Dundee City Council
Neighbourhood Services
Housing

Housing Energy Efficiency and Net Zero Strategy 2023 - 2027

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CHANGING FOR THE FUTURE

Introduction

Dundee City Council's Housing and Construction Service is committed to increasing energy efficiency, reducing fuel poverty and decarbonising heat across our social housing portfolio. This strategy sets out Dundee City Council's plan to invest and retrofit our social Housing stock, taking a fabric first approach, focusing on energy transition to net zero, tackling the climate emergency and reducing fuel poverty.

The Energy Efficiency and Net Zero Strategy for Dundee City Council's Housing stock is at the heart of a local and tailored approach to improving the fabric of our properties, heat transition, and underpins an area-based approach to heat and energy efficiency planning and delivery. The Strategy has been developed in partnership with key stakeholders and aligns with Dundee City Council's Council and City Plans to be a greener city, made up of strong communities where people feel empowered, safe, and proud to live.

The strategy aligns with the Council's strategic objectives to:

This strategy builds upon the progress achieved to date which includes investment of over £59m to deliver energy efficiency improvements including the External Wall Insulation programme to over 5000 council and privately owned homes in the city. This is in addition to other capital investments including our window replacement programme, installation of photovoltaic panels, electric vehicle infrastructure in social housing areas amongst other initiatives. It sets out a long- term plan to retrofit our stock, taking a fabric first approach whilst also decarbonising heat and improving energy efficiency.

With any long-term plan there is a recognition there may be challenges during development and implementation. Therefore, the Strategy and Delivery Plan focuses on actions which can be meaningfully delivered and identifies where further analysis is required.

The Local Heat and Energy Efficiency Strategy, Local Housing Strategy, Housing Asset Strategy and Strategic Housing Investment Plan will straddle the Energy Efficiency and Net Zero Strategy 2023 – 2027 and play a crucial role in helping the Council meet its 2045 Net Zero target.

Improving our homes is a core part of the energy transition to Net Zero by 2045 and tackling the climate emergency. To achieve this, it will mean that Dundee City Council' tenants will live in warmer, more efficient homes whilst contributing to the wider efforts to cut building emissions and improve sustainability.

Vision

Our Vision is for all Dundee City Council social housing stock to be cleaner, greener, and easy to heat, with our homes and buildings no longer contributing to climate change, as part of the wider just transition to net zero.

Our Aim is to ensure that our housing stock meets, or can be treated as meeting, EPC band B (Energy Efficiency rating), or is as energy efficient as practically possible, by the end of December 2045, or earlier, within the limits of cost, technology, and necessary consent. Our aim is to explore all options and where viable, install alternative heat solutions with a view to decarbonising heat sources across the Housing portfolio, ensuring best value for the Council and tenants.

Context – Strategic Overview

Housing Asset Strategy Stock Information

Dundee City Council currently manages a housing stock of 12,599 dwellings which can be broken down as follows

Property Types	Gas	Electric	Total
Flat	7829	248	8077
Four-In-a-Block	1144	9	1153
House (not Detached)	3236	57	3293
Detached House	36	0	36
Total	**12245**	**314**	**12559**

Year Built	House	Four-In-a-Block	High Rise	Tenement	Other Flat/ Maisonette	Total
Pre 1919	4	0	0	4	3	11
1919-1944	271	1080	0	2008	166	3525
1945-1964	1996	0	336	3235	104	5671
1965-1982	869	61	668	1210	349	3157
Post 1982	153	4	0	29	9	195
Total	**3293**	**1145**	**1004**	**6486**	**631**	**12559**

The Legislation and regulations that most closely impact existing DCC Housing stock in relation to Climate Change, Fuel Poverty and Energy Efficiency are as follows:

1. Climate Change (Scotland) Act 2009 as amended by Climate Change (Emissions Reduction Targets) (Scotland) Act 2019
2. Fuel Poverty (Targets, Definition, Strategy) (Scotland) Act 2019
3. EESSH2 Regulations (EESSH1 initially introduced by Scottish Government March, 2014)
4. Housing to 2040 – published by Scottish Government, March, 2021.
5. Heat in Buildings Strategy published by Scottish Government, October, 2021

The first of these commits Scotland to cutting carbon emissions to net zero emissions across all sectors including buildings, transport, agriculture, waste etc. by 2045. Housing is expected to play its part by reaching net zero within its own area of operation by the same date or before.

The second commits Scotland to the effective eradication of fuel poverty across all tenures by 2045. DCC can exert the greatest influence in bringing this about within its own stock whilst facilitating programmes delivered by other agencies such as HES (Home Energy Scotland) for the benefit of private householders.

EESSH2 regulations issued by the Scottish Government and for which periodic guidance is provided, set direct targets for the energy efficiency of all social homes. The metric used to measure progress towards the target is SAP ratings and the regulations require landlords to maximise the number of their properties achieving EPC Band B (that is having a SAP rating at or above 81) by 2032. How this target is to be achieved is left entirely to the landlord and this strategy will explain preliminary proposals for doing so. It should be noted that, at time of writing, the Scottish Government is carrying out a review of EESSH2 in order to align it better with its Net Zero intentions. Further guidance, including the new metrics for assessing progress against targets, are expected in late 2023/24 and will revise the target date which this strategy will align.

Housing to 2040 is the Scottish Government's vision and route-map for ensuring that everyone in Scotland has access to safe, good quality, affordable homes. Within this, it aims for more homes that are energy efficient, use zero-emissions heating and are adapted to the future climate.

The Heat in Buildings Strategy sets targets for all buildings. Within the domestic sector, it specifically aims for all homes to achieve a minimum EPC Band C (starting at SAP 69) by 2035 and zero emissions heating by 2045.

New Build

Standards and regulations that specifically relate to the new build are:

1. New Build Heat Standards 2024

This relates to the overall Heat in Buildings Strategy and will see Building Regulations amended to ensure that only zero direct emissions heating can be installed in any new housing warranted from April 2024. This effectively means that gas boilers can no longer be fitted in new homes. However, as the scope for optimal orientation, built-form, and high levels of insulation in new-build is much greater than that for retrofits then heating technologies such as heat-pumps can achieve higher CoPs (co-efficients of performance) meaning lower running costs for tenants.

2. Domestic Buildings Environmental Standards (Scotland) Bill

This is a Bill currently making its way through the Scottish Parliament which will introduce secondary legislation that will mean that by the end of 2024 all new build in Scotland will have to meet PassivHaus (PH) standard or an equivalent standard developed for Scotland.

Unlike most new builds, which often require up to 60% more heat than pre-build SAP modelling would indicate, properties built to PH standard have been shown to achieve a very low annual heating demand of 15 kWh/m2. It is possible to achieve this by the elimination of cold bridging and air-leakage and the robust quality assurance that is carried out at every step of the build process. With such airtightness achieved; PH homes must also have MVHR (mechanical ventilation with heat recovery) installed (also subject to robust Quality Assurance processes) to

effect sufficient air-changes inside the dwelling. One of the main advantages of PH is said to be the superior indoor air-quality this achieves with gives rise to multiple comfort, well- being and health benefits.

As expected, the cost of building to PH standards is higher than for traditional new-builds. However, as more homes are built to this standard and a trained labour-force is achieved, the cost should reduce. In 2018, best practice costs were 8% higher than comparable non-PH builds but the differential is expected to come down to 4% or less as the supply-chain matures.

General Principles

Within these overall goals set out by legislation and regulations, DCC can express its own aspirations and the principles governing its choices. These can be stated as follows:

1. We will retrofit our properties to a standard that allows our tenants to live in warm homes

2. We will adopt a fabric-first approach unless there is compelling evidence or cost grounds to suggest an alternative (e.g., PV panels with battery storage) without compromising the building fabric.

3. Where running costs for our tenants can be demonstrated to be equal to or less than running costs for gas central heating, we will look to install decarbonised heating systems such as heat pumps. All adaptations to existing and new heating products/systems that come on to the market will be investigated to identify the most appropriate for installation into homes to ensure affordability for tenants and carbon savings.

4. We will make all attempts to combine insulation works with other capital works where this is cost-effective and where it does not compromise fairness in running order.

5. Within our energy efficiency projects we may include adjacent owners of ex-Council properties where funding is available and sufficient resources within the Council to manage this.

6. We will ensure that the criteria we employ to determine the running order in which we move through different areas of the city is fair and transparent and will be agreed with elected members and resident groups before implementation. Consideration of carbon savings will form part of the decision-making process.

7. We will work to the highest standards that exist for insulation at the point when we are planning installation unless this proves to be cost-prohibitive and where we can find a lesser workable standard that does not compromise the building fabric. Provision for ventilation will be a primary consideration.

General Principles – Further Detail

Each of the above points will now be discussed in more detail and reflect on the local context which will inform how we will achieve our vision

1. Retrofitting properties for affordable fuel bills

To minimise the amount of heat required in a property, it is necessary to minimise heat losses through the fabric. This is generally done by insulating the roof, floor, and walls. The biggest area of loss is through the walls and so wall insulation can drastically reduce heat loss and lower fuel bills. Council Housing stock can roughly be broken down into three main groups: high rise blocks; cavity wall stock and solid wall (and non-traditional build without a cavity).

10 of the 11 high-rise blocks have been insulated and had district heating installed in recent years so will not be discussed further in this paper. The one high-rise block outstanding at Dudhope Court is currently subject to review.

Over the last 10 years, we have targeted all solid-wall and non-traditional stock to install an EWI (External Wall Insulation) solution that is now coming to its end. Whilst these properties do not all reach SAP 81, they have benefitted from this major work and the focus of any insulation programme going forward should be the cavity-wall stock.

Most cavity-wall stock had CWI (cavity wall insulation) installed as part of a major programme carried out between 1978 – 1982. Stock in some areas that were built after 1982 had CWI installed more recently. Anecdotal evidence suggests that in many areas this insulation has lost its effectiveness, but comprehensive surveys have not been carried out, so it is difficult to establish any pattern of condition.

As SAP ratings take no account of condition, properties with this defective CWI will score no lower than properties with recently installed CWI. Therefore, there has been little incentive in the past to commit expenditure to removing existing CWI and reinsulating the cleared cavities as it would have little bearing on SAP ratings nor progress towards SHQS/EESSH targets. However, doing so would likely have a considerable impact on actual heat loss, tenant perception and fuel bills.

By reframing our aims around affordable warmth and away from just SAP scores, we can better justify committing our capital budget to addressing wall insulation for cavity- wall properties. How far to go in insulating these properties has still to be decided. If we wish to adopt EnerPHit principles and/or full certification, we will need to go beyond simply refilling cavities by also externally insulating the walls. There will be further discussion about EnerPHit and other standards in section 7 below.

2. Fabric-first

Whilst externally insulating a property can clearly reduce heating demand, running costs and carbon emissions, it can be expensive – a typical example being the structural insulation that is required at the Solid Cedar properties in Linlathen 1st development. If solar PV panels are fitted on a tenant's property allowing them to generate their own electricity (with battery storage to give the option of using the electricity when needed out-with generation periods) this would result in reduced electricity costs and such savings could be used to offset the cost of heating. It may be that the capital cost of PV panels and batteries is less than the cost of EWI for some building types. Whilst the installation of PVs would have the wider benefit of reducing pressure on the electricity grid, something that will become more of an issue as we move towards an electrified future, it would not necessarily lead to reduced CO2 emissions (as grid electricity itself moves towards zero emissions with 100% generation from renewables). It is however an option to consider alongside or instead of EWI as a means of reducing tenants' running costs.

3. Decarbonised heat

In its Heat in Buildings Strategy, the Scottish Government has expressed the desire to install 1,000,000 zero emissions heat pumps by 2030 and sees Local Authorities kick-starting this by becoming early adopters of the technology.

Where running costs for our tenants can be demonstrated to be equal to or less than running costs for gas central heating, we will look to install decarbonised heating systems such as heat pumps.

All adaptations to existing and new heating products/systems that come on to the market will be investigated to identify the most appropriate for installation into homes to ensure affordability for tenants and carbon savings.

4. Combining capital programmes

During the EWI programme, it was proved possible on several projects to combine the insulation works with other planned/capital works. This demonstrated economies of scale, for example, the advantage of reducing scaffolding costs as the same scaffolding could be used for both and savings could be passed on to private residents in Council blocks as well as reducing the Council's own costs.

There will be occasions when DCC cannot carry out EWI e.g., if the properties included are in a Conservation area or agreement to proceed cannot be obtained from all owners in a block. In these projects, if the chosen alternative is to install IWI (internal wall insulation) then it may be possible to combine the installation of IWI with near-term kitchen and bathroom projects or heating projects thus avoiding two sets of disruption to tenants. In carrying out any insulation works, cross- referencing will be done with the rest of the capital programme to identify such opportunities.

5. Treatment of owners in Council estates

Due to the availability over recent years of EES: ABS funding, it has been possible to include private householders in ex-Council blocks of flats in EWI projects. This approach has been highly successful and has resulted in more than 5,000 flats being externally insulated. Within individual developments wholly owned blocks have also been included in order to create uniformity across the area. In future, this kind of approach with blended funding will be taken wherever possible.

6. Running order

In the Housing Service, the order in which areas were treated under the EWI programme was determined where the development falls within the **SIMD** (Scottish Index of Multiple Deprivation) with the most deprived areas being tackled first. This is a demonstrably fair way of prioritizing the programme; the SIMD is used as a means of deciding order in many social programmes where there is scarce resource funding. The service intends to continue with this approach in that the SIMD-method be utilised again for treating cavity-wall stock. However, there may be some merit in using SIMD in conjunction with information about the condition of current CWI across areas. On paper, condition is seen to be 'much of a muchness has given that most installations were carried out within a 4-year period in the late '70s/early '80s. To be meaningful, any condition survey would require a sample survey from all areas of the city. As there are more than 6,5000 properties with cavity walls, this could be a large and expensive exercise. Therefore, as a preliminary exercise, cavity surveys in some of the areas at the top of the SIMD-ordered list will be carried out to determine whether there is any variability in condition from one area to another. Depending on the results of this initial exercise, a full survey may or not be required. If the outcome of this results in a deviation from SIMD setting the programme, then this will be clearly articulated and made known to elected members and tenants' organisations in the interests of fairness and transparency.

7. Standards to be adopted

PAS 2035/PAS 2030:19 was introduced by the Westminster Government in 2021. This standard was the result of several years' research and reports and is seen as the way to eliminate historical bad practice in the insulation industry. PAS 2035 describes an overall long-term planning process that moves a property towards net zero through appropriately sequenced insulation and ventilation in readiness for decarbonised heating. PAS 2030:19 amongst other things, details elements of design that eliminate cold-bridging and condensation risk.

PAS 2035/ PAS 2030:19 was first adopted in Dundee for the Fleming Gardens EWI Project. Adoption of the standard required PAS surveys to be carried out on individual dwellings by a suitably qualified Retrofit Assessor and the Retrofit Plans produced to be lodged with Trustmark. These surveys cost approximately £500 per property thus adding to contract costs and to the length of the pre-design phase. Ultimately, DCC is still going ahead with EWI as originally intended but the PAS standard brings in design details for the elimination of cold-bridging and consideration to be given to ventilation to avoid condensation in insulated properties.

Whilst PAS 2035/PAS 2030:19 represents the best recommended practice; it is not a legal requirement. Some funding streams such as ECO (Energy Company Obligation) require work to be carried out to this standard. Early projects by other LAs encountered some practical difficulties in implementing it in its entirety on the ground and reported this to the EES: ABS Team in the Scottish Government. Whilst they originally indicated that they would allow some compromises to be made to get EWI projects on site, they have since confirmed that access to EES: ABS funding will now be dependent on PAS being fully observed. At time of writing, it is expected that a Scottish version of PAS may emerge.

The overall aim of PAS is to work towards a property becoming net zero. A specific means of doing so is by carrying out work using the EnerPHit model. This is the PassivHaus method as applied to retrofit scenarios. The Council is already in the process of purchasing the PHPP (PassivHaus Planning Package), a software tool that allows individual dwellings to be investigated and modelled. Technical colleagues will receive training and development which will enable maximised use of the software. The EnerPHit informed retrofit plan produced can then be used as the basis of discussion around the potential for decrease in heating costs that can be achieved, what the different combinations of measures would cost and the appropriate order in which works should be carried out over the longer term. In the first instance, the PHPP will be used to model a small pilot retrofit project of 8 dwellings with cavity-walls. This will be reported to committee for approval, monitored and evaluated before being rolled out more fully. A flow-chart showing a potential process to get to or near to EnerPHit is included as Appendix 1 to this report.

Opportunities, challenges and risks

With the principles that will guide our future energy efficiency projects and plans now discussed, this report will now look at the opportunities, challenges and risks the Council will face in incorporating them into programmes that it will roll out to meet the required legislative and regulatory targets.

Opportunities

As noted previously, whilst the Council's obligations regarding increased energy efficiency and alleviation of fuel poverty are enshrined in law and regulations, the Council can determine how it does so. Our knowledge of our own stock and expertise and commitment of staff to ensure tenants are living in warm homes that they can afford to keep warm and comfortable will ensure the programme moves forward. Also, as outlined earlier, there is the opportunity to group projects to minimise disruption and keep costs down.

The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022 came into force on 21 May 2022. It puts an obligation on the Scottish Local Authorities to produce first LHEES and LHEES Delivery Plan, keep it under review and publish an updated LHEES and LHEES Delivery Plan at intervals of no more than 5 years after the date of publication of the previous strategy.

LHEES will set out how each segment of the building stock in Dundee needs to change to meet national and local objectives, including achieving zero greenhouse gas emissions in the building sector, and the removal of poor energy efficiency as a driver of fuel poverty.

The current development of an LHEES (Local Heat and Energy Efficiency Strategy) by Dundee City Council presents the opportunity to identify potential joint projects with internal and external partners such as making use of waste heat from industrial processes for domestic heating as an example.

The current development and implementation of the Keystone asset management system will provide the opportunity to better understand our stock and carry out options modelling to identify the most cost-effective solutions for reducing heat demand etc.

Although also being cited as a challenge, the SHNZHF (Social Housing Net Zero Heating Fund) could provide an opportunity to carry out works that internal budgets would not allow, particularly if it is expanded to include more scope for fabric measures.

Carrying out works to EnerPHit standards is known to reduce the performance gap meaning that projected heat savings are realised. Whilst this can also be seen as a challenge because of its impact on capital costs, the requirement to install MVHR (mechanical ventilation with heat recovery) as part of EnerPHit has been shown to improve indoor air quality. Therefore, it is an opportunity to make our homes more comfortable to live in and to provide health benefits to tenants.

Whilst the lack of a fully-formed supply chain of the size required to deliver net zero in housing across Scotland can be seen as a challenge, it is also an opportunity for DCC to be part of the solution by stimulating the market and giving rise to local colleges providing the courses that deliver the necessary training and, ultimately, the creation of local jobs and demand for products as well as upskilling our own in house labour resource.

Challenges

- The sheer scale of the job required to reach net zero by 2045, as well as any interim targets, is a challenge in and of itself and what can be achieved will depend on available budgets. Most funding that is available for domestic energy efficiency improvements so far has been directed at the private sector. The exception to this is the SHNZHF. This is available for Council schemes, but it is challenge funding for decarbonised heating when what is actually needed is mainstream funding for fabric measures so that homes are ready to then have decarbonized heating such as heat pumps installed as a secondary measure. This was reflected by ZEST (Zero Emissions Social Housing Taskforce) via its report of August 2021.
- The domestic energy efficiency measures the Council needs to carry out form only one part of the overall Capital Plan and thus are 'in competition' with other programmes such as new-build, specialist maintenance, rewiring and kitchen and bathroom replacements for a share of the overall budget. The ability to increase rents, especially during a cost-of- living crisis, to fund energy efficiency measures is very limited.
- The need to move towards net zero in a way that is in keeping with the principles of a Just Transition is also a challenge but can also be looked upon as an opportunity for green jobs as the supply chain develops.
- A further challenge is the fact that there is still uncertainty around the decarbonised solutions for domestic heating. However, the fact that we are taking a fabric-first approach to improving homes can at least buy some time by readying homes for the installation of whatever type of heating emerges as the front runner.
- A challenge related to the above is the fact that the Housing Service will be required in the near future to replace gas boilers that have come to the end of their useful lives. Standing still until a decarbonised solution is not an option and heat pumps currently have higher running costs than gas. The deployment of some kind of hybrid heating that combines a gas boiler, and a heat-pump is proposed for new build developments before the April 2024 deadline may be the solution until there is clarity around the future of decarbonised solutions for domestic heating.
- The cost of building materials and labour are currently at their highest level for decades due to a combination of factors including COVID, Brexit and the war in Ukraine. Higher standards such as PAS 2035/PAS 2030:19 also have an inflationary effect. This makes it an even bigger challenge to install measures at a scale from already stretched budgets.

- The fact that much of our stock is flatted and many individual blocks are now mixed tenure makes the logistics of delivering energy efficiency measures to mutual elements such as those to roofs and walls ever more complicated. It can be achieved with the correct resources as has been proved by the EWI programme of the last 10 years. The Scottish Government is aware of this challenge and is currently investigating what they can do to simplify it. Within the Council, work is being carried out by Housing and colleagues in Legal Services to assess the extent to which the Tenement Management Scheme can be employed to minimise cases where individual owners can exercise power of veto over works and to maximise the number of residents who can benefit from schemes.
- The lack of a fully developed supply chain has been mentioned previously under opportunities but is cited again here as a challenge.

Risks

The overall risk is that the Council fails to achieve EESSH2 by 2032 (subject to review), net zero by 2045 and residents continue to experience fuel poverty. The sanctions that the Government would impose for such failure are unknown. If all sectors fail with regard to meeting net zero, then the possible consequences for the climate could be disastrous. We do not wish our tenants to be living in cold homes in 20 years' time so we must all use all our experience, knowledge, persistence, and ingenuity to identify how we can maximise what funding we do have or can obtain to have energy efficiency measures carried out.

Next actions

Actions we will take within the lifetime of this strategy:

1. Continue with the EWI Programme including decisions about how best to deliver IWI cost-effectively in those solid-wall properties where EWI is not possible.
2. Use SIMD order of cavity-stock to define where we're going next. Overlay with condition survey results as they become available and adjust the running order as required.
3. Decide whether we simply replace existing cavity-wall as a first pass before a later programme of EWI at the same properties and commence the programme
4. Agree that in most circumstances we will adopt PAS 2035/PAS 2030:19 standards unless there are compelling reasons not to e.g., where technical issues cannot be overcome cost-effectively. In such cases all aspects of the standard that can be achieved, will be.
5. Agree that as a Council our primary consideration in choosing heating systems for our tenants will be running costs, affordability and carbon emissions and that we commit to keeping abreast of all developments in the heating sector that could assist us in doing so and decarbonising heat sources

6. Establish exactly what we can and cannot do in relation to mutual energy efficiency works using the Tenement Management Scheme and implement within our delivery programme

Measurement, Accountability and Governance

The Energy Efficiency and Net Zero Strategy will be achieved via the activities set out in a high-level implementation actions. These will be further supported, as required, by the development of detailed, operational delivery plans with operational activities evolving over time.

Oversight, governance, and direction will be provided through a new Energy Efficiency and Net Zero Board, chaired by the Head of Housing and Construction Services. The Board will be responsible for shaping and driving the Energy Efficiency and Net Zero programme for the Housing Service and will be responsible for shaping and driving innovative solutions that can be delivered within the Housing Revenue Account Capital Plan and other funding available. Reports on progress towards meeting the strategic objectives will be presented to the Councils City Governance Committee within the Neighbourhood Services Service Plan.

Elaine Zwirlein

Executive Director of Neighbourhood Services

Appendix 1

Taking all these factors into consideration, the Passivhaus Trust recommends the following approach to retrofit (which can work in tandem with PAS 2035 for govermment funded projects utilising the PAS 2035 framework):

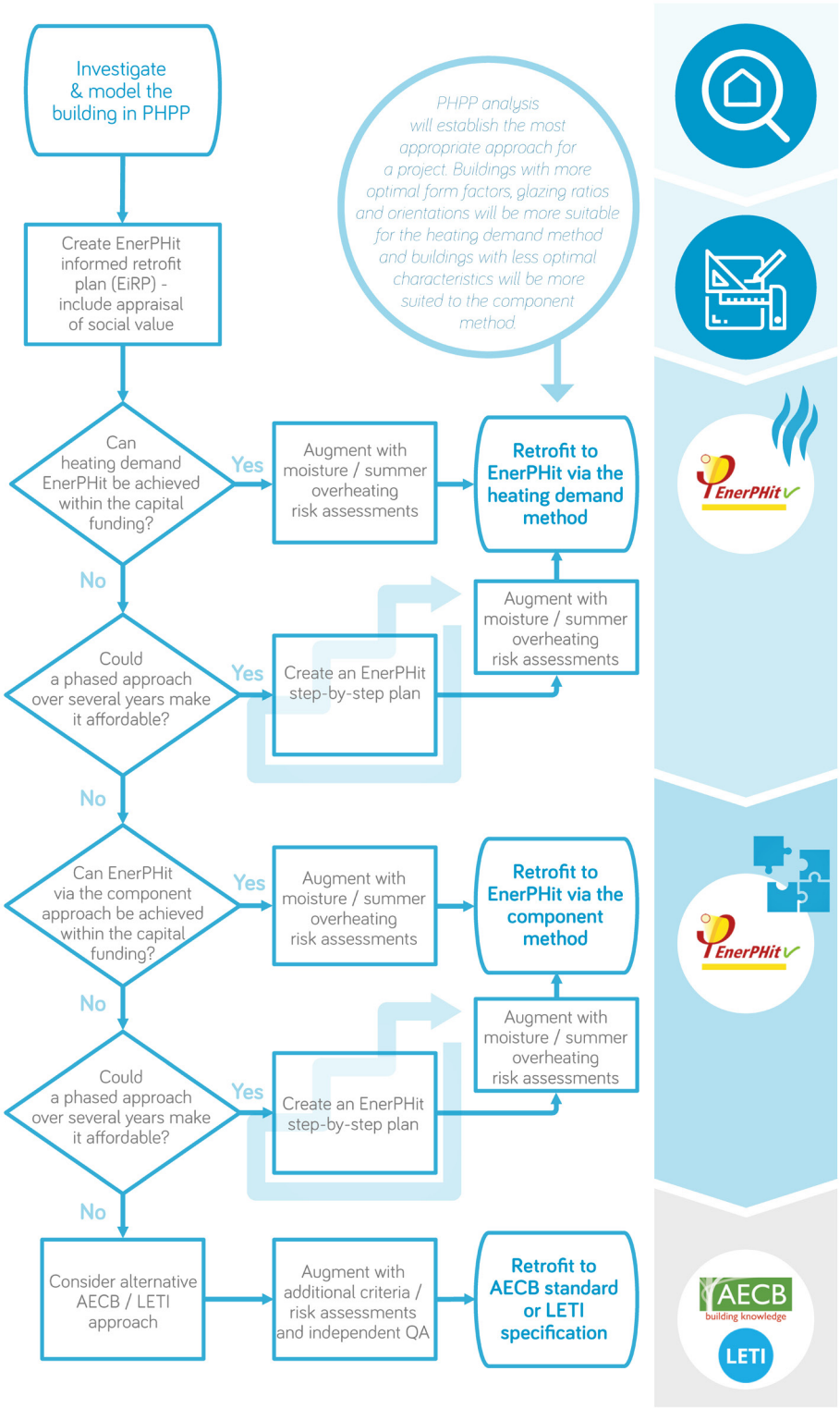

Figure 8 - Passivhaus Trust recommended approach to retrofit

Glossary

Acronym/phrase	Meaning
CO2	Carbon dioxide – earth's most important greenhouse gas, historically high man-made levels of which contribute to global warming and climate change.
CoP	Co-efficient of performance – ratio describing efficiency of a system – for heat pumps, the relationship between power input and power output eg CoP of 3 means 3Kw out for every 1 kW in.
CWI	Cavity-wall insulation
Decarbonised heating	Heat that is not produced by burning fossil fuels such as gas but from a 'clean' source such as electricity from renewables such as solar or wind.
ECO	Energy company obligation - government energy efficiency scheme in GB to tackle fuel poverty and energy efficiency.
EES:ABS	Energy Efficient Scotland: Area Based Schemes – Scottish Government funding scheme operated through Local Authorities to improve energy efficiency of private housing across large areas.
EESSH	Energy Efficiency Standard for Social Housing – Scottish Government standard that social landlords must meet.
Energy efficiency	Means minimising the use of heat and power (electricity) in the home. Examples might be installing insulation to reduce heat losses or using low-energy lightbulbs.
EWI	External wall insulation
EnerPHit	Established standard for refurbishment of existing buildings using Passive House principles and components to achieve high levels of energy efficiency (see Passive House below)
EPC	Energy Performance Certificate – gives a property an energy efficiency rating from A (most efficient) to G (least efficient) and valid for 10 years.
Fuel Poverty	Fuel poverty is defined as the inability to afford adequate warmth in the home. In Scotland fuel poverty is defined as any household spending more than 10% of their income on energy – after housing costs have been deducted. The Housing (Scotland) Act 2001, section 95 defines fuel poverty as a person living in a home which cannot be kept warm at a reasonable cost.
IWI	Internal Wall Insulation

LHEES	Local Heat and Energy Efficiency Strategy – mandated by Scottish Government that all local authorities need to submit their first draft of these comprehensive energy masterplans for their area.
MVHR	Mechanical ventilation with heat recovery – a solution to the needs of energy efficient buildings such as those built to Passive House standard.
Passive House	A design standard for new-builds that achieves thermal comfort with minimal heating and cooling using high levels of insulation, air-tightness and elimination of thermal bridging
PAS 2035/PAS 2030:19	New British standards that create a recognisable quality standard for the retrofit of energy efficiency measures to existing homes thereby eliminating some of the poor practice of the past in the insulation industry.
PHPP	Passive House Planning Package – the building energy modelling software used to design a Passive House building.
PV panels	Photovoltaic panels – solar panels (often roof-mounted) that capture the sun's energy and convert it into electricity that can be used in the home.
Retrofit	Process of modifying existing buildings – particularly in relation to energy efficiency measures such as insulation that will reduce heat loss.
SAP	Guidance on how a home's energy performance is calculated using the standard assessment procedure methodology, which underpins the energy performance certificate.
SHNZHF	Social Housing Net Zero Heat Fund – fund to help Scottish social landlords to install zero direct CO2 emissions heating and energy efficiency measures in their stock.
SIMD	Scottish Index of Multiple Deprivation. SIMD scores tell where different areas (data-zones) sit in relation to each other in terms of deprivation. Scotland is split into 6,976 data-zones with deprivation ranked across 7 domains, including income, health and employment and each data-zone has a rank within each domain as well as an overall rank.
ZEST	Zero Emission Social Housing Taskforce – set up by Scottish Government to consider and provide practical recommendations on what is required of the social housing sector to maximise the sector's contribution to national climate change targets.

Integrated Impact Assessment

Committee Report Number: 344-2023

Document Title: Energy Efficiency and Net Zero Strategy

Document Type: Strategy

Description:

The strategy sets out the housing service plan to invest and retrofit our social housing stock

Intended Outcome:

To support the council's overall target to meet net-zero by 2038 and tackling the climate emergency while reducing fuel poverty for our tenants.

Period Covered: 05/12/2023 to 03/12/2027

Monitoring:

Capital Plan monitoring, progress updates, bringing papers and tenders to committee

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Equality, Diversity and Human Rights

Impacts & Implications

Age: No Impact

Disability: No Impact

Gender Reassignment: No Impact

Marriage & Civil Partnership: No Impact

Pregnancy & Maternity: No Impact

Race / Ethnicity: No Impact

Religion or Belief: No Impact

Sex: No Impact

Sexual Orientation: No Impact

Are any Human Rights not covered by the Equalities questions above impacted by this report?

No

Fairness & Poverty

Geographic Impacts & Implications

Strathmartine:	Positive
Lochee:	Positive
Coldside:	Positive
Maryfield:	Positive
North East:	Positive
East End:	Positive
The Ferry:	Positive
West End:	Positive

Positive Implications: The actions in this strategy relate to tackling fuel poverty through energy efficiency measures in our housing stock across the city therefore everyone is likely to benefit from this.

Household Group Impacts and Implications

Looked After Children & Care Leavers: Positive

Where there are members of this group who are living in council properties and benefit from the energy efficiency measures carried out on their property then we would anticipate that this would be positive however unknown at this stage

Household Group Impacts and Implications

Carers: Positive

Where there are members of this group who are living in council properties and benefit from the energy efficiency measures carried out on their property then we would anticipate that this would be positive however unknown at this stage

Lone Parent Families: Positive

Where there are members of this group who are living in council properties and benefit from the energy efficiency measures carried out on their property then we would anticipate that this would be positive however unknown at this stage

Single Female Households with Children: Positive

Where there are members of this group who are living in council properties and benefit from the energy efficiency measures carried out on their property then we would anticipate that this would be positive however unknown at this stage

Greater number of children and/or young children: Positive

Where there are members of this group who are living in council properties and benefit from the energy efficiency measures carried out on their property then we would anticipate that this would be positive however unknown at this stage

Pensioners - single / couple: Positive

Where there are members of this group who are living in council properties and benefit from the energy efficiency measures carried out on their property then we would anticipate that this would be positive however unknown at this stage

Unskilled workers or unemployed: No Impact

Serious & enduring mental health problems: No Impact

Homeless: No Impact

Drug and/or alcohol problems: No Impact

Offenders & Ex-offenders: No Impact

Socio Economic Disadvantage Impacts & Implications

Employment Status: No Impact

Education & Skills: No Impact

Income: Positive

Where energy efficiency measures are carried out, we would expect to see a reduction in energy bills which would have a positive impact on income

Caring Responsibilities (including Childcare): No Impact

Affordability and accessibility of services: No Impact

Fuel Poverty: Positive

Energy efficiency has a direct impact on fuel poverty therefore anything we do to improve this will have a positive impact

Cost of Living / Poverty Premium: Positive

Where household bills have reduced as a result of energy efficiency measures, this will have a positive impact on reducing the cost of living

Connectivity / Internet Access: No Impact

Income / Benefit Advice / Income MaximisationPositive

Increased energy efficiency leads to lower energy bills which then leads to more disposable income for people

Employment Opportunities: No Impact

Education: No Impact

Health: Positive

Having a warmer, energy efficient home will have a positive effect on people's health and wellbeing

Life Expectancy: No Impact

Mental Health: Positive

Having a warmer, energy efficient home will have a positive effect on people's health and wellbeing

Overweight / Obesity: No Impact

Child Health: Positive

Having a warmer, energy efficient home will have a positive effect on people's health and wellbeing

Neighbourhood Satisfaction: Positive

Investing to improve people's homes would have a positive impact on satisfaction

Transport: No Impact

Environment

Climate Change Impacts

Mitigating Greenhouse Gases: Positive

The actions in the plan highlight how it will reduce emissions from energy use by using decarbonised heating systems

Adapting to the effects of climate change: Positive

Having homes that are more energy efficient has a positive impact on the effects of climate change

Resource Use Impacts

Energy efficiency & consumption: Positive

The whole plan is about energy efficiency and the different ways of achieving this eg EWI, retrofitting, EnerPhit and passivehaus models which accelerate properties achieving net zero

Prevention, reduction, re-use, recovery or recycling of waste: No Impact

Sustainable Procurement: No Impact

Transport Impacts

Accessible transport provision: No Impact

Sustainable modes of transport: No Impact

Natural Environment Impacts

Air, land & water quality: Positive

Decarbonisation of our stock would have a positive impact on air, land and water quality

Biodiversity: Positive

Reduced carbon emissions would have a positive impact

Open & green spaces: Positive

Reduced carbon emissions would have a positive impact

Built Environment Impacts

Built Heritage: No Impact

Housing: Positive

Improving the fabric of our homes to be more energy efficient is at the core of this plan

Is the proposal subject to a Strategic Environmental Assessment (SEA)?	No further action is required as it does not qualify as a Plan, Programme or Strategy as defined by the Environment Assessment (Scotland) Act 2005.

Corporate Risk

Corporate Risk Impacts

Political Reputational Risk: No Impact

Economic/Financial Sustainability / Security & Equipment: Not Known

The risk and positives are highlighted in the strategy but yet to be quantified

Social Impact / Safety of Staff & Clients: No Impact

Technological / Business or Service Interruption: No Impact

Environmental: Positive

Energy efficiency and decarbonisation has a positive impact on our corporate responsibilities and risk

Legal / Statutory Obligations: No Impact

Organisational / Staffing & Competence: No Impact

Corporate Risk Implications & Mitigation:

The risk implications associated with the subject matter of this report are "business as normal" risks and any increase to the level of risk to the Council is minimal. This is due either to the risk being inherently low or as a result of the risk being transferred in full or in part to another party on a fair and equitable basis. The subject matter is routine and has happened many times before without significant impact.