

Wellington Warmer Homes (WWH)

Close Out Report & Future Strategy:



Report undertaken by:



November 19th 2018

1. Executive Summary:

In 2016 Taunton Deane Borough Council began a pilot scheme to identify and tackle some of the most energy inefficient and fuel poorest stock. With over 1,200 non-traditional properties in its general needs housing portfolio, this project was focused on improvements to the fabric of “hard to treat” (solid wall), “hard to heat” (off-gas) properties, with the aim of helping tenants to feel warmer and cosy in their homes at an affordable energy bill cost.

The homes chosen were located in Wellington, Somerset and were found to have latent building defects, whereby the incorrect insulation solutions had been installed under previous investment programmes. This needed to be removed, fixed and draught proofing measures also undertaken, by installing state of the art double glazed windows.

In addition, renewable and energy efficient heating schemes are being installed and the early signs are that these improvements are making a dramatic difference to tenants lives and back pockets. With an investment just short of £1.4m, The Council embarked on the project by tackling the worst EPC (Energy Performance Certificate) rated homes, where fuel bills were exceeding £1,600 per calendar year. This initial investment has helped to tackle 111 homes, with insulation; draught proofing and heating improvements with the learning used help future investment decisions to the remainder non-traditional stock.

Not only did we achieve the objectives, but we exceeded all expectations by controlling project costs during the project to such an extent that we were able to deliver a further 20 homes at no extra cost to the original contract sum. On top of this we were able to trade the carbon savings made to the properties to secure £144,000 cash back to The Council in the form of Government ECO funding.

The tenant feedback has been excellent and we are now monitoring the performance of the energy reductions to demonstrate the importance of having a fabric first approach and providing tenants with meaningful investment decisions, that is making a real difference to lives.

Kitchens and bathroom replacements are important but they are merely cosmetic when faced with ever increasing energy and utility bills, which in turn may impact on the ability of tenants to pay their future rent. We in turn are making considerable savings to the cyclical maintenance and responsive repair costs, by placing a protective thermal blanket of external wall insulation (EWI) to the properties.

This blanket helps to provide protection to the external brickwork and render and maintains a healthy fabric solution, which ensures the house is maintained to a lettable standard for the longer term, protecting the Councils revenue stream. In addition the reduction in damp, mould and condensation has been eliminated achieving future cost savings to responsive repair costs, in fixing these ever increasing problems.

The project has been a complete success and should now be monitored for the longer term and proof of concept should be translated into any new asset investment plans for the remainder non-traditional stock.

2. Purpose of report:

The purpose of this document is to provide a close out report on the success of the Wellington Warmer Homes projects and to help inform future asset investment strategy, for the remainder of Taunton Deane Borough Council's (TDBC) Non Traditional housing stock.



Fig 1. Completed properties in Kelway Road



Fig 2. Contrasting completed properties adjacent to private homes

3. Background information:

Over recent years, governments have introduced various programmes aimed at improving the performance of existing homes, from Decent Homes, CERT and CESP to ECO funding, with varying degrees of success.

One of the biggest criticisms levelled at previous retrofit funding programmes relates to how the money was spent and more specifically, how the big energy companies have managed their allocations of the schemes. Some in the sector felt the money was wasted and not targeted enough towards the key areas that have the potential to make the biggest difference to people's lives and how a properties thermal performance can be maximised.

While it is good to give residents new kitchens and bathrooms, if the fabric of the property is failing, then this should be considered a greater priority, since poor thermal performance or fabric condition increases the heat loss of the property and impacts greatly on the tenant's ability to pay fuel and utility bills. Installing new kitchens and bathrooms whose properties have poor thermal performance is the equivalent to sticking brand new engines in rusty old cars!

In 2016 TDBC appointed Low Carbon Expert to undertake a review of its fuel poorest stock, which identified a large percentage of properties (22%), whose construction was both non-traditional, poor fabric condition and sat off the gas network. This review identified the need for a fabric first approach to help tackle those properties likely to be the fuel poorest within the stock.

What did we do?

A decision was taken by TDBC to apply this fabric first approach to 111 non-traditional properties in Wellington, Somerset, in a bid to improve their thermal performance, eradicate damp and mould, lift tenants out of fuel poverty and future proof revenue streams for the worst properties for the Council. The project was titled Wellington Warmer Homes (WWH).

TDBC's WWH project was costed as a £1.4m refurbishment programme, initially to properties in Wellington Somerset (Phase 1) to a mixture of low-rise flats and house located in Gay Street, Humphreys Road, Lillebonne Close and Kelway Road. The estate was built in the post war period, during the 50s and 60s, when the country was in the midst of a housing crisis and speed of construction was the overriding goal.

The properties were of non-traditional system-built Laing Easiform properties, classified as hard-to-treat, with defective cavity wall insulation, the cavities only measure 45mm. They are not connected to the gas network, heat is provided by electric heaters. The homes were plagued by damp and mould.

Following inspection on other homes, TDBC surveyors were attributing these issues initially to tenant behaviour, not opening windows, trickle vents and covering up radiators, suggesting that residents needed educating, when in reality, the problem was not the tenants but stemmed from poor maintenance & latent building defects.

Fuel poverty was identified as a major problem. With poor performing structures, resident's money was literally being lost through the walls and gaps around the windows and doors. With old electric heaters serving the properties, heating the homes was identified as very expensive, with some tenants paying over £150 per calendar month to provide heating and hot water.

The council chose to tackle the underperforming homes by adopting a fabric first approach, installing new windows and applying external wall insulation (EWI) almost like a thermal blanket to improve the U-values of the existing structure, make the properties more airtight and reduce heat loss.

Positive Input Ventilation systems was also fitted to boost indoor air quality and a number of homes involved in the scheme will in future benefit from the installation of air source heat pumps. The cost per property of having these works done equates to approximately £10,000 excluding the heat pump works.

Consultant Steve Sheldon and principal contractor Low Carbon Exchange (LCX) were appointed to help TDBC deliver the project as a pilot scheme procured through an existing public body framework. The council consulted with residents before embarking on the scheme to get a consensus of the key issues.

The Council's overarching objective was to tackle fuel poverty. People's utility bills are still increasing and the Council are trying to do something about it. Poorly insulated and heated homes can have energy bills up to as much as £2,000 a year.

Homes that have been insulated effectively will see a significant reduction in their energy bills and the level of savings will depend on how efficiently the tenant uses their energy in the home. The pilot scheme set out to combat these problems and provide warmer and more affordable homes to live in.

An open day was held and the Council invited all the residents to attend and find out more about the project. On the day, LCX explained the build up of the EWI system and talked through the build up process. Residents were also shown CGI images depicting what the properties would look like once the work was completed.

Residents had other concerns about their homes and the estate in general, which were tended to by The Councils housing management team and property services staff. Works were undertaken over an 8-month period and the tenant feedback from 43 customer survey reports was either very good or excellent.

Prior to the Wellington Warmer Homes programme, the council properties were EPC E or F rated and residents were struggling to find a way out of in fuel poverty. The completed homes now achieve an EPC C rating, which is a significant improvement and will no doubt make a considerable difference to resident quality of life, not only by reducing fuel bills, but also by providing a better internal environment.

The scheme was delivered to all 111 properties for a cost of approx. £1,179,000 saving almost £200,000 on the anticipated costs, while in addition producing around £144,000 in ECO funding back into the business.

Given this saving, a further phase of works was added to the pilot scheme (WWH phase 1.5) and a further 20 Laing Easiform properties were treated with EWI and ventilation to the Priorswood area of Taunton. At the time of this report these works have now also been completed at no additional cost to the original cost proposal, The Council have effectively had an additional 20 properties insulated for nothing!

4. Client and Tenant Benefits:

The Council has collected feedback from 43 homes across both phases of work with comments received across all of the benchmarked items as very good or excellent experiences. TDBC are now collecting fuel bill data to compare this to previous fuel bill and utility costs, to measure and record the impact and benefits. We have significantly reduced the heat loss, the homes are warm and cosy and aesthetically pleasing from the outside and they look clean and appealing.

Due to the wrong insulation being installed during previous funding regimes, these homes were at risk of further fabric deterioration and may have impacted on the ability to let these properties in future years. This is of particular importance to both private and public body landlords given the imminence of the 2019 disrepair act being brought into future property letting legislation.

The SAP ratings of the properties have moved from low 40's to the high 60's/lower 70's, bringing them in line with the 2014 fuel poverty legislation targets, whereby minimum EPC bands were set out to be achieved.

In addition to energy saving impact for tenants, protecting the fabric of the buildings with a thermal blanket and protective coat has presented the potential for savings in future external and internal cyclical maintenance costs and responsive repair bills.

This has set the bar for non-traditional stock within the Council's housing portfolio and the learning provides a platform to tackle the remainder non-traditional stock (which totals some 1,070 properties) with a verifiable proof of concept method.

5. How can this benefit TDBC:

With the ECO funding (ECO3) now moving to a benefit led process, this will provide TDBC with an opportunity to capitalise on this process while maintaining all of the key objectives set out at the beginning of the pilot schemes.

Tackling the remaining non-traditional stock, will help reduce the Council's responsive repair bill in tackling damp and mould issues, which has equated to £100,000 over the last 2 years and will help to future proof the Council from any properties with the potential to fall into the disrepair act qualifying criteria.

Undertaking this now, or planning a strategy for implementation, will also assist the council to tap into available funding and reduce the capital burden, which inevitably will have to be found in future years but may not necessarily be supported by Government funding programmes.

A cost impact report for tackling the remainder of the Council's non-traditional stock has been previously prepared by Low Carbon Expert Ltd – see appendix 1.

6. The commercial opportunity & wider sector issue:

This project is considered pioneering from a Local Authority perspective, so much so that the project was featured in the national trade press publication "Local Authority Building & Maintenance Magazine". The project could be utilised to demonstrate to others the success and potential in treating non-traditional stock.

These types of works have previously been undertaken by other Social Landlords, who are now extending proof of concept to whole house energy efficiency solutions, in an attempt to replace older outdated decent homes models.

A commercial opportunity exists for both reduction in future years investment liabilities and wider section promotion of the solutions. TDBC can continue to be part of this process on either a formal or non-formal basis.

7. Integrating to future strategies:

It is now essential that the Council collect the data and learning from these pilot schemes, to integrate into future asset investment strategies and benchmark these properties against other non-traditional, yet to be treated properties.

This will help the Council to gauge a range of through life cost benefits, in particular reduction in responsive repair costs to properties experiencing damp, mould and condensation and the potential external savings for reduced cyclical maintenance fabric related costs.

Next steps

The next steps for The Council are to monitor and research the tenant benefits and impact on their fuel bill reductions and integrate the commercial opportunity that is available within our future asset management plan. This will help us to have a robust approach when it comes to tackling the remainder of our non-traditional stock in a cost effective manner.

Appendix 1

**Updated non-traditional stock
analysis for:**



Report undertaken by:



October 31st 2017

Updated Summary:

The following stock information provides an update on the non-traditional housing stock status for Taunton Deane Borough Council (TDBC), in relation to the Governments published Fuel Poverty (FP) targets. In addition, helping to identify the potential financial impact of delivering future energy efficiency investment works currently not budgeted for.

This report is aimed and helping to highlight those properties at greatest risk of not meeting the Governments fuel poverty targets and presenting the greatest risk to the business of future fabric failure, leading to potential re-letting issues, likely to affect future revenue receipts and business plan forecasts.

It also represents the greatest opportunity for the business to improve its current energy efficiency status, and help those tenants in greatest need of help by significantly reducing their fuel bills.

It should be noted that this updated data excludes the properties that have been identified as priority as part of the "Wellington Warmer Homes" (WWH) project and is also based on historical EPC and stock data received in late 2016, which we understand in part could be unreliable.

High Level Stock Analysis (As of Oct 2017 utilising 2016 data)

Total stock analysis:	5,802
Non- traditional properties:	1,277 (22%)
Non-trads below Fuel Poverty (FP) Target:	684 (53%)
Non-trads below FP & off-gas networks:	196
Wellington Warmer Homes Properties	107*
Revised properties below FP target	577**

* Excludes leasehold properties

** Subject to overlay of disposals and unsuitable properties

The 577 properties are broken down into the following construction types as follows:

30	BISF HOUSE
129	EASIFORM
240	CORNISHPRC
29	CONCRETE
21	REEMA PRC
3	SPECIAL PP
10	AIREY PRC
92	WOOLAWAY
22	TRU-STEEL
1	STANDERWIC

Future Energy Efficiency Investment Strategy:

We would recommend that prior to selecting any further non-traditional properties, for subsequent future phases of energy efficiency work, that full stock data and strategic analysis is undertaken on the following:

- Undertake a range of detailed surveys representative of this stock to determine the risk, suitability and viability to receive future improvements for hard to treat and hard to heat homes
- Overlay all of the historical business as usual (BAU) energy efficiency improvement works likely to affect a properties EPC status
- Review all existing EPC status of non-traditional stock and compare the revised data to FP targets
- Post surveys provide an update on the FP and cost impact analysis
- The disposal of properties likely to affect the impact (EG Woolaway's)
- Consider the impact of other planned programmes of work
- Consider other investment planning relevant to estate or community areas
- Review the vulnerability of tenants with the housing team and incorporate this within the decision making process
- Review current tenant rent and debt liabilities to TDBC to determine priorities
- Review and input from the original "Curtins" report
- Consideration of any imported lessons learnt from WWH

Budgeting For Future Capital Expenditure:

Without undertaking detailed PAS2030 and further specialist surveys, including structural and chartered surveyors reports to representative properties, it is extremely difficult to justify future capital budgetary expenditure plans and the funding potential.

However for non-traditional builds satisfying the "Ofgem" criteria of solid wall status, and able to receive solid wall insulation measures, the average cost to retrofit these properties is in the region of £10 - £15,000, including overheads, profit and prelims and +/- dependent on the following factors.

- Property footprint size
- Fabric status & other potential latent fabric defects observed from surveys
- Client preferred optional extras
- Construction anomalies (EG gables, outbuildings, boundary walls/fences, DPC levels, roof status)
- Part wall act potential disputes
- Other integrated programmes of work (windows & doors, heating)
- Extent of enabling works (attached services/utilities/customer owned equipment EG satellite dishes, gates and fences)
- Insulation and specification type (Grenfell Tower report may influence future insulation specifications)
- CDM status
- Conservation area status and specific planning application requirements
- Project size and professional support required
- The above costs normally excludes replacement windows, doors and heating programmes that may become more cost effective and less disruptive to integrate into insulative programmes of work
- Some properties may be unsuitable for External Wall Insulation (EWI) application and require an alternative hard to treat cavity solution

Over the last 4 years the Alliance Homes framework has recorded an average solid wall insulation cost per property of £12,500 across numerous geographic projects, including all client driven extras, building defect rectifications, ventilation improvements, overheads, prelims and profit.

If all Woolaway properties (92 No.) are excluded from future improvement works (disposal), and the remainder 485/577 properties are retained and qualify for solid wall/EWI improvement status; TDBC may need to set aside approx. £6m to tackle all non-traditional builds proven to have this status and suitable for this solution.

This may prove to be best-case scenario and would exclude BAU costs for replacement windows; doors, heating and other energy efficiency upgrade works.

It should be noted that the above stock analysis is based on the initial 684 non-traditional properties falling below the FP targets and/or off the gas network.

There remains a further 593 properties with non-traditional status, that are currently recorded as having an EPC status already meeting the FP targets. Should this prove not to be the case, once the EPC data is ratified, then there is the potential for these properties to also fall into the solid wall or system built uninsulated status, requiring consideration for future energy efficiency improvement works.

If these properties were retained and found to require an external insulation solution to meet FP targets, or require fabric improvements to maintain longer-term revenue streams, then up to a further £7.5m may be required to set aside, to improve these properties to modern day standards.

If it is TDBC's objective to identify future capital/revenue risk and cost certainty for all the current non-traditional stock, TDBC could commission further chartered surveyor reports, revisit the existing Curtins report and validate the EPC data against a good sample of properties representative of this type of stock. The costs to provide such reports, assess the business risks and better validate the cost certainty could be offset by the ECO funding likely to be realised from the Wellington Warmer Homes project.

Funding Potential:

Any property attracting solid wall status and receiving an EWl solution, could attract ECO funding to offset the capital investment costs. It should be noted that the following figures are based on 2016/17 quotations for the WWH project and may diminish as energy companies achieve their carbon obligation targets.

Property Archetype	Obligation/Funding		
	CERO	SWI	HHCRO (EFG)
3 Bed End Terrace	£1,501	£4,031	£5,792
3 Bed Mid Terrace	£722	£1,914	£2,746
Heating Type	Electric Storage Heating		
Construction	Easiform		

It should also be noted that while some of the above properties might well fall outside of the Governments FP targets, or indeed not be required to achieve the interim FP target status, current funding certainty for solid wall qualified schemes ceases at September 2018, with no current guarantee of future support beyond this date.

TDBC should consider expediting validation of their non-traditional stock data/EPC analysis, to maximise the potential to offset any future capital investment liabilities, if it wishes these properties to be a medium to long-term letting and revenue stream and benefit from any external support granted.

With this in mind and for clarity, the 485 properties highlighted in this report as falling below the FP targets, are broken down by their current recorded EPC status as follows:

F 15 (Don't meet the 2020 targets)

E 150 (meet the 2020 targets but won't meet the 2025 targets)

D 320 (meet the 2025 targets but won't meet the 2030 targets)

Procurement & Planning Works:

Once the stock and risk is validated, TDBC could utilise existing budgets, by deferring non-essential works and placing some of the required capital into the areas identified above, that are likely to have the greatest energy efficiency benefits to the business, its tenants and reduce the business risk liabilities.

TDBC are currently trialing a pilot project WWH utilising current existing frameworks, the learning from this pilot scheme and the benchmarking of costs/funding, should be utilised to gauge investment priorities into other non-traditional stock areas.

Monitoring & Management:

It will be essential to install an effective monitoring and management solution for the WWH project, to ensure effective future operational and strategic planning associated with non-traditional schemes.

This will include be not be limited to:

- EPC improvement benchmarking
- Achieving cost effective FP targets
- Measuring actual energy savings with tenant engagement
- Measuring the overall tenant experience
- Providing cost effective future procurement solutions
- Meeting business plan objectives
- Benchmarking of costs