

Housing Scrutiny Commission Report

Climate Change and retro fit update

Housing Scrutiny commission: 30th. October 2023

Lead member for Housing: Cllr Elly Cutkelvin

Lead director: Chris Burgin

Useful information

- Ward(s) affected: potentially all.
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- Report version number: V.2

1. Summary

This report updates the Housing Scrutiny Commission on the work the Housing Division are doing to respond to the climate emergency.

The HRA capital programme is reviewed annually to ensure that our ongoing programmes of works are refreshed to ensure we fit energy efficient appliances, we also review our approach to ensure that we always consider energy efficiency, this is not just to have a positive impact on carbon reduction but to reduce costs for our tenants. As a result, we always fit the most energy efficient boilers we can and have replaced all communal lights with LED fittings.

In addition to our ongoing capital programme, we have a new build council house building pipeline that is made up of 7 sites with the intention that all will be delivered to energy efficiency standards in excess of the current building regulations, this report talks about each of those sites.

We have carried out a recent review of our stock, the construction types it is made up from and the average energy efficiency of that construction type. Historically we have concentrated on our solid wall properties but now we have our RetroFit pathway report we are now able to target additional property types.

It is expected that the current heat metering project will have a positive impact on carbon reduction.

2. Recommended actions/decision

That the contents of this report be noted

3. Scrutiny / stakeholder engagement

This report had been prepared to update members of the Housing Scrutiny Commission on the measure the Housing Division is taking to help tackle the climate emergency.

5. Detailed report

Climate Change – Capital Programme

Our existing HRA capital Programme includes:

Boiler upgrades:

All new boilers we fit are energy efficient A rated combination boilers.

All newly fitted radiators have thermostatic radiator valves. Both these measures are being constantly reviewed to make sure we use the most energy efficient products

Insulation programme

We have an ongoing programme of upgrading loft insulation levels to our tenant's homes, this is either by request from the tenant or as a result of other works being carried out, for example a new roof being fitted. We also target areas of the city based on data we have that relates to the last insulation date and the thickness of insulation previously installed.

All our homes that have cavity walls have had cavity wall insulation

Energy Performance certificates:

We carry out EPC every time we let, sell or allow tenants to exchange a property. So far we have completed 16,000 EPC. All our loaded on the .gov websites and we use this information when submitting bids for government funding.

We hold the following EPC data that we hold for our properties. 62% of our properties have an EPC the average EPC across all the stock is C:

New Build Programme

Saffron Velodrome: 38 New homes

Saffron Lane was tendered, and the contract awarded to Robert Woodhead Construction, unfortunately they went into voluntary liquidation soon after starting on site. We are currently out to tender again and hope to be on site in early 2024.



Image of proposed street scene

Lanesborough Road: 37 New homes

Robert Woodhead's was also due to deliver Lanesborough Road but were unable to because they went into voluntary liquidation. We are currently agreeing a new delivery route for this site and the phase 2b sites that follow



Climate credentials for Saffron, Lanesborough Road and Phase 2b.

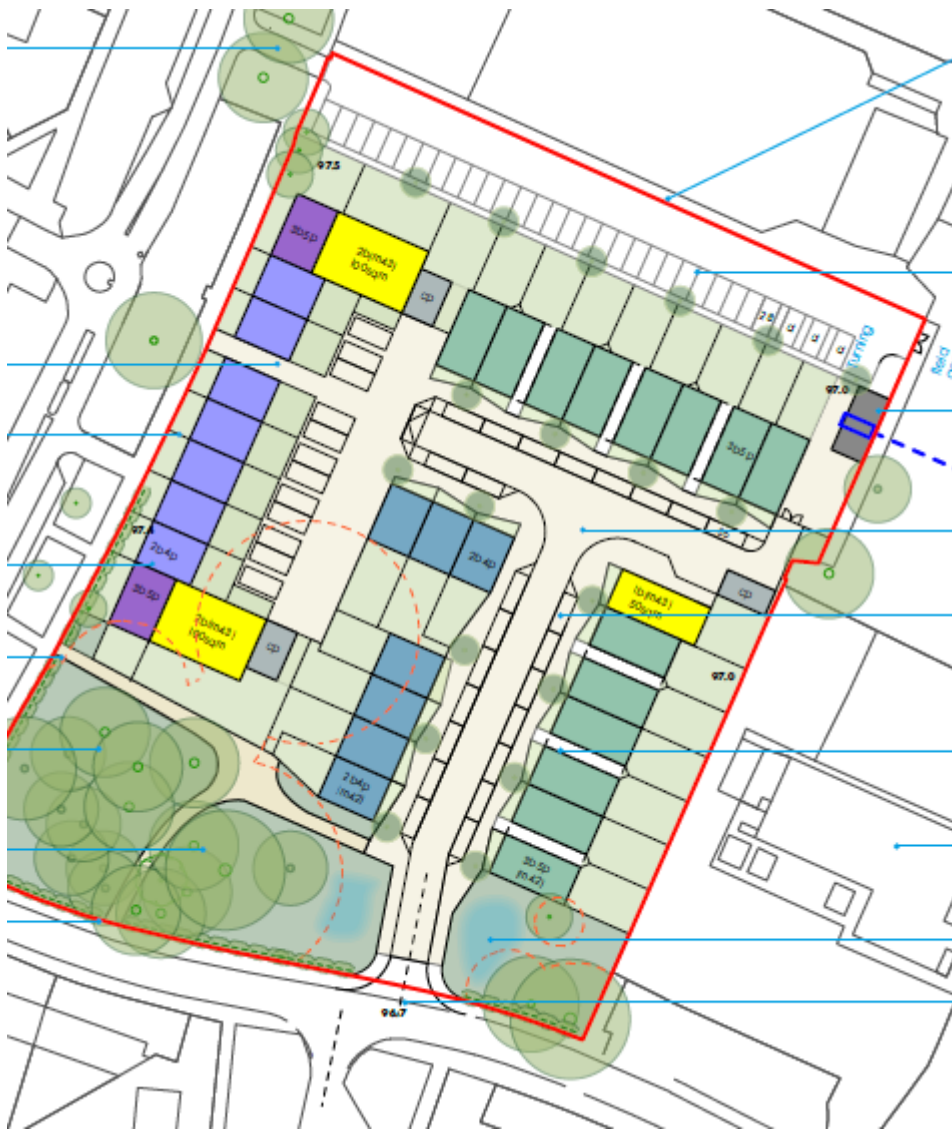
These new houses were designed based on the previous building regulations but will be assessed based on the new ones. Because they were designed to exceed them by 70% they will also exceed the current building regulations. They will have an air source heat pump that takes heat from the air and boost it to a higher temperature, the pump needs electricity to run but should use less electricity than the heat that it generates. Solar PV panels that convert solar radiation into direct current electricity. They are a very good source of renewable energy as they convert the most abundant source of energy on the earth, the sun, into the most useful source of energy, electricity.

PV panels are silent in operation, they have no moving parts, low levels of maintenance and a long-life expectancy. They are connected into the grid via an inverter and more recently battery technology has improved so the electricity can now be stored.

We are proposing installing 6 x 250-watt panels to each of the roofs with the exception of two plots that will need 8 panels to achieve the required EPC 'A' rating. Based on the above 47,972kWh/year on site renewable energy will be generated.

Forest Lodge Education Centre (FLEC) 33 New homes

Seeking to deliver 33 new affordable homes, the project is currently in the initial stages of design, having recently been submitted for pre-application advice. The proposal builds on the sustainability outputs from the more developed LANB schemes in the programme. The project team are working with the Future Homes Standard, which aims to decarbonise new homes by focusing on improving heating, hot water systems and reducing heat waste and will also be informed by the LCC sustainable toolkit. To achieve this, key design outputs being considered include the following: high performing building fabric including triple glazing, PVs, cross ventilation, and solar control measures. In addition to these measures, it has been identified that the new homes should be able to connect to the existing LCC district heating network (rather than using Air Source Heat Pumps) which will provide efficient heating and hot water to properties and make best use of the Council's existing network



Southfields Newry 53 new homes

Southfields and Newry proposals have been developed by the project design team alongside the sustainability consultants Max Fordham (who are also working on the council's corporate guidelines- 'Sustainable Construction Checklist – Residential Projects – New Build'). Solar panels will be provided to the dwellings, predominately on south facing roof slopes with some on west facing roof slopes. The layout of the site has considered orientation in relation to the sun, to maximise solar gain but also minimise heat loss. Canopies will be erected on the dwellings as a design feature to provide shading and buildings will be airtight and will all benefit from mechanical ventilation and heat recovery systems, including passive purge ventilation. Air source heat pumps will be installed in all dwellings. EV charging points are to be provided for each allocated parking space and 7 additional spaces throughout the site. The materials that have been selected for the developments total low embodied carbon potential. It is expected that if and when tender documents are prepared that high recycling of construction waste and demolition waste will be a requirement. The proposed scheme could deliver **60% emissions reductions** (against Part L 2021 notional + gas boilers) by following the energy hierarchy: efficient fabric, MVHR and heat pumps measures, before utilising solar PVs.



Stocking Farm: 50 new homes

Stocking Farm proposals have been developed by the project design team alongside the sustainability consultants Max Fordham (who are also working on the council's corporate guidelines- 'Sustainable Construction Checklist – Residential Projects – New Build') to consider a holistic approach to sustainability with the aim of achieving Net Zero Carbon and an exemplar council housing scheme for the city council in-line with the project's original vision.

The project will achieve project sustainability objectives through various ways such as site strategy, energy and carbon reduction, occupant comfort, materials and waste (85% of all demolition construction will be recycled/reused) and green and blue infrastructure. The proposed scheme is fossil fuel free. Through adoption of high-performance fabric (fabric first principles) before the deployment of low carbon and renewable energy technologies, the scheme is built with resilience against increasing fuel costs. Through this approach, the scheme seeks to minimise the demand for electricity, by designing and building to Passivhaus level operational energy use intensity (EUI) of 35 kwh/m²/yr (RIBA 2030 Climate challenge target).

Passive design measures include: enhanced U-values and air tightness improvements (to RIBA 30 standards), and active design measures including high efficiency lighting, low carbon heating (air source heat pump- ASHP) and efficient mechanical ventilation with heat recovery (MVRH), and achieving a 60-70% improvement on standard Building Regulations. There could be further reduction potential of 20% from installing renewables (Solar Photo-voltaic panels- PVs). The design team and Max Fordham bore in mind Passivhaus, RIBA 2030, Home Quality Mark and LETI, which all cover a wide range of KPIs. At RIBA stage 2, proposals were tested against the Passivhaus Planning Package (PHPP) to inform the design, and their recommendations to the client team. This was to keep the proposed design consistent with a Passivhaus target, therefore allowing the project to stay on a NZC trajectory. RIBA 2030 standards are however the main standards informing the scheme



Retrofit update

Our current strategy for improving the energy efficiency of our housing stock has been a fabric first approach focussed on improving the thermal insulation of solid wall brick properties. These are our most thermally inefficient stock type; this is borne out by the fact that the government has provided significant funding over the years to improve these property types. We have also continued to install A rated boilers and improving loft/cavity insulation in all our stock.

We have also identified 2 other priority construction types with require our attention, MHC (Midland Housing Consortium) and Steel Houses.

To-date, we have installed external wall insulation (EWI) to 1,461 solid wall properties, which have been completed as a result of government subsidy.

The stock.

We have 19266 properties split onto the following construction types

Construction Type	Number	% of Whole
Brick	11331	59%
Concrete	869	5%
Concrete Panels	3	0%
Easiform	3871	20%
MHC	578	3%
No Fines	1079	6%
Smith	198	1%
Steel	272	1%
Wood Frames	1053	5%
Blank	12	0%
Grand Total	19266	100%

The information in this report is based on the EPC data that we hold for our properties. 62% of our properties have an EPC and the scores are as follows, the average EPC across all the stock is C:

Row Labels	Count of SAP Rating
A	28
B	384
C	6077
D	4777
E	578
F	87
G	29
Grand Total	11960

An EPC is carried out every time a property is let when a tenant buys a property or when they exchange to another property. In total we have carried out 16,000 EPC, but only 11960 relate to the current stock.

It is worth saying that data from EPC's is static and can be up to 15 years old, they are not updated every time an improvement measure is undertaken, such as a new boiler being fitted, or loft insulation topped up. Therefore, it is very likely that we are under reporting the energy efficiency of our stock.

The Housing IT system NEC has an Energy module linked to the Assets module, which is being implemented soon, this will mean that we can lodge EPC's in NEC and when the Asset is updated, eg. a new boiler fitted, this will update the EPC rating, the information we report on will be up to date, it is hoped that this will be live in summer 2024. The EPC information for this report has been downloaded from the .gov.uk website.

Construction type and efficiency

Solid brick wall properties – Priority.

SAP scores for solid brick wall properties (874in total)

Row Labels	Count of SAP Rating
C	26
D	260
E	96
F	5
G	4
Grand Total	391

As of 1st September 2023 we have 874 remaining solid wall properties potentially suitable for energy efficiency improvements. However, the suitability of these properties for similar EWI schemes is becoming increasingly complex and problematic for the following reasons:

1. Approximately 400 of these properties are traditional terraced houses. Because of the nature of these houses on streets without front gardens, sadly, Planning will not allow EWI to their front elevations. Therefore, to improve the thermal efficiency of these front elevations, they will need to be insulated internally. This option is potentially more costly, and it will cause a great deal of disruption for our tenants if this work is carried out whilst properties are occupied. To help us better understand the cost implications and the other complexities of insulating these walls internally, we have completed a full EWI and IWI scheme at a property on Harrison Road. this concluded that the total cost to upgrade a Victorian terrace house is £30,500. To do this for all similar properties would cost £12.2m, currently only £4m of this could be secured via government grant, with £8.2m falling to the HRA to fund.
2. 132 of these properties are in Conservation Areas and a small number of these are listed grade 2 buildings. As such, planning will not allow EWI to be installed on the front elevations and in some cases on all elevations. In these instances, we will have to work with the Planning Department on a case-by-case basis to work out the best options for these. However, internally insulating these walls will no doubt be the main or only option available to us.
3. For the remaining 418 or so solid wall properties, there are two main issues. Firstly, some of these dwellings have a combination of cavity and solid walls. Secondly, some solid wall properties located on the same street, although outwardly looking may be very similar, these may in-fact have different Energy Performance Certificate (EPC) ratings. For example, some of these may be rated as Band E and some Band D. Some of these differences in EPC ratings between properties might be explained by variances in the amount of loft insulation, type of boiler, number of low energy light bulbs and so on. However, some of these variations are down to how individual energy assessors have made their assessments, which in part are subjective. It costs circa £25k to EWI an estate style solid brick wall property, to complete the rest of this stock it would cost £10.5m with £4.2m secured via government grant and the £6.3m falling to the HRA

At current prices the cost to the HRA to upgrade the insulation is circa £14.5m subject to grant funding being secured at the maximum rate, this is likely to fluctuate.

Brick Cavity wall construction.

We have 8779 brick cavity wall properties

Row Labels	Count of SAP Rating
A	1
B	137
C	3139
D	2068
E	208
F	34
G	8
(blank)	
Grand Total	5595

These properties have an average EPC rating of C. We are not proposing to carry out any other works to these properties in the near or medium term. Funding is not currently available to carryout works on properties with an EPC of C or above

MHC property type (Midland Housing Consortium) Priority 2.

SAP scores for MHC properties (576)

Row Labels	Count of SAP Rating
B	7
C	88
D	278
E	33
F	1
G	2
Grand Total	409

These 576 MHC (Midland Housing Consortium) construction type dwellings that have poorly insulated walls. The gable ends of these dwellings are cavity walls. However, these cavities are very small and difficult to insulate. In addition, the front and rear elevations are wood frame construction, and these are also poorly insulated. We have recently completed a pilot scheme on 2 MHC properties at Eyres Monsell as part of SHDF wave1 to establish the work required to improve the EPC from a D to a C. The work cost £24,100k per property, £10k of which was funding by SHDF the rest from funded by the HRA.

To complete all MHC property types would cost £13.8m, with £5.7m falling to the HRA to fund

70 MHC properties are our primary focus for SHDF wave 2.1, at 2 sites, one in New Parks and one at Eyres Monsell.

A completed MHC bungalow at Eyres Monsell:



Concrete construction type, primarily St Peters Estate.

We have 821 properties classed as 'concrete'

Row Labels	Count of SAP Rating
B	8
C	339
D	206
E	16
F	2
G	1
(blank)	
Grand Total	572

These properties have an average EPC rating of C. We are not proposing to carry out any other works to these properties in the near or medium term. They are all connected to the district heating network.

Laings Easiform properties are constructed from concrete but have cavity wall.

We have 3,847 Laings Easiform properties

Row Labels	Count of SAP Rating
B	40
C	1172
D	1046
E	92
F	26
G	10
Grand Total	2386

The average EPC rating is C and as such we are not currently planning on carrying out any works to these properties in the near or medium term. funding is not currently available to carryout works on properties with an EPC of C or above.

Wimpey No Fines construction

We have 1079 Wimpey no fines properties

Row Labels	Count of SAP Rating
B	8
C	446
D	248
E	6
Grand Total	708

Wimpey No Fines have an average EPC rating of C, the second highest EPC rating of all our stock that hasn't had improvement works carried out or was built after 1990. We are not proposing to carry out any improvement works to this property type in the near or medium term as funding opportunities are not currently available for properties with an EPC of C or above.

Smith Construction

We have 198 Smiths construction properties

Row Labels	Count of SAP Rating
B	1
C	54
D	51
E	5
F	5
Grand Total	116

Smith houses have an average EPC rating of C. We are not proposing to carry out any improvement works in the near or medium term as funding is not available for properties with an EPC C or above.

Steel framed houses – Priority 3

We have 272 Steel houses

Row Labels	Count of SAP Rating
C	11
D	111
E	17
F	1
Grand Total	140

Steel houses have an average EPC rating of D. There are some concerns about the energy efficiency of these construction types. With the aid of a thermal imaging camera, in the future we aim to research and investigate this issue in more detail.

Timber Famed construction

We have 862 timber framed properties

Row Labels	Count of SAP Rating
B	25
C	416
D	73
E	1
F	2
Grand Total	517

The average EPC rating is C and it the highest in our stock that hasn't has improvement works carried out or built after 1990. We are not proposing to carry out any improvement works to this property type in the near or medium term as funding opportunities are not currently available for properties with an EPC of C or above.

Current funding opportunities:

The following details our most recent and current EWI projects, which form part of our ongoing Housing Division Strategy of 'Fabric First' to improve the thermal efficiency of our worst performing social stock. (This work supports our own local and the national government target to achieve Carbon Net Zero 2050)

Both schemes have targeted properties built in the early part of the twentieth century (Pre 1935), which have solid brick walls and have been provided with external wall insulation (EWI) to, in most cases improve their energy efficiency rating from an E, or low D up to EPC Band C.

Green Homes Grant Phase 2 (GHG P2)

Following on from the roll out of GHG-LAD Phase 1A & Phase 1B, BEIS launched GHG Phase 2 to support their programme to deliver low carbon measures to both low-income private sector households and also provide the opportunity for local authorities to bid for financial support to improve their social housing stock. Eligibility criteria for properties to

qualify was relaxed from the earlier phases, which enabled us to include properties from EPC band D to be eligible for solid wall insulation upgrades. Support funding per property for social stock was capped at a maximum of £5,000 per property.

Our bid for funding was subsequently approved which has enabled us to carry out external wall insulation to 56 of our properties in the Saffron area of the city. When installed, the new insulation will help people save up to an estimated £400 per year on energy bills and reduce household carbon emissions by around 900kg per annum.

Additionally, a percentage of the funding allocation was able to be used to help cover both our administration costs and the capital costs to cover PAS2035 required surveys to ensure we could identify potential properties and measures.

Social Housing Decarbonisation Fund Wave 1 (SHDF Wave1)

Wave 1 forms part of a 10-year £10 Billion government programme to support local authorities to further improve the thermal efficiency and reduce carbon emissions from their social housing stock. Qualifying criteria is again targeted at the worst performing stock with an EPC rating of Band D or lower. Financial support is more generous with this programme, based on a properties pre improvement EPC rating. A Band D home for example will attract a maximum of £10,000, lower band homes receiving more.

We have completed a further 75 properties, mainly in the Green Lane Road / Coleman area of the city with external wall insulation, along with loft insulation top ups where needed.

Future Funding opportunities

Social Housing Decarbonisation Fund Wave 2.1

Midland Net Zero Hub (MNZH) are acting a consortium lead and we are a member, they have submitted a bid which includes the external insulation of 100 MHC bungalows and the fitting of an air source heat pump as part of the refurbishment of The Leys.

Energy Company Obligation 4 (ECO4)

The government has recently announced that it is to give money to the energy companies to fund additional insulation measures, we will be working with energy companies to explore possible funding opportunities for our stock.

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6. Financial, legal, equalities, climate emergency and other implications

6.1 Financial implications

This report outlines the primary ways in which HRA resources are deployed to improve the energy efficiency of housing stock. The prioritisation of financial resources towards this work takes place through the annual capital budget-setting process, including annual maintenance budgets, affordable housing development and match funding for external grant bids. The ability to progress this agenda is limited by the total amount of government grant that is made available and the proportion of match funding that is required.

Stuart McAvoy – Head of Finance

6.2 Legal implications

Legal Services has confirmed that there are no legal implications in this report.

6.3 Equalities implications

Under the Equality Act 2010, public authorities have statutory duties, including the Public Sector Equality Duty (PSED) which means that, in carrying out their functions, they have to pay due regard to the need to eliminate unlawful discrimination, harassment and victimisation and any other conduct prohibited by the Act, to advance equality of opportunity between people who share a protected characteristic and those who don't and to foster good relations between people who share a protected characteristic and those who don't.

Protected Characteristics under the Equality Act 2010 are age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation.

There are no direct equality implications arising out of the update report, however it is important to note upgrading the energy efficiency of homes is an effective way of tackling fuel poverty and can help toward reducing greenhouse gas emissions. Fuel poverty rates within tenures are highest within private rented homes and social housing, compared to owner-occupied homes.

Certain groups are at particularly high risk of fuel poverty. These are children, the elderly, people with existing health conditions. Poor heating and outdated heating technologies can have an effect on wider society by increasing air pollution and healthcare costs and by reducing school and workforce attendance and productivity.

Measures that help households to keep their homes warmer, reduce their energy bills and carbon emissions should lead to positive impacts for people from a range of protected characteristics. Health outcomes - living at low temperatures poses a risk to health, with a range of negative morbidity and mortality impacts associated with exposure to the cold. Improving the well-being of vulnerable households will improve the communities of those amongst which they live.

Equalities Officer, Surinder Singh, Ext 37 4148

6.4 Climate Emergency implications

Housing is one of the largest sources of carbon emissions in Leicester, responsible for 33% of emissions. Following the council's declaration of a Climate Emergency and its aim to achieve carbon neutrality addressing these emissions is vital to meeting our ambition. This is particularly through the council's own housing where it has the highest level of influence and control, and which represents a significant proportion of the city's housing stock.

As set out in this report, a range of projects are underway to decarbonise existing council homes and identify future opportunities, as well as delivering new low carbon council

housing in the future. These measures will also deliver a range of other benefits to residents in terms of energy costs and comfort levels. The current projects are expected to deliver significant emissions savings and, as set out in the report, work to identify future funding opportunities to deliver further improvements is ongoing. Consideration should also be given to opportunities to measure the carbon savings achieved through delivering these projects.

Aidan Davis, Sustainability Officer, Ext 37 2284

