



GWSF Response to Scottish Government Consultation on a new Social Housing Net Zero Standard

1 Introduction and key messages

1.1 Our key messages are summarised here:

- **Innovation: As community-based housing associations, our members have a strong track record in identifying innovative ways of meeting energy efficiency standards and tackling fuel poverty: this response includes case studies which clearly demonstrate the capacity for this to continue if grant subsidy is combined with what the association can fund from rental income**
- **Funding: The funding elephant is not just still in the room - it has taken over the room and locked the door. There will be no widespread retrofitting of social housing without a grant subsidy system similar to the one in place for new build**
- **Technological uncertainties: Unknown factors such as the impact of future reviews of the EPC system and use of rd-SAP to estimate energy usage remain as further barriers to improving property fabric. On top of this are the myriad uncertainties around new heat technologies and how these will develop in the coming years – and what will happen to the cost of electricity in the longer term**

1.2 The Glasgow and West of Scotland Forum of Housing Associations (GWSF) is the membership and campaigning body for local Community Controlled Housing Associations and co-operatives (CCHAs) in the west of Scotland. The Forum represents 64 members who together own around 75,000 homes. As well as providing decent, affordable housing, CCHAs also deliver factoring services to around 20,000 owners in mixed tenure housing blocks. For almost forty years CCHAs have been at the vanguard of strategies which have helped to improve the environmental, social, and economic wellbeing of their communities.

1.3 We appreciate the opportunity to contribute to the Scottish Government's consultation on a new Social Housing Net Zero Standard (SHNZS). Our response has been informed by discussions with our members and reflects their experiences as

Registered Social Landlords and as Community Anchor Organizations who have worked alongside local people in their communities for decades.

1.4 The Forum welcomed the opportunity to sit on the EESSH2 Review Group (since September 2022). Alongside a wide range of colleagues from the social housing sector and the Scottish Government we considered proposals for a new standard to replace EESSH2. These proposals have largely helped to inform the SHNZS consultation.

1.5 In noting the proposed change of name from Energy Efficiency Standard for Social Housing to Social Housing Net Zero Standard, we would suggest that this is an inappropriate name for the standard, given that the vast majority of social housing properties, unless built recently, are never likely to be 'net zero' in terms of the energy efficiency of the fabric. In this sense SHNZS is a misleading term and, as with the term 'Just Transition', falls into a category that may be described as 'if you say it often enough, you start believing it to be true'..

1.6 We were pleased to see that, as expected, the proposed SHNZS will be a dual measure which incorporates both a fabric standard and a standard on installation of clean heat in relation to a property.

1.7 At the outset, our response sets out our most important messages on the consultation – funding, a lack of clarity, and a proposed pragmatic approach. We then focus on the options presented for both the fabric and clean heat measures, as well as the issue of how performance will be measured, a potential minimum lettable standard, and finally the implications for mixed tenure properties.

2 Funding

2.1 We begin our detailed comments with funding since, for our members, the precise nature of the new standard itself is of much lesser significance than how it can be reached in practice.

2.2 We cannot say it forcefully or often enough - that without a dedicated and adequate funding stream the aspirations for the new SHNZS will remain unfulfilled. Devoid of this subsidy the SHNZS can simply be seen as policy rhetoric without the means to make it a reality.

2.3 In the consultation document the Scottish Government estimates capital costs of around £1.28bn for the fabric/energy efficiency costs for the sector, and capital costs of around £4.6bn for clean heating installation, at current prices.

2.4 Notwithstanding that estimates of this nature are almost always underestimates, even this figure means that the social rented sector is facing a potentially eye-watering sum of £5.88bn to upgrade both elements of its properties.

2.5 One clear indication of the high cost of most retrofit work is the average size of grant awarded through the SHNZ Fund – in excess of £13,000 according to a Parliamentary Answer in 2023. With all grant funding being accompanied by the social landlord's own contribution, it is not difficult to conclude that works are generally very costly. Members we have spoken with who have received funding say they would have been highly unlikely to have progressed the works without the award. It seems like stating the obvious, but this surely points to the need for a mainstream grant subsidy regime if housing associations and councils are to carry out retrofit works at scale in the coming years.

2.6 No new or increased grant subsidy solutions are proposed. Instead, the document provides a recap of existing funding, including the Social Housing Net Zero Heat Fund, the Social Housing Net Zero Development Fund, and the Heat Network Fund.

2.7 The establishment of the Green Heat Finance Taskforce which 'has brought social landlords and their representatives together with financial investors to discuss options for financing the transition of the existing social housing stock to net zero' is also referenced. Its final report is intended to be published in the first half of 2024. Whilst GWSF remains keen to see all options explored, the common factor in all private finance options is the need for rental income to be used to repay interest: such options cannot be seen as an alternative to grant subsidy but could work alongside it.

2.8 In fairness, we know that the Scottish Government does recognise the appetite and willingness in the social rented sector to try to achieve net zero, and also acknowledges that social rented homes 'are typically already fairly energy efficient, with 56% at C or above (compared to 45% of all stock)'. It also appreciates the scale of the challenges around costs, knowledge, and expertise.

2.9 Regrettably however, there are no new suggestions in the consultation document for a dedicated funding stream to support the sector in its endeavours to reach net zero. We reiterate that in no credible scenario can the sector achieve the net zero targets with tenants' money alone.

2.10 Tackling fuel poverty and reducing carbon emissions are both big priorities for our members. Nevertheless, if it is primarily tenants' rent that must fund our ambitiousness, we will not see the 'just transition' ministers rightly want. Without a programme of grant subsidy akin to the one in place for new build, progress in improving energy efficiency is likely to be much slower than we would want, and in turn, that also means a slower transition to renewable heating.

2.11 The direct feedback summarised from our members below outlines their concerns around funding.

- Base funding for large-scale retrofit is imperative – without this it's just not affordable/viable for us.
- The cost would be totally prohibitive for us, especially with all of the other pressures RSLs are facing.
- A special funding case should be made for pre 1919 tenements – they present a unique set of challenges, and we would argue for both a ring-fenced fund and a longer timeframe to get them up to standard.
- For some types of properties costs for EWI are prohibitive (e.g. £33,000) rather than £8,000 for IWI.
- Net Zero Fund – requires match funding but the deadline doesn't fit with HAs' financial year so an immediate barrier there.
- HACT funding – clean heat up to 80% of costs potentially granted but only considers 'new innovations' so fabric-first traditional, tried and tested measures like insulation are not eligible.
- The time that procurement takes means that projects can't often start right away/don't then align with funding requirements.
- What is the role of SHR in the move to the new standard? There is clear tension between trying to ensure we move towards compliance/improve stock via retrofit projects and how we juggle this with trying to keep rents as low as possible.
- Politicians don't want to listen to the real challenges we are facing or talk about the exorbitant costs.

Quote from a member housing association:

“We have worked with an architectural firm to understand the cost and works requirements for 5 house types in our stock. The study was also to produce high level costs for achieving EPC B and also to achieve EnerPhit standards. The costs associated with the plan identify that to meet EPC B we need to spend approximately £16k - £20k per unit with EnerPhit coming in at £65k-£100k. The stock types are all relatively modern low rise build types and do not have any of the technical issues that many other RSL's/LA's face.”

3 Lack of certainty on multiple fronts

3.1 The lack of clarity around so many elements of the new SHNZS is a major concern for our members. We understand that at the consultation stage things are not set in stone and that feedback from respondents helps to shape the way forward in terms of policy and legislation. However, it seems that the SHNZS is a hostage to fortune in relation to many 'moving parts', that are still evolving or unresolved.

3.2 In Section 2 we addressed the most important of these, the uncertainty around funding. In addition, members have told us that they are worried about a lack of clarity around -

- EPC and SAP reviews.
- Mixed tenure and how owners will pay for works
- The best renewable heating options
- The cost of electricity in the future
- Expansion of district heating schemes and practical issues around participation
- Long term lifecycle reliability of new technologies
- Ability of the supply chain to deal with demand (professional services, products and labour force)
- Milestones and targets
- Potential cost benefit to tenants

3.3 All of this adds to the ambiguous landscape around SHNZS and to a lack of overall confidence amongst our members in relation to the new standard.

3.4 Associations indicated that they are in a 'wait and see' phase and are not in a financial position to commit funding to large scale retrofit activities/new solutions that are still evolving and without the comfort of a funding stream. With so much uncertainty surrounding so many unresolved factors, members think the SHNZS consultation is trying to 'put the horse before the cart'.

"We are reluctant to undertake time consuming modelling until we have clarity on the requirements for the Net Zero Standard and see little value in doing this for EPC Band B when the metrics for Net Zero Standard are still to be finalised."

"We are continuing with assessments/investigations that will focus on known component replacement and assess how carbon reduction measures can be introduced if feasible that may dovetail future requirements. However, we are, in many ways, disregarding elements such as SAP as the key end outcome and simply looking to understand what can be undertaken to properties in a realistic manner balanced against financial and technical resources and then assess what the anticipated carbon savings would be."

"We're unsure at the moment – we don't want to model on something that is likely to change and subsequently greatly change our own position. Therefore, we are waiting for the outcome of the review."

4 A pragmatic approach

4.1 The transition from EESSH2 to SHNZS means that social landlords are currently occupying a liminal space as they wait to see how things will develop with the new standard and with the separate reviews of EPC and rd-SAP. Despite this uncertainty, and the effort and resource required to successfully tap into different pots of funding, (which often require match funding) associations are continuing to take forward a range of innovative retrofit activities and projects where possible.

4.2 Our members are always pragmatic when it comes to doing what is best for their organisations and for their tenants. This means that their retrofit activities are focused on what is achievable *now*, whilst also planning and preparing for the future.

4.3 Our attached case-studies¹ at **Appendix 1** highlights some of their work.

5 Fabric Efficiency Rating – Two consultation options

5.1 **Option 1** considers setting the target as a range, rather than a specific heat use figure, with the range being either –

- 112 – 162 kWh/m²/year (space heating and domestic hot water [DHW] demand); or
- 71 – 120 kWh/m²/year (space heating demand)

5.2 The SG says its preference is to use the measure of space heating demand alone. For this option the minimum point in the range will be what compliance is measured against, with a deadline of 2033.

5.3 **Option 2** suggests the introduction of a two-stage target for improving energy efficiency. [to] ‘encourage progress towards a good level of energy efficiency by an initial backstop date, but with an additional requirement to meet a higher standard at a later date.’

5.4 The suggested two-stage approach is:

- All homes to reach an EPC C equivalent level of fabric efficiency rating: 71-120kWh/m²/year by 2033 (which would be consistent with the date for owner-occupied houses) and
- A second, more demanding level: an EPC B equivalent level of fabric efficiency rating (71kWh/m²/year or better), by a second backstop date of 2040.

¹ We are currently carrying out a piece of research with members on retrofit, and as part of this we are gathering more case-study examples. These will be included in our retrofit publication later this year.

GWSF response

5.5 We recognise the Scottish Government's preference for the standard to focus on use of space heating only and are content with this approach.

5.6 The choice between the two main options and timelines for SHNZS is not straightforward, and we do not regard them as necessarily being mutually exclusive. The first option is more ambitious in terms of timeline but less so in terms of the level of energy efficiency. Potentially it carries the risk of further works needing to be carried out at a later date if the target is subsequently reviewed and becomes more ambitious standard-wise.

5.7 Given that achievement of the standard is subject to a range of cost and practical/technical considerations (and so is effectively discretionary), it could be argued that landlords should be left with maximum flexibility to carry out whatever work they can afford, by whatever date they can achieve it, up to 2040. The second option allows the greatest flexibility timewise, and so is likely to be the one we would choose if a choice has to be made at this stage. Even then, 2040 may well remain unachievable without eventual significant input of grant subsidy.

5.8 An equivalent of EPC B is likely to prove especially ambitious, and in some cases all but impossible, for some property sizes and types (see paras 4.11 to 4.13 below). In these cases, we believe it will be important for members to consider, with whatever financial capacity they have, what improvements might be made which enhance energy efficiency even if they do not lead to achievement of the desired standard.

5.9 For both options proposed, we know members will be relieved to see that neither are EPC based targets, as noted in Section 3.2.2 of the consultation document -

“The metrics currently shown on EPCs do not solely reflect the energy efficiency of the building fabric, and so do not drive the fabric energy efficiency improvements that are key to improving our housing stock. To address this, we propose to introduce a metric to reflect the fabric of the home, namely the fabric efficiency rating. This is primarily intended to support any future fabric energy efficiency standards. This would provide a clear rating of the dwelling's fabric efficiency.”

5.10 This is welcome, as there have always been some bizarre features of EPCs, such as the fact that the presence of draught-proofing has no impact on the EPC score.

Significance of property size

5.11 A drawback of basing the metric on the size of a property is that it is often harder for smaller flats to meet the standard even though they may well be warmer to live in than larger properties that are colder. We recognise that basing the metric on size is

not something the Scottish Government is likely to want to move away from at this stage.

5.12 Instead, therefore, we would encourage our members to take property size into account in assessing what works can be afforded to what properties. This may well mean decisions to focus investment on larger homes which, whilst more likely to meet the standard, are actually colder and more expensive to heat. This also suggests it will be important for the Scottish Housing Regulator to recognise property size as a significant factor in some social landlords' decision making processes on SHNZS.

Significance of property type

5.13 Technical advice received from consultants working with some of member associations suggests that it would be all but impossible for certain property types to meet an EPC 'B' equivalent despite all possible energy efficiency measures being in place. These include smaller pre-1919 tenement flats at ground or top floor level or at gable ends, and some multi storey blocks: one example is a tower block which won awards for the insulation measures carried out in recent years, but where the flats next to stairwells could only achieve an EPC 'C' despite every possible measure being installed.

6 Measuring performance

6.1 The recommendation in the consultation is that the fabric rating continues to be measured using modelled performance and by use of SAP (Standard Assessment Procedure). The Scottish Government does acknowledge the limitation of this approach, as opposed to using actual performance, and in addition, acknowledges that SAP is currently under review.

GWSF response

6.2 We strongly echo the Scottish Government's recognition of the limitations and challenges associated with measuring using modelled performance. Furthermore, the fact that both SAP and the EPC are both being re-evaluated only adds another layer of complexity and lends more uncertainty for housing associations moving forward.

6.3 We know that the EESSH2 Review Group were made aware of SG-commissioned research on the identification and typology of social housing archetypes. It was hoped that this would act as a valuable modelling tool for landlords. However, this is not referred to in the consultation, and we suspect that along with the ongoing reviews of EPC and SAP, there is still an overall lack of clarity around more refined modelling tools and how these might be used.

6.4 We have shared the archetypes research report with our members, firstly so that they have sight of the 24 archetypes identified, and secondly so that they can comment on how their stock potentially matches with the archetypes. We believe that this feedback will prove to be invaluable for the SG: we suspect that there are far more than 24 property types in the social rented sector, and in the coming months we are keen to gather members' views on the potential efficacy of the archetype templates as a modelling tool.

<https://era.ed.ac.uk/handle/1842/40897>

7 Minimum Fabric Efficiency Letting Standard

7.1 This element of the consultation recognises that 'the fabric efficiency part of the SHNZS may not be achievable for all parts of the social rented stock.'

7.2 The proposal here is the retention of a minimum standard 'which could be met by installing a 'list of measures' (including loft insulation, cavity wall insulation, draught proofing). There would be a requirement on landlords to install as many of these as possible. It is worth reinforcing here, that this type of activity is already happening across the social rented sector.

7.3 Linked to this proposal is the suggestion that social housing cannot be relet if the minimum fabric efficiency standard is not met by 2028 (although some temporary exemptions may still apply).

GWSF response

7.4 We strongly reiterate the concerns that the Forum and other members of the EESSH2 Review Group voiced about the absolute undesirability of losing any stock whatsoever from the social rented sector. GWSF member associations operate in predominantly urban settings, and we believe relatively few properties would fall below the suggested minimum standard, but the avoidance of disposing of stock is an important principle for us.

7.5 We are open to the idea of 'a list of measures' in relation to meeting a minimum standard. Although not clear from the consultation document, this approach can be a helpful alternative to a requirement to dispose of property to the private sector if it fails to meet a minimum standard. Moving forward we would welcome greater clarity around how the 'list of measures' approach would operate in practice. It is also worth noting that this list of measures covers a great deal of the work that social landlords have been doing and continue to do.

8 Clean Heating

8.1 The two options (not intended to be mutually exclusive) presented are –

Option 1 – milestones which would require proportions of each landlord’s stock to have had clean heating installed by target dates,
For example: 10% by 2030; 70% by 2040; 100% by 2045 (illustrative figures).

Option 2 – an interim target for properties off-gas or using other fossil fuels.

8.2 In the consultation the SG proposal is to require the installation of a clean heating system in all social homes by a backstop date of 2045.

8.3 It states ‘[we want to] encourage Local Authorities and (RSLs) to act quickly rather than waiting until close to 2045 to undertake works. This will spread the investment and supply chain activity across a longer and more manageable period.’

8.4 The Scottish Government says it is committed to heat networks as a key solution and maintains that they ‘can play a significant role in decarbonising the social rented sector and in certain circumstances social housing can play a vital role in providing the heat demand needed to secure investment in new heat network development. Given this, and the Scottish Government’s wider heat networks targets, it is proposed that the SHNZS sets a requirement for heat network connections to be mandatory under certain circumstances.’

GWSF response

8.5 On the face of it, the proposals for clean heating are arguably the more straightforward elements of the consultation. Effectively the choice is between a single compliance date of 2045 or imposing interim targets for milestone dates leading up to 2045.

8.6 On balance, GWSF believes that social landlords should be left to come to their own judgements on the technical feasibility and affordability of installing clean heating. The imposition of minimum interim targets risks compelling landlords to install clean heating in properties not yet brought up to an appropriate energy efficiency standard, and this could mean more expensive heating in properties not yet ready for it, in turn leading to unduly high bills for tenants.

8.7 Maximum flexibility would allow for sensible, pragmatic decisions on the timing of combined fabric and clean heating installation works. Many landlords are likely to try to carry out both at the same time, to minimise disruption to the tenants, bearing in mind that most work will need to be done with the tenants in situ rather than decanted.

8.8 Even without interim targets imposed, it will be the hope that the kinds of milestones suggested – e.g. 10% of homes by 2033 – will be achieved anyway, but if such milestones were not achieved, it would not be because landlords were simply

being slow, it would be because of concerns over funding and uncertainty over the most appropriate form of clean heating for the properties in question.

8.9 On heat networks, although community-based housing associations are committed to finding out more about heat networks as a clean heating solution, there remains a degree of hesitancy around whether they are likely to be the best option. The general view amongst our members is that, as with other potential heating solutions, greater knowledge is needed about the technical side of how heat networks operate, and their efficacy for diverse property types.

8.10 For this reason we are opposed in principle to the notion of making connection to heat networks mandatory in some cases. If such connection is clearly the best available option and is in the best interests of tenants, our member associations are highly likely to favour this, but it would not be helpful to fetter landlords' discretion on this.

9 Applying the SHNZS to Mixed Tenure Housing

9.1 The consultation recognises that 62% of social housing properties are flats, with many being in mixed tenure buildings, and that any work undertaken in a mixed tenure context is often fraught with challenges.

9.2 Taking its lead from the Tenements Short Life Working Group Final Report, the Scottish Government recommends that a phased approach to achieving the new net zero standard be taken. The consultation says 'This would require work on the energy efficiency of individual premises in the first phase, and work on energy efficiency measures and clean heating options across a variety of individual homes required in a second phase. This would allow time for any improvements to the legislation around communal repairs and development of assessment methodologies that cover whole buildings.'

GWSF response

9.3 We welcome the recognition of the challenges SHNZS presents for mixed tenure blocks.

9.4 We also welcome the work that the Scottish Government is doing to develop a whole building assessment methodology which would look at energy efficiency and clean heating options as block assets 'which could provide options for different clean heating system types and their suitability for individual flat and communal block asset solutions.'

9.5 However, we would caution that the challenges associated with mixed tenure work are, in many cases, never able to be resolved, usually because of issues around

owners not being able to afford their share of works. Any social landlord can testify to the disproportionate amount of resources which goes into carrying out works in mixed tenure blocks. Until Scotland has a workable approach to resolving these challenges, many mixed tenure blocks will fail to reach the desired standard, thereby usually penalising rent-paying tenants in those blocks.

10 Conclusion

10.1 We await the outcome of the SHNZS consultation with interest and hope that responses, ours included, provide expert and practitioner knowledge and opinion which will help to inform a clear way forward. And crucially, which results in a new standard which is both workable and achievable.

10.2 It is worth reiterating here that without more clarity around the key issues we have raised, alongside a dedicated funding stream, then this workable and achievable new standard will never be realised.

10.3 As one of our members commented in relation to the new SHNZS:

“What we don’t need is a myopic political landscape where grandstanding and policy announcements are followed up with scant detail or understanding of realistic application... about what needs to happen on the ground for us to make it a reality.”

Appendix 1 – Case-studies from GWSF members

Case-study 1



Warm Homes Fund Project

Background

Argyll Community Housing Association (ACHA) is a Registered Social Landlord which provides more than 5,000 affordable homes for rent. It houses over 10% of the population of Argyll and Bute and employs around 200 staff. ACHA was successful in a bid for Category 2 funding in Round 3 of the Warm Homes Fund² (WHF) and delivered/installed a total of 1045 Air Source Heat Pumps (ASHPs) which comprised 845 social and 200 private installations.

Funding

ACHA was awarded **£5.1 million** from the WHF to address fuel poverty across Argyll and Bute. In addition, ACHA provided investment from its own resources of another **£5.6 million**. The installations generated a further **£4.2 million** of Renewable Heat Incentive funding which ACHA reinvested in other energy efficiency projects to reduce fuel poverty in the area. Finally, the association secured an additional **£754,000** of ECO funding from SSE/OVO to improve insulation in their homes. These different strands of funding resulted in a total of **£15.654 million** of direct investment.

The project and its aims

The key aim of the project was to tackle the geographically specific issues contributing to fuel poverty in Argyll and Bute. One major challenge was the fact that several small islands in the region have no gas infrastructure, and even in the main towns (including

² The £150m Warm Homes Fund, established by National Grid and administered by Community Interest Company, Affordable Warmth Solution (AWS) is designed to support local authorities, registered social landlords and other organisations working in partnership with them, to address some of the issues affecting fuel poor households.

Campbelltown and Oban) there is a limited gas network. This meant that expensive electrical heating was the primary type of heating for many households.

Moreover, the rurality and remoteness of many of ACHA's properties, alongside broader fuel poverty issues for tenants (an ageing population, relatively low wage levels); all of this intertwined with older, poorly insulated housing stock, made the case for retrofit a compelling one.

Key benefits for households

Findings from the project evaluation show that:

- Before their installation, 73% of questionnaire respondents couldn't easily keep their whole homes warm. Afterwards, 83% of respondents said they now could.
- 87% of questionnaire respondents said the temperature in their home is now more comfortable than it was before.
- Before their installation, energy modelling data shows that 98% of ACHA beneficiary households were likely to be living in fuel poverty. Afterwards, this likelihood fell to 56%, and the average fuel poverty gap for households defined as living in fuel poverty fell from an average of £383 to just £60.
- CO2 emissions dropped from an average of 2,160 kg/yr per household to an average of 1,043 kg/yr, demonstrating the environmental impact of replacing old, inefficient heating systems with air source heat pumps.

The power of partnership working

Project delivery staff described strong partnership working between ACHA and energy company, SSE/OVO as crucial to the design and delivery of the project. Once funding was secured, OVO procured three contractors to conduct installations, and explained how they used strict standards and criteria to ensure contractors and other project delivery staff members had the requisite knowledge and experience to work in a remote, challenging area.

Home Energy Scotland (HES) also played a small but nonetheless significant role in the project. In its role as the centralised organisation providing energy advice across Scotland HES referred potentially suitable properties to ACHA, who subsequently referred them to OVO to begin their journey through the installation process.

The main enablers of success

Several factors were identified in shaping the success of ACHA's WHF project. Firstly, the strengths and experience of OVO in project management and delivery were described as critical, especially compared to the more 'in-house' approach the project might have taken in different circumstances.

OVO's reach and experience enabled a capacity to deliver across the whole of Argyll and Bute, and the speed at which contractors could be mobilised to survey for and install air source heat pumps was another benefit.

This form of partnership-working was also supported by consistently good data-handling and administration processes, good reporting, and good, honest communication practices. OVO's ability to tap gap-funding sources and arrange alternative accommodation while during works also provided tenants with the support they needed throughout typically complex installation works.

On ACHA's side, a skilled Tenant Liaison Officer was regarded as essential. Their dedication – whether doing home visits, building rapport and engagement with tenants over the phone, or keeping tenants up to speed with what was happening and when – was deemed vital to the whole installation process. ACHA delivery staff noted that this built good relationships with tenants that would persist into the future, as well as enhancing security of tenancies and improving tenant satisfaction.

Key lessons for the future

- Ensure that a dedicated project team is in place. This should include a skilled Tenant Liaison Officer and Clerk of Works, with sufficient administrative staff capacity to manage the project smoothly; and a good Project Manager to tie everything together.
- Forge a strong working relationship with a private sector body (in this case an energy company) which can enable cost-effective delivery at a large scale.
- Devote as many resources and as much time as possible to looking after households during the installation process and ensure that sufficient gap funding is available to undertake remedial works, support tenants with electricity costs, and relocate them for a short time during the installation if it is required.
- Work with good contractors who understand the challenges associated with fuel poverty and energy vulnerability in social housing, and who have a track record and demonstratable experience of treating customers with respect and dignity.



Dalmuir Park Housing Association

Stonework repairs and energy efficiency improvements to pre-1919 tenements,

Four closes, total 30 flats – 25 tenanted, five owner-occupied/private rented, plus four ground floor commercial units, Dumbarton Road/Scott Street, Dalmuir – typical red sandstone tenements circa 1900. July 2023 – January 2024.

This began as a stonework project, with deterioration evident since the last repairs 35 years ago - sandstone delaminating, repointing needed, and masonry falling into gardens.

The opportunity to improve energy efficiency at the same time was taken, even though DPHA knew that the mixed tenure nature of the blocks would make this a complex project.

Main energy efficiency works were external wall insulation – permitted only to the rear elevation (due to the usual planning restrictions for front elevations of traditional tenement blocks), and internal wall insulation – carried out with tenants in situ (only one tenant had to be decanted). Outcomes can be summarised as follows:

- The modelled heat demand and heat-related carbon emissions reduced by 28%, rising to 33% when taking account of the associated improvements to airtightness: EPC rating of C/D improved to a B
- Noise insulation has also improved as a by-product of the work
- Render to rear elevation has created greater light, compared with red sandstone

Costs to DPHA (incl. VAT):

Stonework	£147,130
EWI and IWI (no VAT)	£376,250
Professional fees	£49,804
Commercial units	£130,000

Protective walkway	£16,000
Total	£719,184

External funding:

SHNZ Fund	£194,875
HEEPS (via WDC) for owners	£42,500 (5 x £8,500), equating to approx. half the cost for owners
Owners' contributions	£40,000
Total external funding	£277,375

Net funding from DPHA **£441,809 (£17,672 per tenanted unit)**

Lessons for the wider sector

- A 'repairs plus energy efficiency' project – whilst the stonework was the lesser proportion of the overall costs, this project illustrates that in many, if not most, cases of energy /efficiency work to older tenement blocks, structural repairs are also likely to be needed, and costs therefore need to be considered in the round
- The project showed that measures such as internal wall insulation can be installed with tenants in situ: this is going to be crucial for the wider sector, as decants on a massive scale will simply not be possible
- The project could not have proceeded without the £195,000 grant from the Scottish Government's SHNZ Fund. Even with this, the Association's own contribution, at £17,672 per tenanted unit, would not be replicable across all its tenemental stock without a significant impact on longer term rent levels.



SHETTLESTON HOUSING ASSOCIATION

Old Shettleston Road Retrofit Feasibility Project

Background

The project was commissioned by Shettleston HA and comprised a Passive House Planning Package (PHPP) modelled feasibility study to determine retrofit solutions for a block of six pre 1919 tenement closes, containing thirty-nine flats.

The project focused on a sandstone tenement building at 40-70 Old Shettleston Road and explored retrofit solutions that could feasibly be completed with tenants in situ, both within and outside the properties. It also considered any additional, more intrusive retrofit measures which could be completed ad hoc when properties become void. The work was carried out by EDC Architects Ltd, alongside input from Doig and Smith, RYBKA, Hub West Scotland and Glasgow City Council's Retrofit team. The study was funded by Glasgow City Council and outcomes will inform the development of the Council's Retrofit Strategy.

Key aims

Fundamentally, Shettleston HA sought to use the study to establish a route to decarbonising its stock in line with the Scottish Government's targets for achieving net zero by 2045. The Association's overarching objective was to confirm what measures would be required to get all their homes to EPC B as required under EESSH2 (and now the new Social Housing Net Zero Standard), with a specific focus on –

- What retrofit measures are appropriate for the building construction type.
- The potential carbon reduction of these works.
- The potential energy bill reduction for residents.
- Avoiding unintended negative consequences on air quality.
- The cost of doing the works.

The key parameter for any proposed measure was that tenants' heating costs should not be increased.

Methodology

- Building condition survey and initial analysis.
- PHPP modelling carried out on existing building – including M&E findings
- Series of thermal and hygroscopic investigations completed to inform appropriate solutions.
- Proposed retrofit phases and measures identified/proposed PHPP analysis
- Cost analysis based on phased works

Understanding the building – PHPP

- The overall building was modelled, as well as individual flats to ensure that consideration was given to improving circumstances for all residents, at every stage.
- This ensured that specific impacts for each measure were captured and fully understood.

The proposed retrofit measures were split into phases.

Phase 1 – Proposed measures within flats with residents in situ

The key objectives in **Phase 1** sought to provide minor improvements in comfort for residents and to enable future phases. As these are all small changes, the impacts would be limited. It was not possible to provide exact modelling of these impacts, as this will depend significantly on the starting point of each individual flat. While some of these measures would only be worth implementing if deeper measures would not be carried out for some time, others would be preparatory steps for more impactful later investment.

The list of measures included: new flat entry doors; improved existing windows and floors (draught-proofing); improved mechanical ventilation systems in each flat.

Outcomes

In relation to potential bill savings of all combined measures in phase 1, in the best-case scenario the sum would be significant, at almost £300. However, it must be noted that the minimum expected saving would be around £60. This projection does not include the potential savings of the installation of improved ventilation, as this would only become a necessity when the works outside individual flats were also undertaken.

When all of these enabling measures are combined, the heating demand would remain high at an average of 187kWh/m² /yr which would not economically support the use of a heat pump or other clean heating system. Consequently, these limited measures alone do not offer the opportunity to decarbonise the homes.

However as some of the measures included at this stage would be in preparation for future, deeper retrofit measures, it may be that carrying out some of these small steps, particularly where they respond to residents' concerns, would be a good way to demonstrate positive impacts for residents in the short term, while also preparing for longer term changes.

Phase 2 – Proposed measures for communal and external works with residents in situ

The measures included in **Phase 2** include –

- Close door replacement – front and rear close doors
- New windows
- External Wall Insulation to rear and gable elevations
- Insulation of common close floor
- Roof – top-up insulation/extend eaves to the back
- Installation of Photovoltaic panels
- Installation of common ductwork for clean heating systems

Outcomes

The significant measures proposed in **Phase 2** would significantly reduce the building's heating demand to an average of 115 kWh/m² /yr and consequently reduce residents' energy bills. The flats would continue to have gas-powered heating and hot water after this stage of work, but gas use would go down. Electricity use would likely remain relatively constant after this stage of work. Overall energy bills would be reduced dramatically, by an average of £750 per year.

Phase 3 – Works within flats when void

Phase 3 measures include –

- Internal Wall Insulation to the front elevation
- Installation of heat pumps or smart electric storage heaters
- Ground floor insulation
- Top floor ceiling replacement with airtightness membrane

Outcomes

Where all relevant measures are completed the heating demand would reduce to an average of 60 kWh/m² /yr. With the introduction of clean heating systems carbon emissions would reduce to around 21 tonnes CO₂. Depending on electricity charges, an estimated further £180 per year reduction could be achieved in energy bills.

Costs

The indicative construction costs for all works across the three phases, which would entail a full/deep retrofit approach, are extremely high. Total estimated construction costs would amount **to £3,875, 725, at a cost of £99,378 per flat.**

These costs are prohibitive and would not be replicable across the Shettleston's stock. Although funding assistance may be able to be secured through the Social Housing Net Zero Fund this would be limited to £35,000 per property and the Association would have to source the balance of c£65,000 per unit.

Subsequently, the Association and the design team have reviewed their approach and are moving forward with a further stage of the study that will explore the granular detail of more affordable and incremental retrofit interventions, aligned more closely to planned life cycle replacement requirements. This will seek to identify the level of savings in tenant energy bills that can be achieved when retrofit measures are targeted alongside scheduled maintenance and repair programmes.

Moving forward

A key element of the work being taken forward will be the monitoring of the building before, during and after measures are installed. This will help demonstrate the true impact of individual interventions, as well as highlight any unintended consequences. It will also allow the Association to more effectively plan future investment programmes with energy retrofit in mind. Ongoing discussion with residents will be a key priority here, as improving their comfort levels and reducing heating bills are the primary objectives in relation to all retrofit activity.

The Association is continuing to work alongside the Council's Retrofit Team and the outcomes from upcoming retrofit works will be shared to help shape the city's wider Retrofit Strategy.

Ultimately, Shettleston and the other partners in the project hope that lessons can be learned which can benefit not just the Association, but the wider housing sector, in the future, in relation to tenemental retrofit measures.

If you would like to find out more about the project please contact Colette McKenna, Director of Property Services at Shettleston HA - Colette.McKenna@shettleston.co.uk

