ross	21	22
TOTAL	233	330

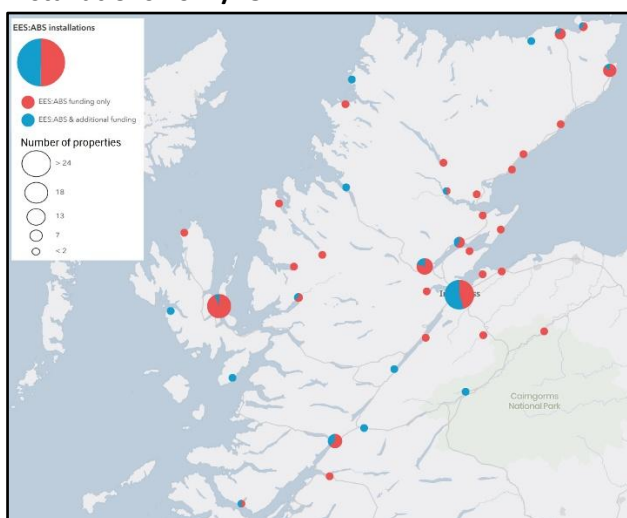
The impact of successful local engagement work ‘on the ground’ with hard to reach communities is demonstrated by the significant rise in work in Skye and Raasay where the partnership working with HES and representatives of the local community and individual households on the island has now generated a significant increase of engagement and trust in the scheme and increased referral rates in the above table.

The following maps present the locations of the installations per year whilst also showing how funding has been combined across the region. Households receiving funding for multiple measures from different sources are shown in blue (with EES:ABS only measures in red). These also demonstrate the dispersed locations of the work across the region (with clustered delivery shown in, e.g. Inverness in both years and in Skye (Raasay) in 2024/25 and Fort William (Lochaber area) in 2023/4).

Installations 2023/24



Installations 2024/25



Funding Summary

The table below summarises the range of funding sources which have been used over the last two years.

Funding

Source of funding	2023/24	2024/25
EES:ABS	£2,046,880	£2,783,530
ECO	£1,644,800	£1,804,000
SSE development grant	£270,979	£738,220
Special Project*	£286,650	
Enabling	£533,382	£179,494
Total measures installed	233	330
Total number properties	142	175

*Special project funding from the Scottish Government to install solar PV with battery storage

Skills and supply chain impacts

In order to support local supply chains and to bridge skills gaps, the Council have both encouraged the use of local sub-contractors and built the foundations for further development of skills in the area.

The Council has proactively addressed the shortage of accredited installers and skilled labour by coordinating and supporting key stakeholders in the area to develop a new retrofit training offering for installers at UHI (the University of Highlands and Islands). They have also encouraged Union Technical (the appointed installer) to consider the development of local facilities to support local employment and delivery. Stakeholders interviewed as part of this project have highlighted the positive impact of the Council team in this regard:

“Installers... there’s some apprenticeship funding... they’ve bought a facility where people can learn and get signed off in that training — it just didn’t exist in the region before then.” HES

“We’ve been really supportive of the measures that Highland Council are trying to take to make sure that the Highland supply chain is upscaled within that.” SSE

As part of their contract with the Council the installer (Union Technical) has sought to engage local contractors where possible. Across both years, Union Technical have subcontracted 23 contractors, of which 4 were Highland based. These activities not only support the delivery of the project but make a significant contribution to the local economy by developing skills, creating job opportunities and supporting businesses within the region.

Building local trust

It has not been possible to assess the extent to which the presence of the Council team and recent developments have improved or reinforced perceptions of trust in energy efficiency programmes in the area. However, the approach of combining funding routes and reducing the number of stakeholders and visits required to individual households will be likely to contribute to increasingly positive household perceptions. This benefit was particularly expressed in one stakeholder interview:

“they are that trusted entity it ... we didn’t want a household that are already in, you know, significant need having to fill out additional forms ... ” SSE

The high response rate to marketing and established waiting list of possible installations is also positive in this regard. That said, the challenge of needing to continue to build trust with communities was still acknowledged, with one respondent commenting that:

"I think it's a significant proportion of people who are just not engaging with the ABS scheme. They don't trust it, they don't think it's giving them what they need. And I think the question for everybody in that space, is how do you increase the uptake among that kind of really resistant group? Because I think for me that's the next stage of any work in the Highlands" HES

Impact of the programme for householders

The Highland Council conducted a survey of householders that have participated in the EES:ABS in the years 2023/24 and 2024/25. Selected data obtained from the surveys is presented below to provide insights into the impact of the schemes on householders.

Although the householder surveys were primarily designed to explore satisfaction with the installation and contractors following the installation of measures (which were typically high), they offer some insights into the impact of the energy efficiency upgrades delivered. The table below demonstrates responses to questions on the positive impact of the measures on the households. These show a large proportion over both years indicating that they have had a positive effect on both comfort and bills.

Impact of the installation of energy efficient measures

	Yes	Too early to tell	No	Total
Positive effect on energy bills (24/25)	24 (63%)	12 (32%)	2 (5%)	38
Positive effect on comfort (24/25)	24 (63%)	12 (32%)	2 (5%)	38
Positive effect on comfort and energy bills (23/24)	57 (72%)	20 (25%)	2 (3%)	79

The measures installed resulted in a theoretical average fuel cost reduction of £644 per household in 2023/24 (taking the average property receiving an install from EPC band D to band B), and £253 in 2024/25 (taking the average property receiving an install from EPC band E to band C). The average carbon savings per householder were 31kg CO₂/m²/year in 2023/24 and rose to 38kg CO₂/m²/year in 2024/25.

These positive impacts are brought to life by the following comments from householders from the survey:

"Yes we have seen our electricity bill reduce by 75% - really impressed and pleased" (Householder with Solar PV and battery storage)

"Yes, it has really made a big difference to my life, I had old storage heaters before, I can now heat my home and not just a room and am able to switch on and off the heating. I'm over 60 and the new heating has also improved my health, mentally and physically." (Householder with Air Source Heat Pump, Solar PV & battery storage)

"This scheme has made a huge impact on our bills and I am very grateful." (Householder with Solar PV and Battery)

"Biomass usage has decreased by around 20% since insulation installed" (Householder with Insulation)

These comments highlight both the impact on health and cost of heating that the scheme had made to householders.

Concluding Summary

The Highland Council's blended programme of energy efficiency delivery, built around the EES:ABS programme, has played an important role in overcoming the twin challenges of both making progress in energy efficiency and overcoming the uniquely challenging systemic barriers to energy efficiency delivery in the region.

By building a local in-house team to manage and direct the process, the Council has developed the resources and skills to plan more strategically, combine and secure additional funding, support investment in local trust and skills, use data intelligently and invest in its own staff and partnerships to build a locally responsive, trusted delivery model. This has resulted in a more co-ordinated and enhanced delivery for householders, ensuring that government and grant funding is used in a targeted way. Critically it also reduces complexity and friction for householders engaging with the programme, providing better value and more co-ordinated and affordable access to energy efficiency for eligible householders. Householder satisfaction levels with the installations provided are also excellent.

The programme has generated significant demand whilst emphasising the high need for retrofit delivery in Highland – there is much more demand than the current funding can meet and limited or no other options for householders on low incomes to improve their homes. Within its limitations of funding, the programme has however delivered real and impactful savings for households in terms of increased comfort, reduced energy requirements and carbon emissions.

Stakeholders both involved in and aware of this work in Highland consistently described Highland Council as proactive and collaborative, and through their co-ordinated approach, being a leading organisation in the delivery of local authority-based energy efficiency in Scotland.

"It is exemplary for what they are doing with this. I think there is a learning that could be replicated into other regions." SSE

"When you look at what the Highland Council are doing compared to other councils, they are well ahead of the game... They have a very proactive approach... they're probably leaders... maximising delivery, looking at other ways to contribute multiple funding opportunities" UTS

"I think our relationship with the team at Highland Council is excellent... they do really well" HES

These positive findings sit within a context of significant unmet need for energy efficiency upgrades in the Highland Council area, recent increased uncertainty in funding for energy efficiency, and continuing concerns over the supply chain and lack of locally trained workforce. The core EES:ABS funding is provided on a year-on-year basis which creates uncertainty, limits the ability to effectively plan installations over the long term to best meet the needs of householders and acts as a key barrier to longer term investment in retrofit training for all in the industry and supply chain developments. The UK Government has also recently cancelled ECO funding whilst not yet confirming how its replacement will be delivered. The securing of the SSE Renewables Grant funding is a significant achievement, but despite its successes it is clear that there remains a need for enhanced funding for energy efficiency activity in the Highland Council area.

References

- ALiEnergy, Scarf & TIG for SFPAP (2025). [Fuel poverty in remote and rural Scotland](#): focus group analysis. June 2025.
- Audit Scotland (2020) [Affordable housing: The Scottish Government's affordable housing supply target](#)
- Changeworks (2023). [A Perfect Storm: Fuel Poverty in Rural Scotland](#). April 2023.
- Citizens Advice (2023) [Unlocking the benefits of energy efficiency](#)
- Dept. for Energy and Net Zero (2025) [Household Energy Efficiency Detailed Statistical Release](#), March 2025.
- Dept. for Energy and Net Zero (2025) National Energy Efficiency Data-Framework (NEED): [Summary of Analysis](#) GB 2025
- EST (2024) [Supporting Scotland's Green Ambitions](#)
- IEA (2014; 2025). [Multiple Benefits of Energy Efficiency](#) reports.
- Long, T.B et al. (2015) The impact of domestic energy efficiency retrofit schemes on householder attitudes and behaviours, [Journal of Environmental Planning and Management](#), 58:10, 1853-1876,
- Maidment, C.D. et al. (2014). [Energy Policy](#) – systematic review of health & wellbeing impacts.
- NRS (August 2025) Mid-2024 population estimates, [Mid-2024 population estimates - National Records of Scotland \(NRS\)](#)
- Public Health England / UKHSA (2014). Fuel poverty and health inequalities evidence.
- Scottish Enterprise (2021). [Retrofit market opportunity assessment](#).
- Scottish Fuel Poverty Advisory Panel (2025). [Fuel poverty in rural and remote Scotland](#) – Literature review. March 2025.
- Scottish Government (2021) [Heat in Buildings Strategy: Summary Document](#)
- Scottish Government (2025) (SHCS) [Scottish House Condition Survey: 2023 Key Findings](#).
- Scottish Government (2025) [Tackling fuel poverty in Scotland: Periodic Report 2021–2024](#).
- Scottish Government (2025a) [Building Safety Levy \(Scotland\) Bill: island communities impact assessment](#)
- Scottish Government (2025b) [Rural and islands housing: action plan](#)
- UK Government (2025) [Subnational estimates of properties not connected to the gas network 2015-2024](#)
- The Poverty Alliance / Cross-Party Group on Poverty (2024). [Inquiry into poverty in rural Scotland](#). May 2024.