

Denbighshire Housing – SAP/EPC Data Analysis - Current Status & Improvement Proposal

- The corporate target is to reach a C69 by 2022 for all council housing
- Current SAP data from Stock Condition Survey & Previous Records confirms the following:

SAP Band	Total
C	1119
D	1271
E	461
F	23
G	17
Total	2891

- 842 properties in SAP band D range between D65 – D68;
- 490 properties currently have no energy data available and are assumed to be below D 65;

Anticipated Investment Requirements/Measures Per SAP Band to Meet DCC's Corporate Target of C69 SAP Rating (Exceeds WHQS D65 SAP Rating)

G Rated to C (17 Properties, including properties where EPC data as well as SAP is known)

All but 2 of the current G rated properties are tenant refusals from previous programmes of work, therefore the majority of these properties have older inefficient heating systems and often lack insulation measures.

Heating upgrades including a mixture of gas/electric - £85K

Total for cavity wall insulation/loft (where applicable) - £40K (potential for ECO funding)

Potential PV/solar water heating (where off gas to 6 no properties) - £50K

Windows/doors to 1 Property - £5000

Total investment - £180K

F Rated to C – (23 properties)

The majority of these properties are off gas and/or have solid walls. However 6 of 23 are on gas and will achieve a C69 with a heating upgrade and improved insulation. The remaining properties have older type storage heaters. Upgrading these to high heat retention radiators in the remaining properties will increase the EPC rating significantly, however these properties may only ever reach a D rating unless floor insulation is also specified. This type of work could not be completed while the properties are tenanted.

6 Gas upgrades @ £3500 per property - £21K

17 High Heat Retention upgrades @ £5000 per property -£85k

17 External wall insulation upgrades @ £10,000 per property - £170K

Total Investment - £276K

E Rated to C – (461 properties)

This group of properties presents a number of challenges as no one single measure or upgrade will increase the EPC to a C. There are however 112 properties within this group of properties which are on gas but which appear to lack insulation. A thorough desktop analysis of these properties will need to be completed to identify which properties can be insulated via traditional means. As these properties are currently a band E, the council may be able to successfully acquire ECO funding to upgrade these properties, therefore costs could be minimal.

Improving the energy efficiency of the remaining 349 properties within this group will require more thought and significantly more investment, however the main improvements here will be upgrading the existing heating, installing External Wall Insulation (EWI) and installing solar PV where applicable.

Estimated Budget Requirement:

Solar PV offers the greatest gain (once the other measures have been installed). The cost to install solar will be in the region of £5000 for a 2.5KW system per property. However it should be noted that some properties may not be suitable for PV due to the orientation of the property.

Indicative cost - £520K

High Heat Retention Heating upgrade

The majority of these properties have older Economy 7 heating systems or have existing solid fuel fires, upgrading these to Quantum type radiators (HHR) will increase the SAP rating considerably in this band of property. Consideration will also need to be made to the existing hot water tanks as these may well require upgrading to become compatible and to achieve the highest SAP score. Although HHR radiators are recognised in SAP

Indicative cost - £625K

EWI – The majority of our solid wall housing stock sit in this SAP bracket, therefore installing EWI will significantly raise the SAP rating of these properties, the cost however is considerable.

Indicative cost - 100 properties@ £10k- £1M (based on an average cost for a 3 sided house)

Total Investment - £2.1M

D Rated to C (1271 properties, combining SAP/EPC data)

A large proportion of the housing stock fall into this category, as previously reported, a programme of minor measures to circa 40% of these properties will be required to increase their SAP rating to a C69, including CWI/loft and energy efficient lighting. Some may only require resurveying to capture a revised score post improvement. Indicative costs associated with this work are as follows:

Energy efficient lighting @ £40 per property - £22K

Loft tops up (150mm to 270mm) @ £350 per property -£175K

Additional Insulated 80mm hot water jackets @ £12 per property - £7K

Total Investment - £204K (minor measures)

This still leaves 700 properties with a SAP score ranging between 55 – 65.

Significant investment will be required to upgrade these to a C69 as minor measures will not provide enough of an increase in SAP. Reviewing the properties that fall into this category also confirm that the existing heating systems are either Economy 7 or solid fuel systems.

Similarly to band E, the biggest improvement will be gained by introducing improved heating systems and in some cases the introduction of solar PV/water heating:

High Heat Retention – 700 @ £5k per property - £3.5M

Solar PV to 300 properties* @ £5K per property (allowing for 50%) - £1.5M

** additional SAP points will be gained by introducing PV where installing HHR's alone will not suffice, i.e. where there are 3 external walls, unheated floors etc. An alternative model could be applied by installing external wall insulation instead, however investment would be greater.*

Total Investment - £5M (major measures)

Summary & Funding Considerations

Based on the above findings, the total investment required to raise the council housing stock by 2022 will be circa **£7.6M**. The majority of this investment is made up of complete heating system upgrades, fabric upgrades, inc EWI and the introduction of renewable technology. It should be noted that unfortunately some of the housing stock will not meet the target C69 irrespective of investment, due to their build, location and available utility services.

This estimate also doesn't allow for the proportion of the housing stock which currently has no energy data, therefore an additional allowance should be made for these properties. The cost to survey these properties will be approximately £23,625 (£45 per property) of which 40% are likely to achieve a C69 already due to known historical improvements. Therefore a further 208 properties could be recorded as being C rated already without the need for further works.

External funding to complete energy improvement works is very limited, previously the council could obtain funding from ECO (Energy Contribution Obligation) from the UK's main energy suppliers, irrespective of the EPC rating of a property. The rules have now changed and ECO 3 can only be claimed for social housing properties which fall into bands E, F or G. Even where a property is eligible for ECO, the measures may be limited and subject to certain criteria being met. Currently we are working with EON to ascertain whether Denbighshire can obtain any funding for our properties which have an E, F or G EPC rating. Other grant funding avenues will continue to be explored.

Denbighshire Housing Property Services Energy Programme 2019 - 2021

Project Workstream:	EPC Rating E
Spend Profile:	2020/21 - £350k; 2021/22 - £120k

<i>High Heat Retention System - Apr 20 - May 21</i>														
<i>Month</i>	<i>Apr-20</i>	<i>May-20</i>	<i>Jun-20</i>	<i>Jul-20</i>	<i>Aug-20</i>	<i>Sep-20</i>	<i>Oct-20</i>	<i>Nov-20</i>	<i>Dec-20</i>	<i>Jan-21</i>	<i>Feb-21</i>	<i>Mar-21</i>	<i>Apr-21</i>	<i>May-21</i>
Survey														
Specification & Tender														
Mobilisation														
Works on site														

<i>Heating Upgrades</i>														
<i>Month</i>	<i>Apr-20</i>	<i>May-20</i>	<i>Jun-20</i>	<i>Jul-20</i>	<i>Aug-20</i>	<i>Sep-20</i>	<i>Oct-20</i>	<i>Nov-20</i>	<i>Dec-20</i>	<i>Jan-21</i>	<i>Feb-21</i>	<i>Mar-21</i>	<i>Apr-21</i>	<i>May-21</i>
Survey	Defer to 2021													
Specification & Tender														
Mobilisation														
Works on site														

<i>External Wall Insulation</i>														
<i>Month</i>	<i>Apr-20</i>	<i>May-20</i>	<i>Jun-20</i>	<i>Jul-20</i>	<i>Aug-20</i>	<i>Sep-20</i>	<i>Oct-20</i>	<i>Nov-20</i>	<i>Dec-20</i>	<i>Jan-21</i>	<i>Feb-21</i>	<i>Mar-21</i>	<i>Apr-21</i>	<i>May-21</i>
Survey	Programme to be delivered over 3 yrs commencing 2022/23													
Specification & Tender														
Mobilisation														
Works on site														