

Communities Scrutiny Commission

7 December 2020



Report of: Julian Higson (Director of Housing and Landlord Services)

Title: Decarbonisation of Residential Properties

Ward: City-wide

Officers Presenting Report: Gillian Durden (Head of Planned Maintenance), Hannah Spungin (Programme Manager, Energy services) and Alex Minshull (Sustainable City and Climate Change Manager)

Recommendation:

Scrutiny Commission notes the progress and plans for decarbonising homes in the Council Housing and Private Sector



1. Summary

This report provides an update on our commitment and progress towards improving the energy efficiency of our Council Housing and private sector housing stock in the City, alongside our aspiration to bringing performance of stock to net zero carbon by 2030. The briefing will set out our achievements so far and our current and future plans including estimated required investment and outlined initiatives.

2. Background – policy and government funding

- 2.1.1 The Climate Change Act and subsequent decisions by Government have resulted in a statutory UK target for net-zero carbon emissions by 2050.
- 2.1.2 In February/March 2020 the Mayor and One City Partners adopted the [One City Climate Strategy](#). This includes the goal of making Bristol carbon neutral and climate resilient by 2030.
- 2.1.3 Carbon emissions from homes accounts for 38% of the city's direct emissions¹ - approximately 27% from gas and 11% from electricity. Gas is used to heat approximately 95% of homes. From 2005 to 2018 there was a 23% reduction in emissions from gas, compared to a 20% reduction nationally.
- 2.1.4 The analysis undertaken for the Climate Strategy identified the need to cease burning of gas to heat buildings in the city.
- 2.1.5 The One City Climate Strategy sets out objectives to:
- cease the installation gas boilers in new buildings,
 - insulate existing buildings to reduce heat demands, and
 - replace every gas boiler in the city with either:
 - an individual air source heat pump
 - a connection to a suite of new heat networks, supplied by large heat pumps.
- 2.1.6 The strategy identified that capital investment of approximately £3 billion would be needed to decarbonise heat in the city. In addition, we would need substantially more renewable electricity generated nationally to both decarbonise the existing supplies and provide the additional supply need to meet heat requirements. Improvements to the national and local electricity supply network would also be needed.
- 2.1.7 In 2014, the government introduced in legislation a fuel poverty target for England to improve as many fuel poor homes as is reasonably practicable to a minimum energy efficiency rating of Band C, by the end of 2030. As such the majority of funding for energy efficiency improvements in private sector houses is aimed at those in fuel poverty.
- 2.1.8 To help achieve the objectives of the climate strategy we are developing a Heat Decarbonisation Plan, for publication in 2021. This plan is being informed by several existing and new studies:
- [The evidence base for the One City Climate Strategy](#)
 - An assessment of BCC Council Housing and options for achieving a carbon neutral stock.

¹ The term "direct emissions" is used to refer simply to Scope 1 and 2 emissions in the Greenhouse Gas Emissions protocol and include the use of electricity and gas and local transport emissions.

- Demonstration of Energy Efficiency Potential Project – an on-going project funded by the department for Business, Energy and Industrial Strategy. This study is expected to report in June 2021, and includes non-domestic public buildings and council housing.
- 2.1.9 The [City Leap Energy Partnership](#) project is currently procuring a strategic partner to deliver a substantial programme of investment in sustainable energy. This will create future opportunities for investment in infrastructure such as district heating and in energy efficiency and low carbon heating solutions for homes. It is currently expected that City Leap will be operational by the end of 2021.
- 2.1.10 Currently homes are being built to the adopted local plan standards. A new local plan is in development and is anticipated in 2023. We will develop the evidence base for new policies on carbon emissions as part of this plan, subject to any changes to the planning system which may arise in the meantime. In the meantime the council will refresh its standards for new build homes in its own control, taking into account the capability of the industry to deliver, cost and carbon emissions.
- 2.1.11 The Government has recently announced a number of policies and measures which will assist, to a limited extent, with the achievement of the objective of the climate strategy in respect of home heating, and a Heat and Buildings Strategy is expected from Government next year.
- 2.1.12 In the Chancellor's Summer Statement the Government announced funding which supports decarbonisation of heating in homes, specifically:
- Social Housing Innovation Fund – A £50m fund to fund pilot projects in 2021 – see para. 3.3.1 for more details of the Bristol bid.
 - Green Homes Grants direct to householders – A £1,500m fund providing vouchers of up to £5,000 or £10,000 for low income households for specific measures.
 - Green Homes Grants English Local Authority Delivery Scheme – A £500m fund to implement the same measures as above, but delivered through Local Authorities – see para. 4.2.3
- 2.1.13 Decarbonisation of home heating is being progressed with close collaboration between council services, in particular Landlord Services, Energy Service, City Leap team and the Sustainable City and Climate Change Service.

3. Council Owned Homes

3.1. Background and key information:

- 3.1.1. The One City Plan and the UK Clean Growth Strategy, set similar targets for all council homes to reach a minimum of EPC (Energy Performance Certificate) 'C' within the next 10 years.
- 3.1.2. Good progress has been made over the last 17 years in improving the thermal efficiency of our homes, and our average Energy Performance Certificate (EPC) rating compares favourably with other large stock owning authorities. Our focus has been getting the basics right, in uplifting the EPC ratings of our stock and in helping our tenants out of fuel poverty and preventing tenants from become fuel poor.
- 3.1.3. In order to succeed in achieving our targets of both EPC 'C' and net zero carbon by 2030, we recognise the need for trial, research and evaluation prior to any roll out solution. The challenge ahead is complex and we understand that there is a risk to our tenants and their

susceptibility to fuel poverty if managed incorrectly. At present, the cost for gas per unit remains significantly lower than electricity, therefore a move from gas to renewable heat sources needs to be planned alongside other measures such as PV generation or improved insulation works to avoid additional risks of our tenants falling into fuel poverty and increased cost to them to heat their homes adequately.

3.2. Progress to date:

3.2.1. Over the past 15 years, in response to the requirement for social housing to meet the Decent Homes Standard and an increasing awareness of the causes and effects of fuel poverty, Bristol City Council has invested significantly in its homes to improve the heating type, insulation and overall thermal efficiency.

Measure installed	As at 2003	As at 2019	Comments
Double Glazing	28%	98.9%	
Condensing boiler	<1%	95%	% of properties with individual gas heating
Cavity wall insulation	11%	98%	% of houses/HT flats with fillable masonry cavity walls
Loft insulation (>=200mm)	8%	91%	% of dwelling with lofts

3.2.2. How are our homes performing?

To assess Energy Performance ratings of our homes we use the SAP (Standard Assessment Procedure) and have ratings on around 97.5% of our homes. SAP ratings give the expected energy performance of the property, by using property data input into the calculation.

Our average SAP rating is 70 – EPC banding C.

Banding 'C' covers 69 – 80 SAP points. Changes in calculation methodology occur periodically and this year we have noticed that around 1000 of our properties have now been downgraded to below EPC C due this recalculation (rather than any changes we have made to the property). Whilst we will investigate the impact of this latest change and plan our remedial action this does assert our increasing vulnerability to changes within the calculation methodology and the difficulty it brings to achieving EPC 'C' or above within our programmes of work.

We are continuing to target improvement works at the most poorly performing properties, and working with those households who have previously refused improvement works to their homes.

Our homes in EPC bandings (October 2020)

EPC band	Numbers of Council Homes
A	5
B	232
C	18,159
D	7,607
E	320

F	8
G	0
Blank (no information)	626

Bristol compares favourably to other large stock owning authorities - see table below (figures taken from 18/19 Local Authority Housing Statistics)

Local Authority	No of assets 18/19	Average EPC band rating 18/19
Birmingham	60898	D
Leeds	55382	C
Sheffield	39260	C
Southwark	38104	D
Sandwell	28615	C
Bristol	27100	C
Islington	25336	C
Nottingham	25302	C
Newcastle upon Tyne	25261	C
Lambeth	24047	D

3.2.3. Tenants Energy Advice Service and addressing fuel poverty

We have a contract with the Centre for Sustainable Energy (CSE) to deliver impartial energy advice to our tenants.

The service helps tenants to reduce their energy bills, switch supplier, access grants and fuel bills as well offering assistance in many other areas including benefit entitlement and links to food banks.

The team have also worked with us on specific projects that have included targeted engagement with tenants who have previously refused heating upgrades.

We think the service offers incredibly valuable service for our tenants. In the past year alone, their work has saved Bristol tenants a total of **£124,686**.

Housing Services is also a member of the 'No cold Homes' steering group, a group made up of city's leaders from housing, healthcare, support services, energy and community groups which sets out to develop collaborative action to eliminate fuel poverty in the city.

3.2.4. Tenants Energy Advice Service (TEAS) Heat Pump Research Study

In October 2020 we asked the TEA to undertake a research study into Heat Pumps. The TEAS specifically targeted a block where a number of tenants had flagged to us their dissatisfaction with their heat pump system. The Research Study set out to explore their feedback and experiences of their heat pump system and present to us any recommendatory actions for future installations. Less than 2% of our stock is currently heated by heat pump and more than 80% of our stock is heated by gas. We understand the role that renewable heating systems like

heat pumps will play towards net zero carbon targets and therefore this research study will be fundamental in ensuring any larger scale roll out of this type of heating system is a success.

3.3. Our plans over the next year:

3.3.1. Social Housing Decarbonisation Fund Demonstrator – £50m Programme – BEIS

- We are working with Energiesprong UK to identify a site of 40 properties to be used in a pilot project. Energiesprong promote a whole-house retrofit approach that is delivered in a cost-neutral way that guarantees performance and comfort for tenants and a real energy cost saving.
- We have joined a consortium led by London Borough of Barking and Dagenham who have submitted a bid for this demonstrator funding with 8 other councils and a Registered Provider in England.
- The fund is in place to encourage and accelerate retrofit works that set out to achieve net zero carbon and that can be used as best practice examples to scale up across the country.
- Bidders will be notified of the outcome of their bid by December 2020, with the retrofit work to homes having to be delivered by December 2021.

3.3.2. West of England Low Carbon Challenge Fund – Innovative Housing Retrofit Funding - £200k - WECA

- We have successfully applied to the above fund for the maximum amount available of £200k to use as match funding for our above pilot project with Energiesprong.

3.3.3. Green Homes Grant and Local Authority Delivery (LAD) Scheme – BEIS

- In July 2020, the Chancellor announced £2 billion of support through the Green Homes Grant (GHG) to save households money; cut carbon; and create green jobs.
- The GHG is comprised of up to £1.5 billion of support through energy efficiency vouchers and up to £500m of support allocated to English Local Authority (LA) delivery partners, through the Local Authority Delivery (LAD) scheme.
- The GHG and LAD scheme offers a good opportunity to top up funding (of up to £10,000 per property, however, there are certain criteria needed in which to qualify, one of which is timescales for delivery.
- The GHG requires delivery of retrofit measures by March 2022 and the LAD scheme by September 2021. We expect there to be future rounds of funding for both schemes beyond these dates and we are committed to utilising the GHG and LAD scheme where this is possible in both our pilot projects and existing programmes of works.

3.3.4. Retrofit Pilot Project

- We are in the process of identifying further sites of around 20-30 properties to use within our Retrofit Pilot Project.
- We will work with a skilled contractor to assist us in identifying and designing works required to the selected stock and in what sequence. We will be using the two pilots to help us better understand the different works required, the challenges and costs which will later inform our wider retrofit strategy and future programmes of work.

3.3.5. Heat networks

- The Asset Management team have started working alongside Energy Services on understanding where heat networks are already available or are scheduled to be built and how this will fit in with plans to decarbonise Council owned homes. Research has shown the important role which heat networks will play in providing zero carbon heating.

3.3.6. City Leap

Housing recently assisted the City Leap team with updating and revising documentation for the City Leap project, which included the information on our stock and the potential opportunity for improvements to net zero. Housing will continue its liaison with the City Leap team and notes the significant benefits that having a pre-procured partner for project delivery and, potentially, investment could have on the rapid roll out of carbon reduction programmes.

3.3.7. Tenants Energy Advice

The Tenants Energy Advice service will continue to provide support and advice to our tenants over the next year and beyond. Over the next few months the service will focus particularly on assisting tenants eligible for the warm home discount (a single £140 payment towards their heating bill), last year the service secured over £43k in warm home discounts for our tenants.

3.3.8. Training for Housing Surveyors, Operatives and Engineers

We are identifying some retrofit training resources and courses suitable for our staff and engineers, and have already participated in webinars to build our low carbon expertise, and beginning the transition to installing and maintaining renewable heating and other low carbon technologies.

3.3.9. Net Zero Carbon Council Housing Strategy:

Over the coming year, we will be developing this strategy and shaping a possible programme of works to reduce carbon emissions in our homes to net zero whilst improving the SAP rating to C and above.

The strategy will set out the principles which will underpin the decision-making process, embedding the commitment to reducing fuel poverty, tackling the most inefficient homes first and ensuring a quality outcome fit for the future of the home.

The strategy will be informed by our own pilot schemes and expertise, the research studies as well as intelligence from our peers.

Achieving net zero carbon presents a real challenge to our Housing Revenue Account Business Plan. Current estimates for the total additional costs are somewhere between £250m and £540m. As we develop costed options and model scenarios for achieving the aims, the total costs to BCC will become more accurate. We will aim to deliver the necessary works in the most efficient and effective way, considering investment already planned and re-profiling expenditure. We will be working with the City Leap partner for innovative financing solutions, and maximising use of grant funding opportunities.

We will use our learning experiences from our pilot schemes, research projects and studies, intelligence from our peers, and the future input from our City Leap partner to develop and evolve a strategy that will inform a programme of works for our stock. The first draft of the strategy will be drafted in the coming year.

3.3.10. The Housing Investment Plan:

The current Housing Investment Plan includes programmes to install cavity wall and loft insulation to homes not yet improved, or to top up existing levels, and to replace electric night storage heating systems with more efficient modern heaters reducing tenants heating and hot water costs and bringing greater heating control.

4. Private Sector Housing

4.1. Progress to date

4.1.1. Carbon emissions from gas consumption across all homes in the city have been reduced by 23% since 2005, compared to 20% nationally, which reflects an improvement in the energy efficiency of homes.

4.1.2. EPC ratings of all homes in Bristol is included in the table below:

EPC Band	All homes	Council Homes	Non Council Homes
A	0%	0%	0%
B	10%	1%	11%
C	29%	69%	23%
D	39%	29%	41%
E	18%	1%	21%
F	4%	0%	5%
G	1%	0%	1%

4.1.3. In 2014 the council formed a domestic energy efficiency team within the council to help delivery the Green Deal Communities grant funding. This team now sits within the Energy Service and focuses on improving private owner occupier and rented properties as well as working specifically with those in fuel poverty.

4.1.4. Between 2014 and 2020 the team has retrofitted 1,323 homes with a combination of boilers, loft and cavity insulation, external wall insulation and solar PV.

4.2. Current work

4.2.1. Energy Company Obligation (ECO)

The Energy Company Obligation (ECO) is a government energy efficiency scheme in Great Britain to help reduce carbon emissions and tackle fuel poverty. Large energy suppliers provide ECO funding to support the installation of energy efficiency in fuel poor households. The Energy Service holds an ECO contract and delivers its own program of works into homes in Bristol.

4.2.2. Green Homes Grant direct to householders

In July 2020, the Chancellor announced £2 billion of support through the Green Homes Grant (GHG) to save households money; cut carbon; and create green jobs. The GHG is comprised of £1.5 billion of support through energy efficiency vouchers.

It is clear that currently there is much more demand for measures, via the GHG, than there are suppliers registered to provide them via the appropriate certification bodies. WECA have commissioned consultants to assess the capacity of the supply chain in the area and what interventions are needed to increase that capacity to not only meet the needs of the GHG but also on-going retrofit and new build.

4.2.3. Green Homes Grants English Local Authority Delivery (LAD) Scheme – BEIS

The Government allocated £500m of support to English Local Authority (LA) delivery partners, through the Local Authority Delivery (LAD) scheme. The GHG LADs scheme is specifically focused on low income, poor energy efficiency buildings with an EPC of D and below and a combined income of £30,000/annum.

An initial competition (Phase 1A) was launched in August 2020 with a minimum value of £500k with a delivery deadline of March 2021. Bristol City Council did not have pre-existing contractual arrangements in place which would have enabled us to deliver the volume of measures in that timescale.

Phase 1b of the Local Authority Delivery Scheme was announced in October 2020 with a submission timeline of 6 weeks (4th December deadline) and a delivery window up to September 2021. Bristol City Council is submitting a bid within this round of funding.

At the time of writing the bid is still being developed however below is an outline of the bid as it stands.

- Program of domestic retrofit in around 150 homes focusing on underfloor insulation, loft and cavity insulation, solar PV and solar thermal systems. EPC data for the city enables us to target specific buildings which will be suitable for these measures.
- Pilot whole house retrofit project. Additional to the above BCC is going to pilot a whole house approach using community energy initiative CHEESE project which provides a thermal image of a property, highlighting energy efficiency issues and enabling low level draft proofing measures whilst at the same time producing a plan for a whole house retrofit. Funding will then be applied where possible to install measures.
- North Somerset project of park homes. BCC have partnered with North Somerset to delivery retrofit in their park homes.

Phase 2 of the GHG LAD is due to be launched in March 2020 and this funding is coming from BEIS and being channelled through the [South West Energy Hub](#). Currently there is no information as to how the Phase 2 funding will be accessed, whether it is delivered by the LA or by the hub.

4.2.4. Minimum Energy Efficiency Standard (MEES) Project

The Energy Service have been working with the Private Housing Team to deliver energy efficiency measures into private rented sector homes where they are facing enforcement for not meeting the Minimum Energy Efficiency Standard of EPC E for rented properties. The Private Housing Team (PHT) within the council is responsible for enforcing the MEES relating to privately rented properties. Under the terms of the MEES, landlords are not required to spend in excess of £3,500 on energy measures to meet their obligations. Therefore, the PHT have ring-fenced £250,000 of funding to subsidise landlords' costs where these are in excess of £3,500. The Energy Service is delivering these measures into rented homes and facilitating the grant process.

4.2.5. **“No Cold Homes” group**

The Energy Service sit on a group called the “No Cold Homes” group which was founded in 2017 by a collective of organisations in the city who support those in fuel poverty with the ambition to better collaborate and build services within Bristol and its borders. This group has members from a variety of areas such as the third sector, Western Power Distribution, Health sector and community organisations. The group helps support referrals into different services as well as inform and build policy.

4.2.6. **Warmer Homes Advice and Money (WHAM)**

The Energy Service supports the WHAM project in Bristol and in 2019 secured funding to expand their services in the city. The WHAM project is an innovative model for supporting Bristol and North Somerset's most vulnerable residents – giving advice on energy, money, benefits and carrying out home repairs.

The project is an almost unprecedented example of multi-agency working together in which, with a number of partners - [Talking Money](#), [We Care Home Improvements](#), Bristol and North Somerset councils, [Citizens Advice](#), [Bristol Energy Network](#) and [AMS Electrical](#), provide a comprehensive service to people living in fuel poverty and financial hardship. WHAM will particularly help those on low incomes and those living in hard to heat properties, whether these are private rentals, housing associations or their own homes.

4.2.7. **Plans over the next 10 years**

The heat decarbonisation planning work referred to in the introduction and the national heat decarbonisation strategy will enable us to more effectively plan interventions in the private sector housing market. In the short term, making the best use of the existing funding opportunities is the priority. In the medium term, it is anticipated that the retrofit of domestic properties will be included in the program of works delivered by the City Leap Energy Partnership. The requirement to retrofit domestic properties is essential to the decarbonisation of heat and to achieving carbon neutrality. It is necessary to adopt a fabric first approach to retrofitting homes where the council is considering the installation of heat networks and heat pumps.

Appendices:

None.

LOCAL GOVERNMENT (ACCESS TO INFORMATION) ACT 1985

Background Papers:

None.