

FCC Decarbonisation Status Briefing – November 2024

Decarbonisation & Energy Efficiency

Contents

- 1. Background**
- 2. Current status**
- 3. The Business case**
- 4. Costs**
- 5. Funding Options**
- 6. ECO4**
- 7. Summary**
- 8. Recommendations/ next steps**

New build homes are not covered in this report as they are already required to be compliant with current building code requirements for energy efficiency during construction.

This report focuses specifically on the Decarbonisation and Energy Efficiency of the HRA homes only, it is not the Council's overarching decarbonisation strategy.

This report relies on data and insight provided in a strategic outline case prepared on behalf of the Council by specialist consultants Capita, who worked closely with officers in preparation of a decarbonisation strategic outline.

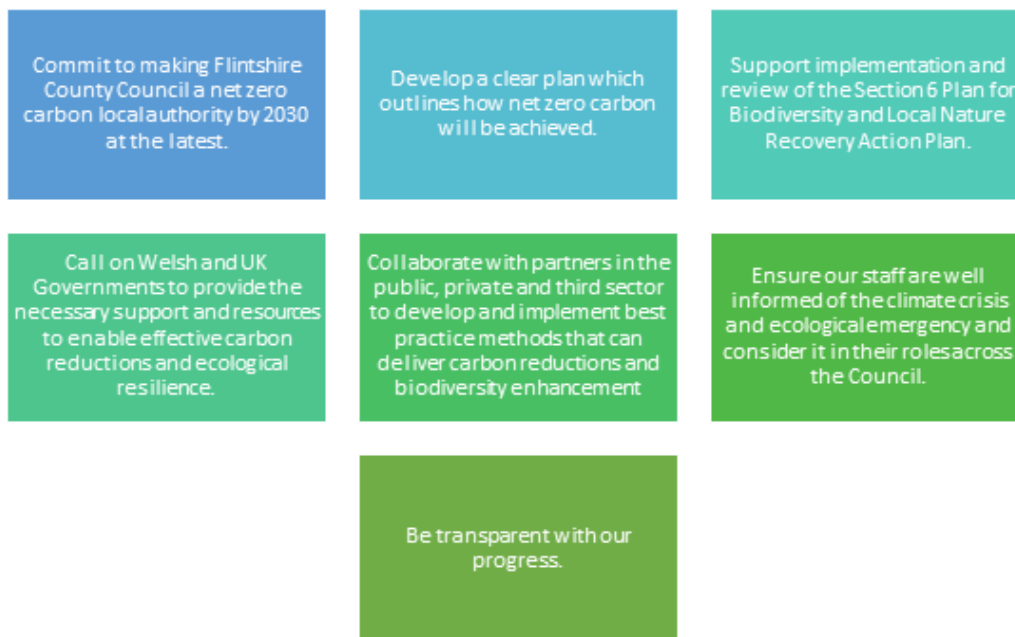


<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

1. Background

- 1.1 Welsh Government (WG) have declared a climate emergency. In support of a target to have Wales carbon neutral by 2050, WG had also stated an aspirational objective to make social housing carbon neutral by 2030.
- 1.2 WG set out a legal commitment in February 2021 for Wales to achieve net zero emissions by 2050. This followed recommendations by the Climate Change Committee (CCC) that the ambitions were attainable with coherent central policy and a nation-wide effort. This followed the CCC's previous advice in 2017, in response to which the Welsh Government declared a climate emergency in 2019, and the Covid-19 pandemic. The report concludes that, while emissions are falling and policy is improving, there are significant strides that need to be taken to secure a cohesive strategy for achieving net-zero by 2050. At the time the report was issued, Wales was not on track for an 80% reduction target. As such, policy has shifted towards promoting a green and sustainable future, investing in net-zero programmes.
- 1.3 In response Flintshire County Council have pledged to:



<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- 1.4 Carbon neutral is not a clearly defined target. There are two broad definitions relating to residential property - On Site Carbon Neutral & Carbon Neutral Ready, there are very significant cost variances in terms of these definitions.
- a) On site carbon neutral means the building is energy self-sufficient and therefore independent to the power network supply grids. Estimated costs to achieve this standard (if it is even possible) are estimated at around £80k per home or to put this in full context circa 7,300 homes at £80K each would require funding of £584m, this would be on top of the existing Council Business Plan.
 - b) Carbon Neutral Ready means the property is made as energy efficient as practical and relies on a carbon neutral grid being available at a yet to be confirmed date. The anticipated costs are a more realistic £15,000 per home in addition to Business as Usual (BAU) investment budgets.
- 1.5 As stated under the contents section. New build homes are not covered in this report as they are already required to be compliant with current building code requirements for energy efficiency during construction. The significant challenge for the Council is therefore in the context of improving the energy efficiency and reducing carbon emissions in existing older homes which form the vast majority of the stock. This process is described as Retrofit.
- 1.5 Retrofit is controlled by the nationally accredited PAS 2035 process and recorded and validated via Trustmark who have been appointed by WG to ensure quality and consistency. This is a set of standards under which each property is subject to a Retrofit Assessment (RA) survey. This is a detailed survey covering the build type and current condition and the thermal performance of the existing fabric (roofs, walls, floors, windows and doors), the efficiency of the heating system and ventilation capacities.
- 1.6 Based on a property specific RA, each property has a property plan which identifies the Energy Efficiency Measures (EEM's) required to bring each property to the required standard.
- 1.7 While encouraging innovation and use of renewable technologies, WG have issued overarching instruction to first do no harm in the context of mitigating rather than exacerbating fuel poverty by taking a fabric first approach to Retrofit.
- 1.8 Fabric first is therefore fundamental to the recommended approach and delivery planning set out in this document.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

2. Current Status

- 2.1 Working with specialist consultants, Officers had been preparing this Decarbonisation (Decarb) strategy for the consideration of Cabinet. Based on WG objectives and FCC pledges, this was focussed on the reduction of Carbon Emissions as a main aim and reporting measure, this document supersedes the draft Decarb Strategy.
- 2.2 Three types of carbon emissions have been considered in the context of the Council's housing portfolio:
- a) Embodied carbon – this is the carbon dioxide and greenhouse gases produced in the creation of building fabric and the construction of the property
 - b) Operational carbon – the CO₂ produced by buildings as a result of daily use
 - c) Whole life carbon – the sum of CO₂ across the entire building life cycle, from design, throughout use and to demolition.
- 2.3 Operational carbon is the focus when looking at decarbonisation and retrofitting existing properties, as it is this metric that has a direct impact on fuel poverty.
- 2.4 During the research, development and drafting of the Strategy, world events and high volatility in the energy sector led to extraordinary energy price increases with a far-reaching impact on the levels of fuel poverty in the County and in FCC social housing in particular.
- 2.5 Decarbonisation and Energy Efficiency are not necessarily the same thing but mutually complimentary. By making buildings more energy efficient it is reasonable to expect the energy used to reduce and where the property is using a fossil fuel-based energy supply then carbon emissions will be reduced. This equation is therefore fundamental to the recommended approach and delivery of the Council's decarbonisation investment.
- 2.6 The focus of this report has therefore, by necessity, realigned to meet the critical need to mitigate fuel poverty by implementation of energy efficiency measures (and therefore carbon emissions reductions) via a coordinated retrofit programme to the Council's housing stock.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- 2.7 Delivery of this approach will significantly reduce carbon emissions/energy usage in relation to the climate crisis, alleviate fuel poverty, and embed opportunities for economic development in terms of training and employment with a focus on opportunities in the foundational economy within the delivery of the Council's programme.
- 2.8 In the draft guidance for WHQS.2, WG had set energy efficiency targets in the format of Energy Performance Certificates (EPC's) and by setting goals of average EPC C by 2028, EPC B by 2030 and EPC A by 2033. These have been removed and instead it is expected that the Council will, within three years, submit programme proposals to bring the Councils residential homes to EPC A (Net Zero) by 2050 with an interim target of EPC C.
- 2.9 The EPC band is set using a point score system called the Reduced Data Standard Assessment Procedure (RDSAP). This score is calculated by nationally standardised software to model and calculate a point score for the overall energy performance of the stock. The scores equate to EPC bands, the higher the RDSAP score the higher the EPC rating, the highest being EPC A.
- 2.10 To inform the strategy, a full assessment of current RDSAP - EPC performance, and cross references to previous and planned improvements to the Councils homes has identified properties with very poor performance - EPC E and below, average performance EPC C & D, and high performing properties at EPC bands A & B.
- 2.11 The average energy rating for Council homes is currently EPC C. The majority of the stock is therefore currently within the average performance range. This is because of the successful delivery of the Council's Welsh Housing Quality Standard (WHQS) programme completed in December 2021.
- 2.12 Not all FCC homes have an EPC as these were only required to be carried out after renewable energy improvements or at void management stage as part of the letting process.
- 2.13 FCC is relatively well placed with a higher than average EPC coverage and officers are working towards 100% of homes having an EPC to further inform the decarbonisation / energy efficiency investment strategy and eligibility for supporting grants. With this goal in mind, officers have instructed completion of EPCs to all homes by the end of this financial year.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- 2.14 To establish a delivery strategy, it is critical to understand the current status of the council homes in terms of energy performance in conjunction with previous investment and planned continuation of the Council's WHQS programme.
- 2.15 Including 85 leasehold flats, the Council owns and manages a total of circa 7,300 general needs and sheltered homes. In the winter of 2021 works under WHQS were completed with the Council undertaking all necessary works to bring the stock up to standard by the WG deadline. The Council completed WHQS whole house external improvements and refurbishments including key building components (chimneys, roofs, roofline, walls, structural repairs, outhouses, windows and doors) to 2,220 homes to achieve the target. This is further approximated as follows:
- There are 4,000 houses of which 1,500 have had previous external improvement works under WHQS.
 - There are therefore potentially 2,500 houses needing whole house external improvements over the next 30 years of the business plan.
 - There are 1,500 flats, of which 400 have also had external improvements completed.
 - There are therefore 1,100 flats (including leasehold) needing future external improvements over the next 30 years.
 - There are 1,800 bungalows, of which 300 have had external improvements completed.
 - There are therefore 1,500 bungalows needing future external improvements over the next 30 years.
- 2.14 In summary, 2,200 FCC homes have WHQS external improvements completed, 5,100 homes are pending future investment under WHQS.2. These totals are significant in respect of plans to achieve the new EPC performance targets set out in the draft guidance for WHQS.2 and define two linked challenges – meeting the EPC energy efficiency targets on future programmed works (WHQS.2) and retrospectively bringing the previously improved homes up to the same standards.
- 2.15 It is worth noting the energy efficiency performance target under WHQS criteria was defined under SAP 2005 to achieve SAP 65 or above equivalent to EPC D - C by 2021, FCC homes achieved this overall performance target at that time.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

3. The Business case

- 3.1 The existing investment programme is based on a stock condition survey, which estimated the timely renewal of the key external components, based on the age and condition of these elements when set against the WG guidance for the anticipated lifecycle of each key component - roof tile, pointing, windows & doors. This survey estimated the renewal dates for each property and in effect created a pathway for each property to achieve or maintain compliance with the WHQS standard.
- 3.2 The Council identifies this future investment need by means of an annually prepared 30-year business plan. The business plan details the number of homes needing improvements over the timescale of the plan multiplied by the average cost of renewal for each component. Based on current costs the average unit rate to complete external enveloping works is £18,500. This is reflected in the Council's current business plan and is considered to be the business as usual (BAU) HRA investment plan.
- 3.3 The BAU commitment was therefore a sustainable £94,350,000 for the 5,100 homes pending external refurbishment works at £18,500 per unit or £3,145,000 per annum when smoothed over the thirty years of the business plan.
- 3.4 To buffer the additional costs for the new decarbonisation / energy efficiency targets consistent with FCC pledges and WG guidance under WHQS.2, BAU budgets have been successfully utilised as match funding to attract support from WG under the eligible costs criteria for the Optimised Retrofit Programme (ORP) grants. Based on bids submitted by the Council, officers have been successful in securing grant funding of £7.64m which has been awarded to Flintshire via the ORP2 & ORP3 funding rounds.
- 3.5 The £7.64m has been allocated to support pilot projects integrating energy efficiency grant funded measures alongside the planned WHQS external programme. This allows the Council to invest these specifically targeted funds by blending the grant with existing BAU budgets and contracts with further efficiency in delivery by encompassing the additional works in the work of the existing staff resource, supported by specialists.
- 3.6 The integrated approach requires extensive additional enabling and monitoring under the PAS2035 (this is the retrofit survey, design, evaluation and recording standard for Wales). Assessors and Coordinators must be PAS2035 accredited.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

The PAS 2035 specialists ensure compliance with WG standards and that all costs for energy efficiency/decarbonisation enabling and measures are grant eligible.

3.7 Based on an initial FCC brief issued to expert consultants in response to the WG target to make all social housing carbon neutral by 2030. The first in depth assessments identified high costs with estimates ranging from a minimum £60k - £80k for on-site carbon neutral homes (if practical).

3.8 In a strategic outline case study, the following high value energy efficiency/decarbonisation measures were considered essential to meet the carbon neutral target:

- Ethically sourced and manufactured Solar Voltaic Panels (£3,790 average per property)
- Ethically sourced and manufactured battery storage (up to £15k per home including safe external storage facilities)
- External Wall Insulation (up to £20k - £25k per home)
- Renewable space and water heating (£10k per home) Air Source Heat Pumps (ASHP)
- Underfloor insulation (£5k per home not including suitable decant arrangements)
- Positive Mechanical Ventilation with Heat recovery (MVHR - £5k per home)
- 100% property coverage for the installation of Intelligent Energy Systems at £2,950 per home
- Loft Insulation (£420 average per property)
- Low energy lighting (LED Lamps) £52 per property
- PAS 2035 compliance (Retrofit Survey and Coordination) (£415 per property including final accreditation with Trustmark)
- Local energy grid upgrades (significant costs circa £30k per sub-station and currently being passed to installers) provisional sum allowance £150 per property assuming 200 properties per sub-station
- Provisional sums for heating upgrades where properties do not have the latest high efficiency condensing combi gas boilers £1,000 per property noting these are already fitted the majority of homes but are set to become unavailable after 2026 in line with current regulatory changes
- Total estimated average £68,777 per property (EEM's only)

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- 3.9 Note that of the measures listed above EWI offers a modest EPC increase compared to new CWI. While renewable heating (ASHP) and MVHR would have a negative impact on EPC ratings. Battery storage is not yet included in EPC modelling and is troublesome in terms of ethical concerns and fire safety. These high-cost measures would therefore offer little return on investment or be negative in terms of contribution to the Council meeting the WHQS.2 targets.
- 3.10 By contrast, data from the pilot projects supports a more pragmatic essential EEM's approach and a more realistic cost which is estimated at an additional £13.5k for FCC homes to be Carbon Neutral Ready. This approach has lifted the current rating for the pilot project homes from EPC D - C to EPC B - A, making them highly energy efficient and with minimum carbon emissions pending the introduction of a carbon neutral energy network.
- 3.11 The Carbon Neutral Ready approach is based on Retrofit Assessment models and actual monitoring reports (SIMAX Portal) for FCC properties in the pilot projects.

Subject to a property specific RA to every home, the following measures are proposed:

- Ethically sourced and manufactured Solar Voltaic Panels (£3,790 average per property)
- Loft Insulation (£420 average per property)
- Clean and refill with modern bead type Cavity Wall Insulation (£4,832 average per property)
- Partial External Wall Insulation (Single leaf extensions only) (£1,210 averaged over all properties)
- Low energy lighting (LED Lamps) £52 per property
- 50% property coverage for the installation of Intelligent Energy Systems at an average equivalent of £1,475 per home
- PAS 2035 compliance (Retrofit Survey and Coordination) (£415 per property including final accreditation with Trustmark)
- Provisional sums are needed for heating upgrades where properties do not have the latest high efficiency condensing combi gas boilers £1,000 per property; noting these are already fitted in the majority of homes, but are set to become unavailable after 2035, in line with current regulatory changes.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

Total average is £13,500_per property (Energy Efficiency only) based on the pilot projects. Actual costs may vary as works to different property archetypes are undertaken but is a reasonable benchmark.

4. Costs

- 4.1 Having set out the key property condition status, energy performance data and indicative costs for each energy efficiency/decarbonisation measure in the Business Case, consideration must be given to timescales and estimated overall costs. This has immensely significant implications in terms of the profile of potential Council expenditures.
- 4.2
 - 4.2.1 It is critical to note that while the WHQS.2 draft guidance, that defined the timescale to achieve the target of all homes achieving EPC A by 2033, has been removed. It is replaced by concerns that with the Council's existing business plan set against a 30-year cycle of investment this implies a requirement for some tenants (Contract Holders) to wait 30 years for energy efficiency improvements. This approach might hit the overarching energy efficiency and decarbonisation target set by WG; however, serious consideration needs to be given to public opinion with reputational and social concerns being major risks alongside a potential long-term running cost inequity in terms of quality of homes on offer.
 - 4.2.2 10 years may be more palatable as a cycle of decarbonisation investment to tenants. In effect this would compress the Councils planned external refurbishment expenditures from the 30 years anticipated in the business plan to 10 years. In addition, the EPC A target also means previously completed work under WHQS will now fail the EPC target and, therefore fail WHQS 2023.
- 4.3 Two main streams of work emerge from the business case data. For the purposes of this report these are identified as WHQS Retrofit and WHQS.2 respectively.
- 4.4 To mitigate additional costs for site establishment (preliminary costs made up of site storage, welfare, site management and scaffolding) it is critical to integrate the EEM's works with the WHQS external works programme. In addition, efficiencies can be made, for example, by integrating solar panels in the roof covering, reducing the amount of slate or tile if this approach is taken. If the solar panels are fitted first they would need to be removed and reinstated after the roof is renewed doubling the fitting costs.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- 4.5 Based on the integrated approach and the above business case estimates, funding requirements are as follows based on a ten-year spending profile:
- WHQS.2 building refurbishments - £94,350,000 (£9,435,000 per annum)
 - Matching Decarb/EEM's - £68,850,000 (£6,885,000 per annum)
 - WHQS.2 Retrofit building refurb - £7,700,000 (£770,000 per annum)
 - Retrofit Decarb/EEM's - £29,700,000 (£2,970,000 per annum)
- 4.6 WHQS.2 & WHQS Retrofit will therefore require combined expenditures of £200,600,000. This equates to £20.6m per annum for each of the next ten years for blended refurbishment and decarbonisation works.
- 4.7 The Council has identified an average of £5.9m per annum in the short term for external refurbishments leaving an annual shortfall of £14.16m if this work is integrated in the business as usual expenditures and operations of the programme and becomes a strategy supported by the Council.
- 4.8 Housing and assets would not be able to deliver the programme with the existing staff structure, however, if the current allowance of 6% of capital expenditures, which supports the salaries and costs for Housing and Assets were extended to reflect the revised capital expenditure forecasts, then this fee would cover any necessary recruitment and interim expansion of staff resources. Currently estimates at two additional teams each comprising of a contract surveyor, a contract inspector and a tenant liaison officer.

5. Funding Options

- 5.1 The shortfall in anticipated budgets is set out in the previous costs section. Discussions with WG have so far been limited to pilot projects and WG capacity to support EEM's as a form of match funding to the Council's investment programme BAU expenditures with WG's Optimised Retrofit Programme (ORP).
- 5.2 This initial funding approach is not viable in the long term. So far the Council has been successful in being awarded two allocations of grant. An initial £2.94m under the ORP2 programme and a further £4.6m over the years 2022, 2023 and 2024.
- 5.3 Further discussions are planned with WG to review opportunities for additional grant to match the limited existing BAU budgets and to maintain the momentum of the pilot projects.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

5.4 In order to implement the retrofit solutions discussed above, the funding approach needs to be considered. There are several options available to the Council, namely:

- Option 1 – 100% Grant Based Funding Solution, Matching Zero Carbon Timeline
- Option 2 – 100% Grant Based Funding Solution, Aligned with Business Plan
- Option 3 – Private Funding Solution and Grants
- Option 4 – Private Funding Solution with New Build Support

5.5 A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of the potential funding solutions is set out below:

Funding Option	100% Grant Funding by 2030	100% grant funding but business plan alignment	Private funding + grants	Private funding + grants + new build support
Requirements	PAS 2035 certification			
	ORP Reward of £2.985m for 196 properties, scaled up for entire housing stock required £105.8m at £30.5k per dwelling (assuming 50% match funding)	Based on ORP reward but on a delayed timeline would result in a required grant funding allowance of £52.9m with 50% match funding	Private placement solution from eco-lender Fund covers costs of development in exchange for leasehold over the properties across a fixed period of time	As with previous but with a privately funded new build housing introduced to generate additional income for the programme, supplementing grant and private monies for retrofit solutions while also meeting new build housing targets
Strengths	Reduced risk for FCC as backed by Welsh Government directly across the stock		Strong appetite in the funding market to support Standard RP practice	Additional supplementary income from new build development Standard RP Practice
Weaknesses	Unlikely to achieve based on rate of grant funding currently available. Still reliant on match funding by Flintshire to deliver	Will not reach net zero by 2030 as staggered slower pacing of retrofit measures	Risk to the Council putting their covenant on the line during the construction period if costs overrun	Additional costs for new-build development
Opportunities			Right to repurchase the lease for the	Meet wider housing delivery targets that are

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

			properties at the end of the period, returning rental income to the council	also zero carbon; potential to use new build properties to decant residents where necessary during intrusive works
Threats (Risks)	Risk of not being awarded funding	Risk of not being awarded grant	Reputation – thorough background check of funder required	Reputation

Option 1 – 100% Grant Funding Solution 2030

- i) In order to pursue a 100% grant funded solution and for grant to be awarded PAS 2035 certification is required. Assuming a similar rate of a grant reward to the ORP pilot programme, £2.985m was awarded for 196 properties, with match funding from Flintshire to total £5.970m. Scaling this up for the entire housing stock on the basis of £31k per dwelling, grant funding of £105.8m would be required over the next 10 years, assuming 50% match funding from the Council (this would further increase if additional retrofit measures and further fabric work was implemented [to achieve onsite net zero], with cost per dwelling increasing to a potential £80k the grant funding requirement would steeply increase to £284m for the entire stock).
- ii) Based on the current rate of grant funding opportunities in Wales, assuming ORP levels of funding and assumed success of Flintshire in being awarded all monies, this would take 35 years, making it highly unlikely the stock would be able to reach EPC A by 2050. Net Zero would only be practical with a carbon neutral energy supply grid.

Option 2 – 100% Grant Funding, Business Plan Timescale

- i) As a means to reduce grant funding requirements the Flintshire Housing Revenue Account Business Plan¹ has been reviewed to determine the rate of retrofit interventions projected over the next few years. The HRA has a programme of works to ensure FCC's stock continues to maintain the current Welsh Housing Quality Standard (WHQS), improving properties at a rate of c.300 dwellings per annum.

¹ Flintshire Housing Revenue Account: Annual Business Plan and 30 Year Financial Forecasts, Flintshire County Council, 2020-21

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- ii) As such, at 300 dwellings per annum less than 2,000 properties would be retrofitted by 2030. While this reduces the strain on grant funding requirements it results in not achieving the Welsh Government target of reaching net zero by 2030 or the WHQS.2 target of EPC A by 2050. Again, Net Zero would only be practical with the transformation to a carbon neutral energy supply grid.

Option 3 – Private Funding and Grant

- ii) An alternative to 100% grant funding solution is to also pursue a private placement solution from eco-lender where the fund covers the costs of the development in exchange for a leasehold over the properties across a fixed period of time.
- iii) The Council would enter into a bond arrangement with a funder, having tendered the process competitively. The Council would receive a range of capital sums locked in at a fixed rate of interest across a period of 25-40 years and could defer the taking of funds to suit its development programme and capacity. The bond would be serviced by income from the housing rental receipts.
- iv) Initial anonymous conversations with potential funders have shown strong appetite in the market to back a large scale retrofit solution across housing stock that match the scale of Flintshire's social housing.
- v) The main source of funding being privately placed reduces the overreliance on grant funding. Assuming the ORP funding rate per annum is made available by Welsh Government, by 2030 c.£23.88m could be awarded. This would help support 780 properties at £31k per dwelling, as per the interventions noted within the ORP application, or c.300 properties based on the c.£80k per property outlined within the indicative upgrade path above.
- vi) Further scoping is required to understand the potential ratios between grant and private funding in the case of the retrofit strategy and modelling to ascertain the ability to service the borrowing. However, this combined approach is deemed to be the most deliverable funding solution given the commitment to 2033 (in terms of and acceptable cycle of investment), based on grant funding and the strong appetite in the financial markets to support council-led retrofit housing programmes.

Option 4 – Private Funding, Grant, and New-Build

- i) There is an additional option to supplement income with the delivery of zero carbon new-build homes as a means to meet housing demand, with the option to decant tenants into the new build properties during any intrusive works that may arise.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- ii) This would be the least viable option due to complexity and uncertainty of delivery and therefore the unreliability of cost modelling.

6. ECO 4

- 6.1 The business case above sets out the context for the financial and resource efficiency of accelerating and enhancing Energy Efficiency and Decarb works as an addition to the business-as-usual committed budgets and resources in a programme linked to the FCC stock condition survey and planned WHQS programme. The planned programme is a pathway to broad compliance with the WHQS targets. To date it has not been linked to EPC performance so this strategy does not need to include EPC status as a factor in prioritising properties in the running order, instead as discussed above, all homes will reach the WHQS standard upon completion of the programme.
- 6.2 It should be noted that current EPC data has so far identified an initial 321 FCC homes below the stock average EPC C-D. These are considered to be the worst performing homes in terms of energy efficiency and carbon emissions. Priority for EEM's is therefore necessary under both fuel poverty and emissions reduction targets.
- 6.3 Noting the urgency to improve the 321 homes as quickly as possible a further grant opportunity has been identified. Recently implemented and funded from the energy providers Green Levy this is the ECO4 initiative. This is immediately available and is specifically targeted to all FCC homes with an EPC status of E or below, this is the ECO4 grant.
- 6.4 ECO4 applies to all homes including social housing homes but only at EPC E or lower, it is intended to appoint the incumbent Heating and Renewables contractor to manage and deliver ECO4 funded works including the property grant applications under the supervision of FCC's Energy Team.
- 6.5 Utilising the existing links to the private sector developed by the FCC Energy Team and the Heating and Renewables Contractor, the ECO4 initiative will be extended to private homes and private sector social housing landlords operating in Flintshire.
- 6.6 By appointing the Heating and Renewables Contractor as managing agent for ECO4 mitigates any risk to the Council in terms of the grant applications, non-compliant applications can be declined. Obtaining the correct level of grant to fund the EEM's will be at the contractors' risk in what is a highly complex and precise process.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- 6.7 The overall strategic delivery, scope and performance of the ECO4 funded works will be managed and monitored by Council energy officers under the recently procured heating and renewables contract.
- 6.8 It should be noted that the ECO4 grant funding is estimated against the future household energy usage and the amount of savings energy efficiency measures will deliver over the life of the energy efficiency improvements. The majority of properties will save more on energy than the cost of the measures to supply and install, particularly in the private sector where the equation is more generous. All of these surplus grant funds will be passed to the Council to offset any shortfall on grant to Council homes. In practice therefore the ECO4 programme is expected to be entirely self-funding with any surplus being available to invest in further EEM's to the Council homes.

7. Summary

- 7.1 WG have declared a climate emergency and a legally binding commitment to the decarbonisation of Wales. The decarbonisation and optimum energy efficiency of the Councils housing stock presents a significant technical, logistical and funding challenge.
- 7.2 This report sets the context of these challenges on the basis of existing stock condition, carbon emissions & energy performance, the new targets being set by WG and the cost to the Council in terms achieving the targets and compliance with WHQS targets and related regulations.
- 7.3 Subject to a suitable funding solution being identified, blending the energy efficiency improvements with an accelerated WHQS programme including retrofit of properties already completed, offers a pragmatic and cost-effective route to compliance with the EPC targets.
- 7.4 The current availability of public funding means it is unlikely that a wholly grant funded solution would be achievable. As such, a combined approach of Council BAU budgets, government grant money and private financing is the recommended way forward; based on advice there is ample support in the market.

8. Recommendations / next steps

- 8.1 Officers are authorised to extend the principles being established on the pilot projects to the external improvements programme utilising the Councils BAU budgets to match fund WG decarbonisation-based grants in the short term.
- 8.2 Officers are authorised to explore and develop funding options as set out in this paper in more detail.

<https://gov.wales/written-statement-wales-pathway-achieve-net-zero-emissions>

<https://gov.wales/sites/default/files/publications/2021-10/working-together-to-reach-net-zero-all-wales-plan.pdf>

- 8.3 Officers are authorised to utilise the incumbent Heating and Renewables contractor as managing agents for the ECO4 initiative.
- 8.4 Void standards are reviewed to establish if EEM's can be incorporated to mitigate disruption to tenants and allow for disruptive measures, sub-floor insulation being the best example.
- 8.5 Procurement of related training for the Tenant Federation, relevant Members, Housing Assets and Maintenance and the wider Housing portfolio.