Housing Stock - Energy Efficiency & Decarbonisation

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- Targets & goals
- Current position
- Stock intelligence
- How we use the data
- What this means for our stock
- Work so far
- Next steps

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Targets/ Goals

- The key targets and goals for climate change and net zero are outlined in the Housing Asset Management Strategy.
- The government to consult on all social homes in England to achieve EPC C by 2030.
- Consultation on Decent Homes 2 – likely to include reference to a minimum energy efficiency standard.
- SBC has committed as part of the Climate Change Strategy to achieve minimum EPC C for council homes by 2030.
- The UK to be net zero by 2050.

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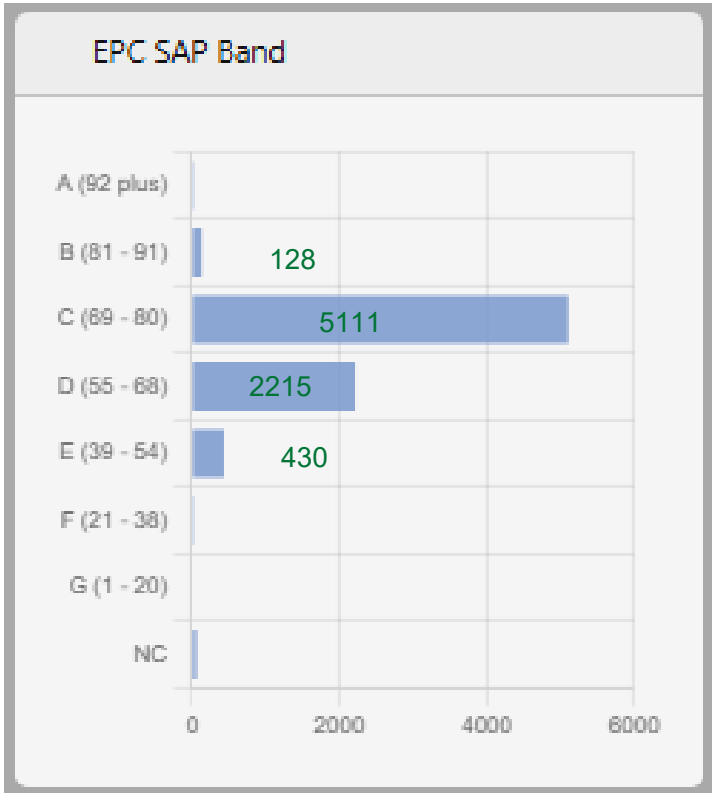
Current position



Average SAP rating – **69 Band C**

Average carbon emission per property – **2.7 tonnes per year**

Total carbon emissions for stock (approx.) **20,733 tonnes per year**

% of stock EPC C or higher – **65%**

Average carbon emission houses – **3.2 tonnes per year**

Average carbon emission flats – **1.8 tonnes per year**

- The average SAP rating of 69 is 3 SAP rating higher than the estimated UK average of 66 (Band D) based on data from 2021.
- In 2019 UK national average carbon emissions were 4 tonnes per year for houses and 2.3 tonnes per year for flats.

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Stock Intelligence

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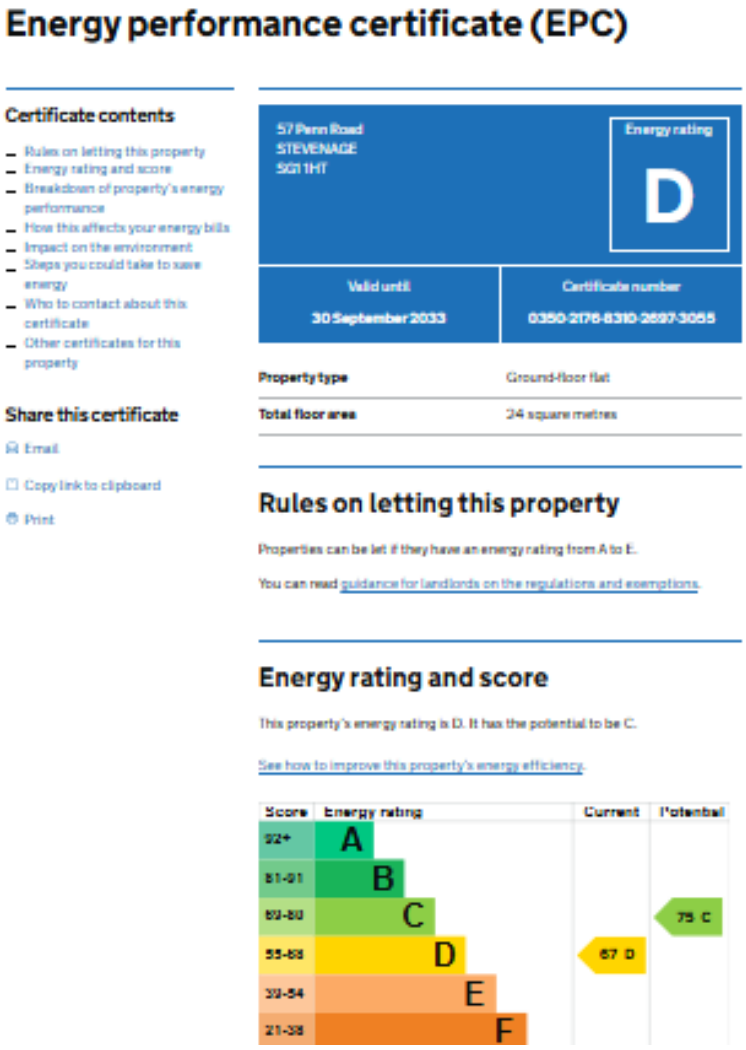
How we capture data



Energy performance certificate (EPC)

Certificate contents

- Rules on letting this property
- Energy rating and score
- Breakdown of property's energy performance
- How this affects your energy bills
- Impact on the environment
- Steps you could take to save energy
- Who to contact about this certificate
- Other certificates for this property

Share this certificate

Email

Copy link to clipboard

Print

57 Penn Road
STEVENAGE
SG1 1HT

Energy rating
D

Valid until	Certificate number
30 September 2033	0350-2176-6310-2697-3055

Property type	Ground-floor flat
Total floor area	34 square metres

Rules on letting this property

Properties can be let if they have an energy rating from A to E.

You can read guidance for landlords on the regulations and exemptions.

Energy rating and score

This property's energy rating is D. It has the potential to be C.

See how to improve this property's energy efficiency.

Score	Energy rating	Current	Potential
92+	A		
81-91	B		
69-80	C		75 C
55-68	D	67 D	
39-54	E		
21-38	F		

- Energy data is continually updated through the collection of data.
- Current programme of EPC's that is run alongside the stock condition surveys. EPCs are also carried out when required at the void stage and during mutual exchange applications.
- Other data sources are also used to update the information used to inform and calculate SAP scores and recommended works.
- Details of completed works.
- Retrofit assessments.
- Boiler models and ratings.
- Stock data held where an EPC is not held.

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Sava Intelligent Energy

Sava Intelligent Energy is used to calculate the stocks energy performance. This is fully integrated with Asset Management system - Keystone.

The system is used to carry out modelling and scenario planning for both improving energy efficiency and the decarbonisation of the stock. The modelling and scenario planning have been used to inform the successful bids for Social Housing Decarbonisation Funding (SHDF) Wave 1 & 2.

Data work has been carried out to enhance the stocks energy data. This exercise helped to validate assurance levels regarding the data held and identified how this data could be further enhanced.

How we use the data

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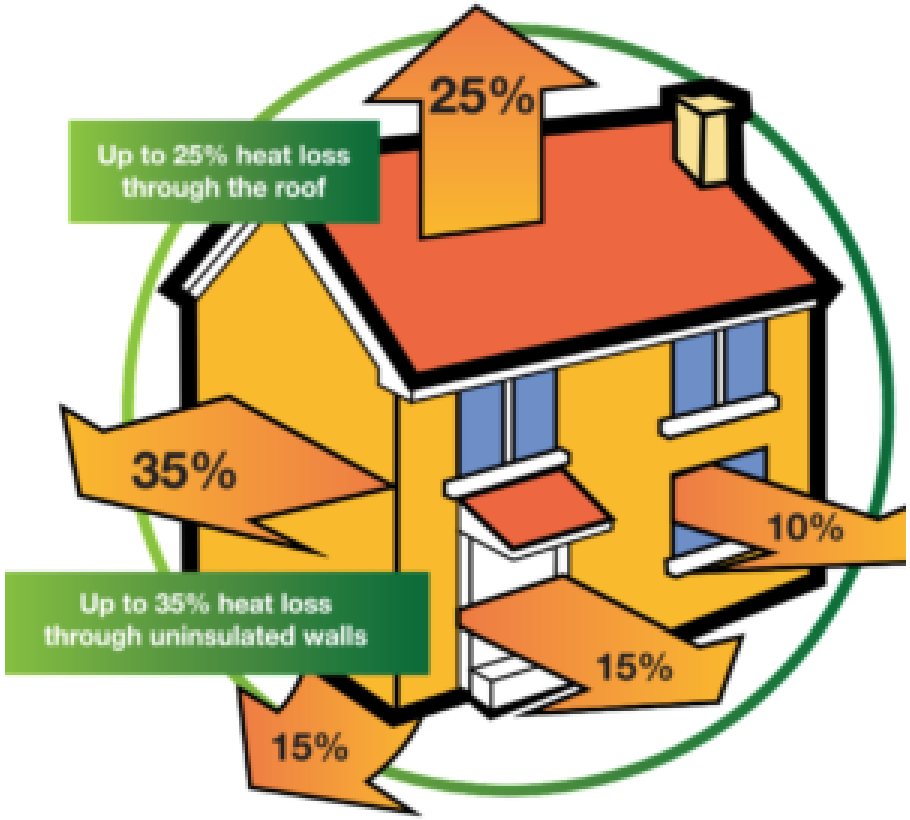
Measures – fabric first



Current measures:

- External wall insulation
- Cavity wall insulation
- Loft insulation
- Ventilation
- Low energy lighting
- Windows/ doors
- Solar panels (only in some cases)

Some measures recommended on EPC's have been discounted in current programmes due to high cost and disruption e.g. floor insulation.

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Measure selection process

- Homes are subject to detailed energy assessment to select most appropriate measures required to reach the EPC C target. Meaning measures can differ home by home. Measures can have different effects on the SAP score.
- This is based on SAP points – 69 points are needed to reach an EPC C
- One property may need different measures to another, even if they are the same archetype. There are many reasons this may differ e.g. built form (end terrace will lose more heat than mid terrace), floor (mid floor will hold more heat than top floor), total floor area.

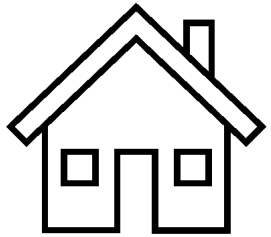
Property A

Current EPC –**D 68**

Measures required to reach the EPC C (69) target =

- Loft insulation – 3 SAP points

Property B



Current EPC – **D 56**

Measures required to reach the EPC C (69) target =

- Loft insulation - 3 SAP points
- Cavity wall insulation – 5 SAP points
- Solar PV – 10 points SAP points

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What this means for our stock

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Improvement planning

Using the improvement planning functionality in Intelligent Energy two plans have been created.

1. Band C Plan

Reprofiling of the MTFS due to funding pressures identified in 2024/25 means a shortfall in match funding for achieving Band C

This is beyond what would be required to support the wave 3 bid we have submitted as well as wider decarbonisation targets and the funding we do have assumes a level of grant funding which isn't guaranteed.

This position will be considered as part the review of the HRA Business Plan in early 2025/26.

2. Path to Zero carbon plan

This is not currently funded in HRA business plan.

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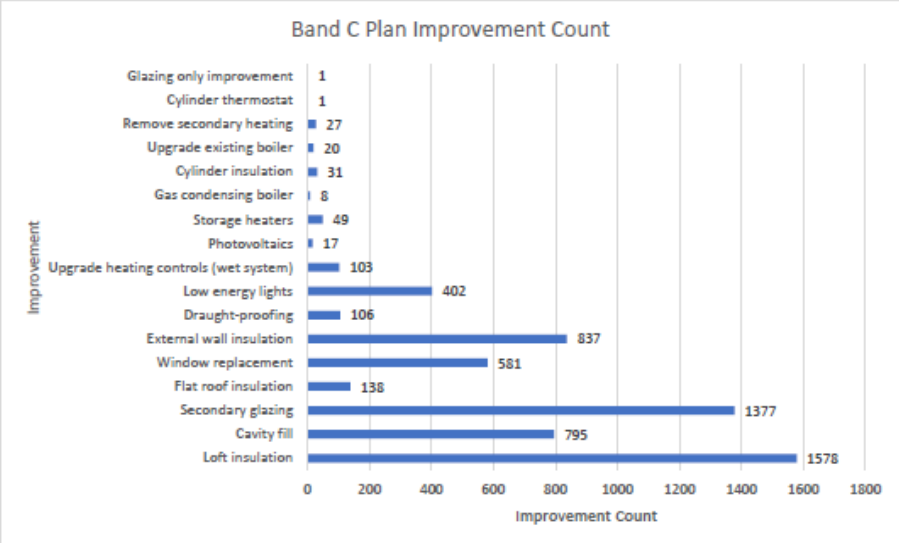
Band C plan - **£20,097,929**



- Details how remaining properties can meet EPC Band C in most cost effective manner.
- All properties in the plan can meet the target with only 32 falling short – further options appraisal required to establish how these can be addressed.
- The plan results in a 2,444 tonne reduction in CO2 emissions for the housing stock per year and the average SAP increasing to 72.
- Fabric first approach helps to avoid inefficiency of installing powerful and costly heating systems to then later improve the building fabric where the heating system then becomes oversized for the reduced heating requirements.
- 490 homes EPC E – which will require successively more improvements therefore resulting in higher cost per property.
- Estimated total cost for this plan **£20,097,929**

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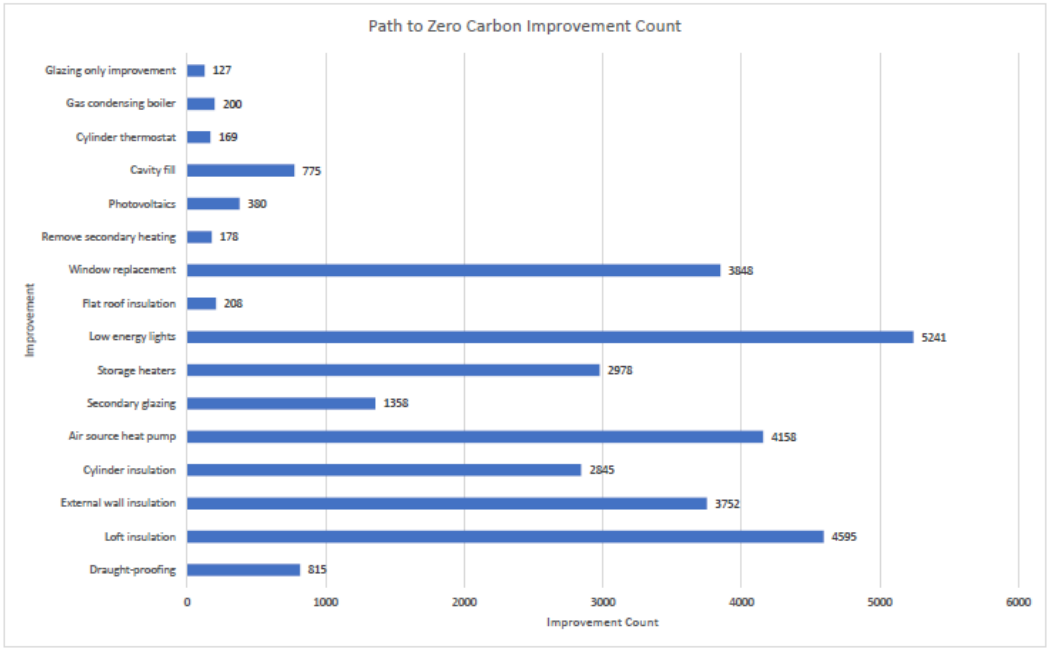
Path to Zero Carbon plan - **£168,895,978.**



- This plan sets the carbon target for the stock at 0% of current emissions, i.e., full or absolute zero carbon.

Initially using all appropriate measures, the plan reduces CO2 emissions for the stock by 91%, bringing it down to 1,369 tonnes per year by implementing a further 31,627 improvements.

381 properties were able to achieve absolute zero carbon and the remaining would produce 1,369 tonnes per year..

The headline estimated cost for this plan is **£135,838,450**, averaging at **£17,420** per property (this is after Band C improvements are implemented).

May be possible to deal with this residual carbon by additional measures and/or by offsetting; this would then be known as “net zero carbon”.

- The additional cost of reducing these carbon emissions would be £12,959,599.49. Adding this to the cost of measures identified gives an overall cost of **£168,895,978**.

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Work so far (Band C)

- Over the past four years successfully secured £5.5 million total grant funding through LAD1B, SHDF Wave 1 & SHDF Wave 2.
- With a total match funding of over £6 million.
- 359 homes upgraded through LAD1B & SHDF Wave 1 – all now meeting or exceeding EPC C target.
- 237 homes will be improved through SHDF Wave 2.
- Decent homes works such as new windows and boilers has positive effect on EPC's
- Upgraded communal heating systems - some schemes incorporated solar thermal

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Current Wave 2 project - **£7,276,347.11**

Mixture of flat blocks/ street properties

237 homes to be upgraded

Combined with MRC works on flat blocks – whole block approach

All reaching EPC Band C or B

Due to complete April 2025

Environmental monitors in some properties to monitor post works.

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Pre works photographs – Mount Pleasant

5 Mount Pleasant Flats
Weston Road
STEVENAGE
SG1 3RJ

Energy rating

D

Valid until	Certificate number
10 June 2033	0700-5575-0422-6294-3573

Heating this property

Estimated energy needed in this property is:

- 7,215 kWh per year for heating
- 1,540 kWh per year for hot water

Post works photographs – Mount Pleasant

External wall insulation

New double-glazed windows

400mm loft insulation

Upgraded ventilation

2 Mount Pleasant Flats
Weston Road
STEVENAGE
SG1 3RJ

Energy rating

C

Valid until	Certificate number
26 June 2034	2531-3039-2206-1154-4204

Heating this property

Estimated energy needed in this property is:

- 3,914 kWh per year for heating
- 1,542 kWh per year for hot water

Saving approx. £125 a year on heating per property

Pre works photographs – Buckthorn Avenue

Post works photographs – Buckthorne Avenue

Next steps

- Still approx. 2700 homes below the EPC C target.
- All stock still needs to be fully decarbonised (not currently funded in the HRA Business Plan)
- Current funding requirements are based around EPC C target rather than decarbonisation.
- Low carbon heating systems can sometimes have a negative effect on EPC's due to the high cost of electricity for occupants.

SHDF Wave 3

- Awaiting outcome of bid– hopefully by the time of this presentation we should be able to give an update.
- 3 year funding allocation.
- This has been oversubscribed so won't receive the full amount requested.
- Small amount of allowance towards low carbon heating systems (Air Source) which will be utilised if successful.

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