HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

Note for The Net Zero, Energy & Transport Committee

Date: 17 May

Purpose: To explain to the committee the work HES has done, the energy retrofit measures and the options for refurbishment of traditional buildings at scale.

HES Representation: Roger Curtis, Technical Research Manager.

Key Points:

- HES has been active in researching thermal upgrade in traditional and listed buildings since 2008.
- There have been over 20 pilot building projects and 35 publications on the topic.
- Holyrood Park Lodge is Category B Listed and in the World Heritage Site.
- It was refurbished in 2017-2018. Initially EPC Band G. Now EPC Band C. With renewables Band B is possible.
- The HES 'Guide to Energy Retrofit of Traditional Buildings' was published in Nov 21. The upgrade measures described apply to listed building as well.
- We interact closely with Scottish Building standards Division and Heat in Buildings Team at Victoria Quay.
- We are on the RdSAP working Group to inform improvements to the Energy Performance Certificate (EPC).
- We have designed a retrofit training course for older buildings and recently delivered 2 courses at our training facility in Stirling (The Engine Shed) and subsequent pilot roll out in partnership with FE colleges.
- Projects for 2022 include the conversion of a 19th C school in North Skye in partnership with The Communities Housing Trust for affordable housing; thermal upgrade of a tenement block in Glasgow with New Govan Housing Association and a windows upgrade and skills trial in Nairn.
- Extensive work by HES on properties in care regarding energy reduction and renewables (Solar PV going on the roof of Edinburgh Castle at present).
- In conjunction with Home Energy Scotland, we advise the public (by phone and e-mail) on retrofit approaches and details.
- Embodied carbon in retrofit is becoming better appreciated and in partnership with Zero Waste Scotland we have commissioned a study on how the existing historic environment contributes to minimising resource consumption and carbon reduction.
- We are supporting the development of a sustainable supply chain in materials and skills to meet SG policy requirements of the Circular Economy.

Historic Environment Scotland – Notes on Historic Building Retrofit

About 20% of Scotland's housing stock is traditionally built (sometimes called pre 1919). Listed Buildings account for approx. 3% of the total. The extent of the retrofit will depend firstly on what is present in the building and what is considered important (historic timber, glass, plaster etc and is a function of the Listing). The nature of the measures will depend on technical factors such as breathability and material compatibility. HES work has shown that nearly all areas of a building, listed or otherwise, can be improved to a good standard taking into account the aesthetic and the technical factors. Windows are a good example where there is a hierarchy of upgrades as well as replacement. This approach is described in the new HES retrofit guide Guide to Energy Retrofit of Traditional Buildings | Hist Env Scotland (historicenvironment.scot)

There have been case studies delivered and published on retrofit since 2008 summarised here Technical Paper 24 | Historic Environment Scotland | History with a more recent one at Holyrood Park Lodge (EPC Band C), now used as a retrofit showcase. Starting in Spring 2022 is a project with the Community Land Trust on the conversion of a former School in Skye to address climate change adaptation, energy, housing and sustainability issues in rural areas. We will be working with Glasgow City Council and New Gorbals Housing Association on the refurbishment of two tenement blocks (dating from 1880 and 1900) to inform approaches to refurbishment in that city.

The retrofit of existing buildings, especially older ones, is a vital part of HES contributing to action and knowledge needed to reduce the carbon emissions from the built environment. Retrofit responses should be proportionate and consider the full carbon cost of retrofit or replacement as well as health and affordability factors. HES has contributed to SG working Groups on minimum energy standards on private and social housing. HES is also active in aligning retrofit with the SG guidance on the development of a circular economy and are working with Zero Waste Scotland in a number of policy and project areas. The outputs of this work are directed at enabling carbon reduction in buildings which HES cares for on behalf of Scottish Ministers and all traditional buildings in Scotland, which are considered a key part of the solution.

Roger Curtis, Technical Research Manager