Ballater and Crathie Community Action Plan 2023

Stream 4 – Environment - Energy Improvements for the home

Scope :

- Research information and references to provide information on Home Energy Improvements and efficiency measures such as insulation, solar, heat pumps.
- Research sources of funding support to supplement or replace fossil energy and/or insulation.

Contents:

1) Introduction

This Energy Improvements Pack has been developed for the BCCC by the BRD and Ballater CAN members to provide the Ballater and Crathie community ideas and information on the relative benefit of a variety of home energy efficiency, cost saving and home environment improvements as part of the 2023 Community Action Plan-Area 4 Environment. There are a number sources of government, council and commercial company sources of advice on how to improve your home energy efficiency and get financial support to implement them. These improvements of better insulation and efficient low carbon sources of heat/hot water and energy will also reduce the environmental impact and the household energy carbon foot print.

ECO 4 is the current and 4th generation of a UK Government grant scheme to help finance home energy efficiency measures. Full cost may be covered if the owner/occupier is on certain social benefits and the property has a low energy efficiency rating (ie EPC) of E or worse. See **Appendix 1** for more details. There are also Scottish Government source of funding for home owners via Home Energy Scotland with somewhat fewer homeowner qualification criteria.

Some government accredited and qualified public and commercial companies have been researched which can assess a residential property and make recommendations for best value solutions. (See Part 4 for suggestions).

An important element of this project is a *Drop in Event* at the Ballater Victoria Halls for people to receive expert input on the various possible energy saving and renewable energy improvements for the home. We have arranged this for **Wednesday 26th June from 10.00 to 16.00** and have already confirmed attendance by HES as the public/independent technical experts, offering home visits to make assessments and specific recommendations for improvements (to be implemented by others) as well as advise on access to funding support. HES will also provide information on energy saving tips that cost little or nothing. It is expected that 2 or 3 of the referenced commercial adviser/ installer organisations will also attend to provide further information and implement the recommendations and/or make other suggestions for your consideration.

Please note, you don't have to wait until the *Drop in Event* to make contact with the referenced organisations. We encourage as a first step you contact Home Energy Scotland at https://www.homeenergyscotland.org/contact-advice-support-funding/ where you can pre order home visits to asses the best combination of improvements for your home.

2) Summary of home energy use reduction measures that can be implemented

Improvement Measure	Summary Description	Benefits/Energy use reduction	Disadvantages /Conditions	ECO4 Support
Window and door gap filling	Rubber or foam sealing strips readily available online or hardware stores.	Low cost and can self-install	Only relevant if have gaps in window frames or under/around external doors Should be considered a short-term solution. If significant draft, replacing window probably better.	NO
Loft Insulation	Installing loft wool type insulation at ceiling level between and over joists	Can self-install if easy access to roof space, with professional guidance.	Often difficult to get access, hence need professional support	Yes
Cavity wall Insulation	Professionally installed insulation with a SWIGA (ref Appx 1) approved material	Moderate insulation improvement potential but should be in conjunction with loft insulation	Can be disruptive if need to remove/replace inner plaster board on outer walls. Expensive unless qualify for ECO4. If poorly installed, can have damp creep.	Yes
Floor Insulation	Professionally installed insulation under floorboards if applicable	Moderate insulation improvement potential and M to H cost depending on existing insulation and area.	Can be disruptive and costly and may require rerouting of pipework and cables. Effective if achieve air tightness.	No
Solar Thermal	Uses solar radiation to generate heat for domestic hot water.	Reduces use of electric heating element for appx 6 months of the year	Need to have a hot water tank with dual coils.	No
Solar Electric	Professional installation of solar panels and Inverter to convert DC to AC	High in summer, Low in winter	Need preferably south facing sloping roofs, but can also be applied to east facing depending on natural shading.	Yes
House Battery	DC Lithium batteries connected to house system and grid with an inverter to enable charging during times of either self solar generation or low grid prices	Can reduce energy import to zero on sunny summer days. In winter, energy cost savings possible if move to a cheap night tariff (e.g. Octopus GO , 9p/kwh).	Capital cost is significant (eg £4K for 6.5kwh capacity plus inverter if not already included with Solar Electric.	No

ASHP	Air Source Heat Pump, with a compressor located outside with significant pipework and controller to direct the closed loops for use for both heating and hot water	Generates free renewable (i.e. free) energy from energy in the ambient outside temperature.	Works best with low temperature heat delivery, which may require new radiators or a floor heating system. . Renewable energy generation in winter is poor to zero when ambient T below appx 2 deg C	Yes
GSHP	Ground Source Heat Pump. Same as for an ASHP but the energy is obtained from a consistent water temperature (eg 4 degrees) from a closed loop into a horizontal ground source if applicable, but more typically (in Ballater) a well to be drilled.	Consistent renewable (i.e. free) energy from the ground temperature. More reliable and efficient than ASHP. Quiet and positioned inside the home	More costly (e.g. + £10K) than ASHP but longer-term payback due to higher efficiency/renewable energy. Need Utility room space.	No

3. Summary of Impacts and benefits with respect to cost and environment.

Improvement Measure	Energy Cost Savings	Investment Return (Note i)	Environment Benefit (Note vii)
Insulation : Filling Doors and window gaps (Note ii)	L to H	L to H	L to H
Insulation : Roof	H	H	M to H
Insulation : Cavity wall	M	H	M to H
Insulation : Floor	M	L	M
Double Glazing (Note v)	M	M	M
Triple Glazing	H	L	M
Solar Thermal (Note v and vi)	L	L	L
Solar Electric (Note iii and vi)	L	L	L
House Battery (Note iii & v)	L	M	L
ASHP (Note iii & vi)	M	M	H
GSHP (Note vi)	M	M	H

Key on Impacts: L = Low, M = Medium, H = High. More accurate assessment requires professional advice (see section 4) and will depend on existing level of insulation and energy system being compared to.

Note i): Assumes no government support. If qualify for government support, all score H.

Note ii) Depending on level of air leakage or sum of window area.

Note iii) : Recognises our geographic area. Ie most sunshine is in summer when energy requirements much lower and higher ambient temperature. Need a Smart Meter

Note iv): Home Batteries are not covered by Eco4 but can be a good idea if in conjunction with low power supply tariffs such as Octopus Go (currently 9p/kWh between 00.30 and 04.30 every day.) and can save monthly energy costs all year.

Note v): Depends on sum of window areas.

Note vi) Environmental benefits compare to oil for example.

Note vii) This depends on what materials are used. i.e. insulating with high embodied carbon materials will have less of a benefit than if using natural materials

4. Links and sources of information for financial and/or technical support

Topic	Source	Summary
4.1 General advice- Government and Aberdeenshire Council	https://www.homeenergyscotland.org https://www.homeenergyscotland.org/winter-get-ready/ Check if you need planning permission - Aberdeenshire Council Energy efficiency - advice and support - Aberdeenshire Council https://energysavingtrust.org.uk/listing/grants-and-loans/	Useful links to get advice how to reduce energy bills by changing some habits or investing in some low cost facilities /improvements for which you can also apply for funding.
4.2 Technical advice and grant applications	**A) Government** i) https://www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco4-2022-2026 https://eco4.scot/ ii) https://www.homeenergyscotland.org/funding/	**Ref Eco4.Scot:** Lots of independent technical advice and offers to assess eligibility for public funding. Heating & Property Upgrades Worth Up To £30,000 Are Available! For Solar panels, ASHP, Condensing Boiler, Insulation upgrade. To qualify should certain government benefits already." Normally existing property should be owned by applicant and have an EPC of E, F or G , ie poor . If the household is renting/provided from the Council or indeed private property owner, the resident must obtain the Council or house owner`s permission. **Ref Home Energy Scotland:** -Grant upto £9000 grant per house, and simple to apply. - To qualify: Home owner and an EPC that advices such improvements (Ie typically D or worse). - No proof of being on low income needed.

		- The £9K can be supplemented with an interest free loan of £2K
4.2 Technical advice and grant applications	**B) Example commercial companies providing advice and checking eligibility for grants/loans related to ECO4 upgrades. *(Note*)*** i) https://www.greenhomesystems.co.uk/ *Contacts:* *Mathew Kerr , Manager, 01294 208450* *Andy Naismith, Solar Assessor and Sales (Ex Optama, now works for Greenhomesystems). Tel no 07525177784 .* ii) https://www.greenhomesystems.co.uk/funding/	i)**Greenhomessytem UK** can provide free assessments and if you qualify for ECO 4, arrange for the upgrade paid by the government. Ie Solar and/or Air source Heat pump (or HHRSH) AND Insulation. They will also help partial upgrades e.g. just Solar, and help assess/apply for interest free loans. *See also Appendix 2* ii) A range of grants and loans available for a full sweep of energy efficiency and reduced carbon impact improvements. You can see a summary at GHS web site at the link opposite.
	C) Examples commercial companies providing technical assessment and advice for partial or full retrofit of insulation and energy systems *(Note*)* https://nesfit.org/ *Contact: Matthew Clubb, NESFIT Chair. (Contact via website)* https://sugplumb.com/ in Aboyne *Contact: Stuart Sugden, Manager, tel 01339 885319* ***Note**** *: Companies listed are not a formal recommendations, and you have to make your own mind up whether to proceed with any recommendations they make.*	North East Scotland retroFIT Hub, is "a community led retrofit cooperative, helping householders achieve warmer, healthier, emissions free homes." Can make property specific recommendations for effective retrofit for insulation and heating. See also information booklet : *Our Future Homes A Guide to Retrofit and Heat Pumps :* *https://usercontent.one/wp/climateaction.udny.org/wp-content/uploads/2022/02/UCA-retro-Booklet-final-e-version-1.pdf*

4.3 Financial support, Grants	**Example links to independent support for funding sources** i) Find Funding, Grants and Loans· Home Energy Scotland ii) Grants and loans for energy and transport - Energy Saving Trust	Home Energy Scotland is funded by Scottish Government and provides free and impartial advice, support and funding to help households in Scotland reduce their bills and lower their impact on the environment. Up to £9000 grant (rural areas) for efficiency improvements /heat/solar pump Energy Saving Trust is an independent organisation – working to address the climate emergency. "A respected and trusted voice on energy efficiency and clean energy solutions, we continue to work towards a smart, decarbonised, decentralised energy system.

Appendix 1

Summary of ECO4 Government Scheme (reference: Greenhomesystems.co.uk)

Eco4 Scheme Eligibility – Who Qualifies for ECO4?

The ECO4 scheme is a new initiative from the government, aiming to support the least energy-efficient homes in the country, with a focus on low-income and vulnerable households. The scheme will see the government working with energy companies (such as ourselves), local authorities, and housing associations and companies to make sure they are doing their part to achieve an overall better energy efficiency rate. If you receive one or more of the following, you may be eligible for the Eco4 Scheme:

Universal Credit (UC), Housing Benefit, Pension Credit Savings Credit, Jobseekers Allowance (JSA)Employment & Support Allowance (ESA), Income Support (IS), Pension Credit Guarantee, Credit Working Tax Credit (WTC)Child Tax Credits (CTC), Child Benefits

The ECO4 scheme will support more than just owner-occupied homes. A number of social housing projects are facing an energy crisis, and are looking for ways to improve their efficiency. Depending on the landlord's willingness, the grant may be used to support private rental housing as well. To learn more, **contact our team** at Green Home Systems.

Get Your ECO4 Consultation at Green Home Systems:When it comes to green homes, we are passionate about helping Scottish homeowners do their bit through the use of green home appliances. With many ECO4 benefits such as new solar panels, heat pumps, and insulation, there has never been a better time to save money on your fuel bills and help the environment.

We offer an **ECO4 consultation questionnaire** that is designed to give you an insight on which services you may be eligible for, and the government funding available. Once we have this information, one of our team will be in touch to discuss your options and book a home assessment at a time that suits you.

Gap seal product example:

Eg https://www.amazon.co.uk/fowong-Self-Adhesive-Weatherstrip-High-Density-Felt-Draft/dp/B07RKT9XB9/ref=sr_1_15?crid=2YJZVJ8ICJ3HN&keywords=window%2Bgap%2Bseal&qid=1702292600&s=diy&sprefix=window%2BGap%2Bseal%2Cdiy%2C152&sr=1-15&th=1

SWIGA: The Solid Wall Insulation Guarantee Agency was established to provide social landlords, private landlords and householders with an independent, uniform and dependable guarantee covering professionally installed external wall insulation (EWI) systems **https://www.swiga.co.uk/**

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Appendix 2

Summary of services and advise available by Greenhomesystems.co.uk

Air Source Heat Pump- We use Panasonic and Samsung, and they go out the back, heat the heating and the hot water and new radiators are installed.

Internal Wall Insulation - Done with a 62.5mm Kingspan board and done to a Skim finish.

Loft Insulation -Done with rock wool up to a limit of 300mm.

.Cavity Wall-Done with Polystyrene beads.

.Room In Roof Insulation and Flat Roof Insulation done with a Kingspan board.

.Solar Panels are also given with a full heating measure, between 7@10 Panels.

.To qualify the properties, must be rated an E F G Rated property to qualify.

.Must either be on 1 of the qualifying benefits of through the Local Authority Flex Route 1 under a gross combined household income of £31,000 or Route 3 which is through a health route and to qualify must have either: Cardio, Respiratory or Mobility Problems or Immunosuppression.

People that have Electric Storage Heaters can also get an upgrade with an insulation measure of High Heat Retention Heaters

If interested in getting a battery for the solar then this is NOT given under the Eco4 or the local authority flex route and could be purchased for around £4,500 for a 6.5-Kilowatt battery from our company.