

Housing Environmental and Sustainability Strategy

March 2022



Prepared for

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1. Overview

Concern for the environment and upholding a broader sustainability agenda are integral to the management of the Southampton City Council (SCC) housing portfolio.

Sustainability in the built environment encompasses a myriad of issues, but a fundamental concern is the conservation of energy and carbon reduction. Homes account for approximately 20% of greenhouse gas emissions in the UK, hence improvements targeting this sector hold significant scope for the potential mitigation of negative climate change impacts.

Two key climate change impacts that may be experienced by residents of Southampton are increasing overheating and flood risk. Approximately 10% of the city of Southampton has been identified as being at risk of tidal flooding. Notably SCC are already working in partnership with the Environment Agency to develop a flood infrastructure scheme called the River Itchen Flood Alleviation Scheme to aid in addressing this.

This strategy sets out the proposed environmental strategy for the SCC housing portfolio for 2021-2025, with a key focus on energy and carbon reduction.

This document will provide the following:

- **Background** - an overview of the key achievements of SCC to date with regards to the sustainability of their housing portfolio;
- **SCC's approach to sustainability** - including key environmental, social and economic considerations;
- **Energy Efficient Homes & Objectives for 2021-2025** - performance objectives for existing homes within the portfolio and new homes being added to the portfolio; and
- **Wider Sustainability Agenda** - a strategy for wider sustainability issues in relation to the housing portfolio – including waste management, resource efficiency, local air quality, water efficiency and the natural environment.

This strategy document supplements the *SCC Housing Asset Management Strategy 2022-2026* and aims to align with the vision set out in the Council's *Greener City commitments for Southampton*, to:

'Create a cleaner, green, healthier and more sustainable city'



2. Background

The UK has an ambitious 2050 net zero carbon target to address global warming. SCC's dedication to decarbonisation and enhancing the energy efficiency of its housing stock are addressed by a number of policy documents that have been produced to date, including:

Green City Charter for Southampton

Greener City Commitment

Southampton City Council Housing Strategy 2016 - 2025

Southampton Corporate Plan 2021 - 2025

Carbon Reduction Policy 2018

The New Homes Programme Delivery Strategy

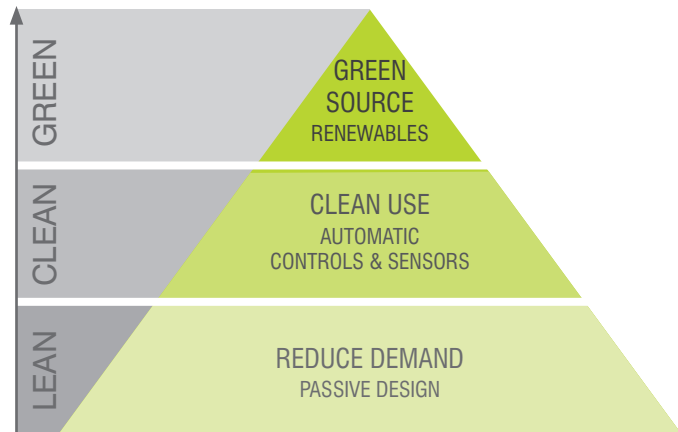
SCC's dedication to sustainability is well represented by the Council's Greener City commitment. In addition to the UK carbon neutral by 2050 target, the Council's commitment sets out a vision to improve the lives of those living in the city by setting aspirations for the wider sustainability agenda:

Greener City commitment

1. We want to be net zero carbon on housing by 2040;
2. We will take actions that will improve the quality of life in our city. We want the Healthy Life Expectancy Indicator to be the best amongst our peers and to remove the difference cities like Southampton experience with rural areas in terms of deaths attributed to air pollution;
3. We will work in partnership, share our knowledge and inspire others;
4. We will protect and enhance our natural environment;
5. We will make the best use of our resources, reduce our energy consumption, minimise waste and ensure we repair reuse and recycle;
6. We will encourage, promote and incentivise the use of sustainable and active travel;
7. We will reduce emissions and aspire to satisfy World Health Organisation air quality guideline values. By 2025 we want to see nitrogen dioxide levels of $25\mu\text{g}/\text{m}^3$ as the norm;
8. We will use energy that is generated from renewable sources and support the generation of sustainable energy that does not compromise local air quality;
9. We will use services and products that support our vision.

With regards to an approach to energy efficiency in homes, SCC embrace the principles of the Energy Hierarchy.

The Energy Hierarchy sets out an approach to enhancing the energy efficiency of the built environment via the, 'Lean, Clean and Green' application of design measures. SCC adopts this fabric first approach in applying improvements to both its existing housing stock and for new build properties being added to the portfolio.



The Southampton Home Designers' Manual has been produced by SCC to provide a resource for designers delivering new homes, in conjunction with the *Guide to Sustainable Development* written by Helen Krzanowski. These guides stipulate that new homes must be designed with a 'fabric first' approach, in line with the energy hierarchy.

Key 'fabric first' design principles to be prioritised on new build properties include:

- + **Optimising Orientation and Building Form**
- + **Air Tight Construction** – air test result targets significantly below the Building Regulations threshold target, to reduce air leakage and associated heat losses.
- + **Low Construction Element U Values** – U value targets significantly below the targets set by Part L of the Building Regulations, to reduce heat loss via conduction through the building fabric.
- + **Enhanced Thermal Bridging Details** – reducing heat losses at the junctions between construction elements, at corners and around openings.
- + **Overheating Risk Mitigation** – reducing the requirement for comfort cooling by designing out overheating risk and optimising solar shading.

Implementing the principles of low carbon design on existing homes is more challenging, due to the limitations associated with building fabric and installed building service systems. It can be particularly difficult to incorporate enhancements to non-traditional¹ stock - the current SCC portfolio includes approximately 5,965 dwellings that are defined as non-traditional construction. The costs associated with upgrading the building fabric in non-traditional homes needs to be carefully considered when looking on balance at what energy savings the residents are likely to achieve as a result of the works.

An EPC provides a measure of the energy efficiency of a property on an Asset Rating scale of A-G – with the most energy efficient homes being in Band A (typically reflecting the most energy efficient new build homes). SCC currently hold EPC data for approximately 30% of their portfolio on a database. The average energy efficiency rating for a dwelling in England and Wales is Band D. A summary of the data held for the SCC portfolio is summarised below:

Mean Asset Rating – within Band D (High D)

Mode Asset Rating – within Band D (High D)

The snapshot of available EPC data therefore shows an alignment with the national average, with a mean and modal asset rating of D – notably falling within the higher, better performing end of the EPC Band D bracket.

¹ Non-traditional housing construction types include all methods of construction other than solid or cavity brick and/or block wall construction.

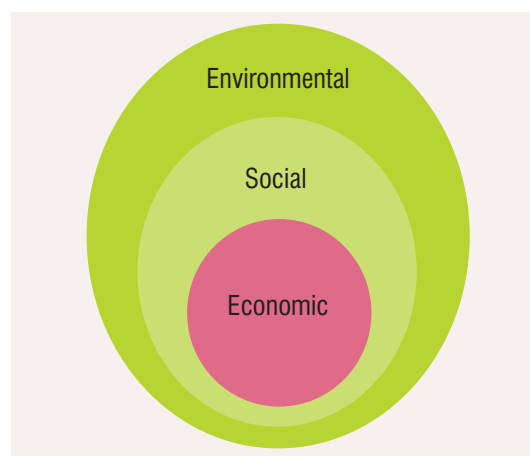


3. Approach to sustainability

3.1. Overview

SCC intends to adopt a holistic approach to its sustainability strategy over the next five years. It is proposed that this will be achieved by striking a balance between the three pillars of sustainability – environmental sustainability, social sustainability and economic sustainability.

It is only through considering the nested dependencies of these three factors that a truly viable sustainable strategy can be established.



3.2. Key Environmental Considerations

The nested dependency model of sustainability demonstrates societal and economic reliance on our environment.

The environmental sustainability agenda for the SCC housing portfolio is the focus of this appendix, and a myriad of environmental considerations will be addressed in Sections 4 and 5 in relation to the SCC housing portfolio – including energy, waste, material resources, air quality, water and the natural environment.

3.3. Social Impacts

It is crucial to consider the occupants of the dwellings and their wellbeing when addressing the wider environmental sustainability principles.

The SCC estates and deprived areas often coincide. This presents numerous issues concerning the needs of our tenants and the opportunity for SCC as the landlord.

Some key considerations relating to social impacts on occupants are listed below:

- + Fuel poverty** - Any improvements to the EPC asset ratings of the properties within the SCC portfolio achieved over the next five years are likely to result in tangible reductions in the operational running costs of the properties for the occupants, and therefore reduce the risk of fuel poverty.
- + Ease of operation of installed building services systems** - The complexity of any system upgrades will need to be considered in terms of being user friendly, with appropriate operational guidance provided where necessary.
- + Disruption associated with some potential upgrade works** - The installation of some energy efficiency upgrade works may require a property to be vacated in order for works to be undertaken – where possible, works could be done between tenancy changes.
- + Inequality in relation to home location and associated access to public transport and local air quality.**



3.4. Key Economic Considerations

3.4.1. Whole Life Cost

Considering the whole life cost of a new home involves an appraisal of management, maintenance, repair, refurbishment and end of life disposal costs in addition to the initial capital cost investment of building a new home. While private developers typically have little long-term interest in the homes they build, SCC retain strategic interests in the new homes they partner to deliver and therefore have a vested interest in the future costs of the homes that are being developed to be added to the social housing provision.

The future approach to enabling new affordable homes in the city will require developers to consider implications on the future management of the homes, standardisation of parts, selection of low maintenance materials/equipment and ease of repair.

3.4.2. Capital Expenditure Funding Opportunities

It is important to consider the financial viability of implementing environmental sustainability measures. There are some grant opportunities that will be investigated by SCC over the next five years that may offer a subsidised route to implementing upgrades to the insulation and heating systems on eligible properties within the SCC portfolio. It is the intent for grants to be used to aid in delivering upgrades above and beyond what the HRA can achieve on its own.

Two primary funding opportunities that will be available to SCC are the ECO Grant and the government Green Homes Grant.

These grants are outlined below in further detail:

ECO Grant

The ECO grant is a government run energy efficiency scheme to help reduce carbon dioxide emissions and fuel poverty. The measures that can be funded are typically heating system/insulation upgrades. The ECO policy is predominantly based on the Home Heating Cost Reduction Obligation (HHCRO). Under this obligation, medium and larger energy suppliers (full list available here:

[www.ofgem.gov.uk/environmental-programmes/eco/contacts-guidance-and-resources/eco-suppliercontact- details](http://www.ofgem.gov.uk/environmental-programmes/eco/contacts-guidance-and-resources/eco-suppliercontact-details)) are obligated to fund measures that:

‘Improve the ability of low income, fuel poor and vulnerable households to heat their homes.’

Occupants living in social housing with an EPC rating of E or worse may be eligible for the scheme, in addition to situations where the home occupants receive one of a number of benefits (i.e. universal credit, disability living allowance, income base jobseekers allowance etc.) and satisfy the relevant income requirements. It is important to note that the eligibility for ECO does not necessarily mean that an energy supplier will decide to install energy efficiency measures in a home. It is at the discretion of the suppliers to decide which measures they fund and how much they spend per property – in some instances they may only offer to partially cover of the costs of the upgrade works.

Green Homes Grant

The Chancellor announced in July 2020 that £2 billion of financial support would be provided through the Green Homes Grant to cut carbon, save householders money and create 'green' jobs. This £2 billion of funding comprised of up to £1.5 billion of funding via energy efficiency vouchers to homeowners and up to £500m of funding allocated to English Local Authority delivery partners, through the Local Authority Delivery Scheme (LADS).

Eligible energy efficiency upgrade measures are works that will help improve EPC Band D, E, F or G rated homes. Potential works include, but are not limited to, wall insulation, loft insulation, underfloor insulation, as well as low carbon technologies and solar photovoltaic installations. Notably, unlike for the Green Homes Grant voucher scheme, the Local Authority Delivery Scheme does not set restrictions on 'primary' and 'secondary' measure adoption, but rather SCC would be expected to set out the mix of measures they are intending to install and why they are considered to be most appropriate and represent good value for money.

Given the scale of the projects envisaged for the application of these grants, it is recognised that there will be evaluation costs to administer the projects and enable the funding to be best utilised. There is therefore an allowance for Local Authorities to use up to 15% of grant funding to fund administrative, delivery and ancillary works – including completion of EPCs where these are not already available, essential repair works, maintenance and preparation of properties to facilitate the proposed energy efficiency upgrade works.



3.4.3. Grants available to home occupiers

There are a number of further grants available that could be of assistance to residents of the SCC portfolio in helping them to reduce their running costs and alleviating incidences of fuel poverty. This may be relevant to residents currently occupying lower banded EPC properties in the interim, before their properties are upgraded as part of SCC's envisaged property upgrade works to meet their 2040 carbon neutrality target.

SCC could help in informing their residents of all the funding opportunities available to them, by providing information on the below:

Winter Fuel Payments - This government grant could qualify tenants for between £100 - £300 to aid in paying heating bills. To be eligible, tenants will need to be getting the State Pension or another qualifying social security benefit.

Warm Home Discount - This government grant could qualify tenants for £140 off their electricity bill for the winter period. To be eligible, tenants should get the Guarantee Credit element of Pension Credit or meet low-income criteria.

Cold Weather Payments - This government grant could qualify tenants for a payment of £25 for each 7-day period where the average temperature in their area is recorded as, or is forecast to be 0°C or below. To be eligible, tenants will need to be receiving qualifying government benefits.

Renewable Heat Incentive (RHI) - The RHI is a government scheme that supports renewable heating systems such as air source heat pumps (ASHPs), ground source heat pumps (GSHPs), wood boilers/ pellet stoves and solar water heating systems. Where eligible systems are installed, and the homeowners will be eligible to be paid for every unit of renewable heat produced by the systems for a number of years.

Smart Export Guarantee (SEG) - This scheme came into force in January 2020 and supports renewable electricity generation technologies such as solar PV, wind turbines and micro-CHP. Where eligible systems are installed on tenants' homes, large energy supply companies are obligated to pay for every unit of electricity that is fed back into the grid. The available SEG tariffs vary significantly across the obligated energy supply companies, as they can set their own tariffs.

Electric Vehicle Homecharge Scheme (EVHS) – In recognition of the role that electric vehicles will have in the decarbonisation of the UK transport system, the government have introduced this grant scheme to assist with the costs associated with the installation of electric vehicle charging points outside homes. This grant can provide funding of up to 75% of the cost of installing home electric vehicle charge points. To qualify for the scheme, the home occupier must own a qualifying electric vehicle and have designated, private off-street parking.

3.5. Sustainability Accreditation Standards

3.5.1. Overview

Adopting a formal sustainability accreditation scheme could aid SCC in adopting a structured approach to enhancing the sustainability of their portfolio and measure their progress in enhancing the performance of their assets. This section will provide a brief overview of some of the most appropriate schemes identified for further consideration by SCC.

3.5.2. Certified Sustainable Housing Label

The Certified Sustainable Housing Label (CSHL) is a sustainability accreditation label available to European housing companies, developed by Ritterwald.

The assessment encompasses a myriad of sustainability issues – broadly spread between ‘Social Criteria’ and ‘Green Criteria’.



The process is summarised below:

1. SCC will be required to complete a questionnaire and templates provided by Ritterwald to enable data collection;
2. Review of the application by Ritterwald;
3. Secondary review of the SCC application by an independent party;
4. Approval/rejection of the label to SCC.

The label could be retained by SCC after the initial year of holding it if it passed an annual review. To pass this review, SCC would need to demonstrate that it had complied with the goals set out in the initial assessment process – transparently documenting its progress.

Clarion Housing are a prominent label holder of this scheme, although notably there do not appear to be numerous other holders of the label at present.

Once certified, SCC would be able to present themselves as holders of this label in applications for investments/grants – demonstrating their dedication to the sustainability agenda.

3.5.3. SHIFT

SHIFT is a sustainability assessment and accreditation standard for the housing sector, provided by Suss Housing.

A SHIFT assessment covers 21 environmental criteria – with key issues being CO2 emissions, water usage, biodiversity, minimising waste and responding to climate change risks.

The process is summarised below:

1. A SHIFT assessor and manager would be assigned to SCC;
2. SCC would be provided with an online assessment tool to complete. This would include 21 SHIFT questions covering key environmental performance areas;
3. The assigned SHIFT assessor will review the completed assessment tool and then have a meeting with SCC to discuss the submission, verify data where required and set out any further information required;
4. SCC would be required to collate and submit any further information requested by the assessor;
5. The assigned SHIFT assessor will then prepare an assessment report – this report will set out a summary of performance, recommendations for improvement and advise the level of SHIFT accreditation achieved. The accreditation levels available are commended, bronze, silver, gold or platinum. A comparison report will also be provided that will allow comparison of SCC's performance against peers in the sector (notably Suss already work with 40 UK social landlords) - facilitating a useful benchmarking exercise.
6. Awarded SHIFT accreditation level can then be used to demonstrate SCC's environmental credentials and dedication to embed sustainability into its portfolio to funders, partners and regulators.

A SHIFT assessment is a very quantitative procedure. Another benefit for this form of assessment is that Suss Housing are in the process of developing their online portal to enable the primary quantitative data provided by SCC to be used in ESG/investor reports.

A SHIFT assessment does not assess the social side of sustainability as the CSHL does, but Suss Housing do partner with a social reporting consultancy who can assist on this side of the assessment in tandem with the SHIFT environmentally focussed analysis.

3.5.4. BREEAM Domestic Refurbishment and Home Quality Mark

An additional accreditation option open to SCC would be gaining accreditation for its homes on construction or during refurbishment through the Building Research Establishment (BRE).

On new build housing schemes, the BRE offers the Home Quality Mark (HQM) standard. This standard uses a star rating to give an indication of a home's sustainability credentials – a new home can achieve a 1–5 star rating. The rating is determined based on a home's performance across the HQM issues, which include transport, outdoor environment (encompassing ecology), safety & resilience, indoor comfort, energy, materials, space (including provision for recyclable waste and clothes drying), water, quality assurance, construction impacts and customer

experience (including aftercare and home information provision). A licensed HQM assessor would set out a strategy to meet a targeted star rating, and then it would be the responsibility of the design team and contractor to incorporate the proposed strategy into the detailed design and construction of the new home/s.

On housing refurbishment works, the BRE offers the BREEAM Domestic Refurbishment scheme. This enables the assessment and certification of domestic conversions in addition to domestic refurbishment schemes. A housing scheme can achieve Outstanding, Excellent, Very Good, Good or Pass. In a similar manner to HQM, the rating is determined based on performance across the BREEAM issues, which include management, health and wellbeing, energy, water, materials, waste, pollution and innovation. A licensed BREEAM Domestic Refurbishment assessor would set out a strategy to meet a targeted rating band, and then it would be the responsibility of the design team and contractor to incorporate the proposed strategy into the detailed design and construction of the new home/s in order to achieve accreditation.

3.5.5. Summary

The CSHL and SHIFT accreditation frameworks offer the most comprehensive means of assessing the SCC portfolio through a single assessment procedure. Both of these frameworks offer a means of achieving an accreditation that could be used to demonstrate to funding authorities SCC's dedication to making its housing portfolio more sustainable.

The SHIFT assessment procedure offers a quantitative assessment, with a range of accreditation levels to tangibly reflect to SCC the improvements in their housing portfolio over the years they are signed up to the process.

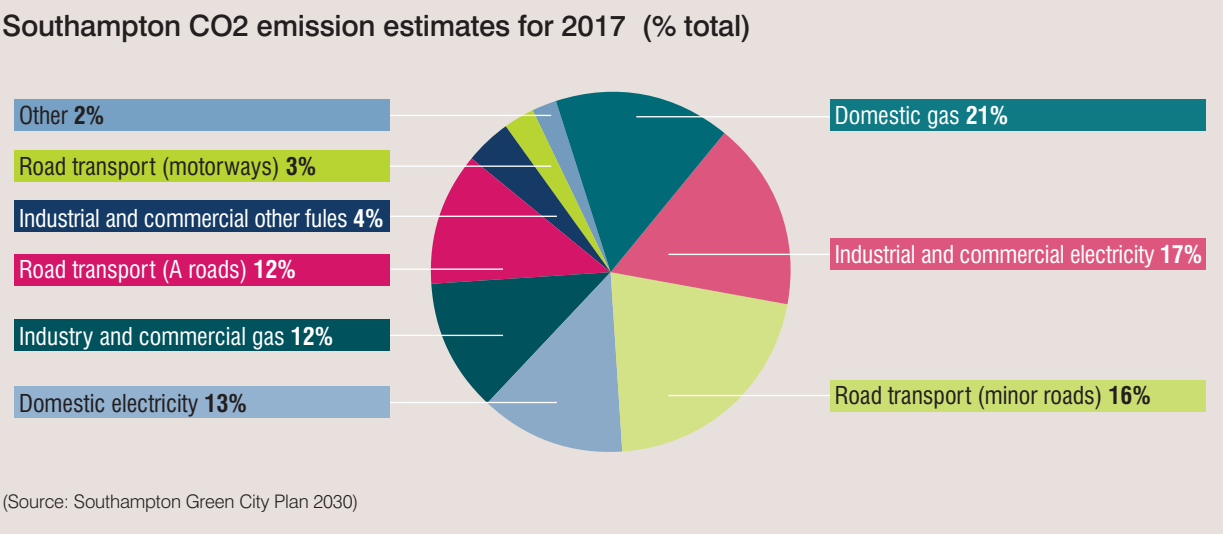
The CSHL accreditation scheme is a more qualitative assessment. One of the benefits this assessment process has over SHIFT is the inclusion and focus of the social element of the sustainability agenda (although Suss Housing does offer partnership with another assessor organisation to cover this). The range of other UK social landlords registered with the scheme also offers great potential for the benchmarking of the SCC portfolio.

It is proposed for SCC to engage with Suss Housing and Ritterwald over the next year to establish the feasibility of SCC proceeding with a SHIFT or CSHL assessment respectively. Ridge have engaged Suss Housing who have offered to provide a free 30-minute presentation to relevant SCC stakeholders, and it is anticipated that Ritterwald would offer the same/ similar. This engagement with the providers by SCC would be needed to establish the costs associated with achieving and maintaining these accreditation labels with these providers.

4. Energy efficient homes & objectives for 2020-2025

4.1. Overview

On a national level, homes account for approximately 20% of greenhouse gas emissions in the UK. The pie chart below demonstrates that at a local level, domestic gas and domestic electricity CO2 emissions account for 21% and 13%, respectively, of the city's emissions. Therefore, reducing emissions associated with SCC's homes will be a critical action for SCC in meeting the UK's net zero carbon by 2050 target.



The government has recently published the Future Homes Standard, which has set out a roadmap for requirements for new homes in paving the way for the UK to meet its net zero carbon targets by 2050. A revised version of Part L of the Building Regulations – setting out an uplift in the energy efficiency standards required for new homes – is due to come out in June 2022 as an initial steppingstone to meeting the requirements of the Future Homes Standard.

Approximately 80% of the buildings that will exist in 2050 have already been built – so it is crucial that the energy performance of SCC's existing housing stock is also addressed. SCC currently has approximately 21,357 dwellings within its portfolio.

4.2. New Homes

SCC will continue to encourage its developers to adopt 'fabric first' design principles on new build homes. SCC has developed the Southampton Home Designers' Manual to provide a guide for the development of energy strategies for new developments in line with these principles. This manual also encourages designers to adopt the LETI 2 approach for energy efficiency and carbon management, to aid in delivering SCC's aspiration to reach net zero carbon on housing by 2040. The implementation of these measures will aid in reducing the demand for energy in the new build homes being added to the SCC portfolio in the first instance.

By 2025, it is anticipated that there will be a government ban on installing gas fired boilers in new homes. This shift is being led by the decarbonisation of the electrical grid – with a larger contribution to generation being made from using renewable technologies and nuclear plant.

² The London Energy Transformation Initiative (LETI) is a voluntary group of built environment professionals who have produced a Climate Emergency Design Guide to set an approach for how new buildings can be designed to meet the UK's ambitious climate change targets.

As we approach 2025, it is envisaged that there will likely be a shift away from gas-fed forms of heating systems in new build properties, with a greater number of properties being fitted with heat pump technologies and direct electric forms of heating. Where direct electric heaters are proposed, it is envisaged that supplementary systems - such as domestic hot water heat pumps (i.e. Dimplex Edel systems) and roof mounted PV arrays - will be considered to aid in offsetting the running costs for the building occupants and to improve the achievable EPC rating. The UK Government has also launched a £320million investment programme to expand district heating capacity – with a target for 15-18% of heat to be generated by district heating networks by 2050.

The following objectives relating to new build homes have been identified:

- New homes to be designed to have a space heating demand of < 15kWh/m2/yr and a total energy usage of 35kWh/m2/year; and
- Seek to improve the energy efficiency rating for new homes to EPC 'A' by 2030.

4.3. Existing Homes

The existing properties within the SCC portfolio offer the greatest scope with regards to the potential to reduce operational CO2 emissions.

The government set out aspirations for the minimum performance standards of social housing in the Clean Growth Strategy that was published in 2017, as below:

'We want all fuel poor homes to be upgraded to Energy Performance Certificate (EPC) Band C by 2030 and our aspiration is for as many homes as possible to be EPC Band C by 2030 where practical, cost effective and affordable.'

SCC aims to improve the asset ratings of the existing portfolio measured through the RdSAP (i.e. Reduced Standard Assessment Procedure) in line with the ambitions set out in the Clean Growth Strategy. At present, **the mean asset rating across the portfolio for properties with available EPC data is within Band D.**

In the first instance, it is proposed that SCC prioritise the expansion of their available EPC data. At present, data is held for approximately 30% of SCC's portfolio. This will enable SCC to have a more accurate understanding of the energy efficiency of their existing stock.

As set out in the strategy for New Build Homes in Section 4.2, a 'fabric first' approach will be adopted for the refurbishment and upgrade works being proposed.

Potential upgrade opportunities that will be addressed will include:

- The installation of double/triple glazing;
- The installation of cavity wall insulation;
- The addition of external wall insulation (EWI);
- The installation/upgrade of loft insulation;
- Addition of insulation to domestic hot water cylinders and pipework; and
- The installation of fossil fuel free central heating and domestic hot water systems (interim low NOx boiler upgrades prior to a fossil fuel free alternative installation).

It is envisaged that a tool such as Carbon Reduction Options for Housing Managers (CROHM) will be used to develop a strategy with the capability to set out a pathway to achieve a target RdSAP asset rating, prioritising applicable energy upgrade measures based on cost effectiveness. It should be noted that achieving an EPC Band B rating across the SCC portfolio will almost certainly require an upgrade of dwelling heating systems away from gas fired solutions to more sustainable alternatives.

Upgrade works can be undertaken on a whole house/ terrace/ block approach, or in an incremental manner as listed below:

1. Routine repairs and maintenance;
2. During void programme;
3. During Decent Homes upgrade works/other existing focussed upgrade works;
4. As a new programme to install multiple 'drop in measures', such as loft insulation, heating replacement etc.

CROHM will aid in defining in the rollout strategy for the existing SCC stock.

Financial Viability reviews will need to be undertaken – which in some instances may lead to a disposal recommendation.

The following objectives relating to existing homes have been identified:

- Commission a programme of EPC surveys to increase the percentage of EPC performance data held for existing housing stock; and
- Commission a qualified Retrofit Co-ordinator to set in motion a programme of energy efficiency upgrade works to meet the objective of improving the energy efficiency rating of all homes to a 'C' rating by 2030 and to a 'B' rating by 2035. It is envisaged that use of a tool such as Carbon Reduction Options for Housing Managers (CROHM) will facilitate the achievement of this objective.

5. Wider sustainability agenda

5.1. Overview

Further to SCC’s ambitions to enhance the energy efficiency and carbon credentials of its housing stock, it has aspirations to address wider aspects of the sustainability agenda.

On renewal/upgrade of existing housing stock and addition of new properties to the SCC portfolio it is proposed for a review of the key sustainability issues addressed below to be undertaken – decisions made will have regard for these environmental factors where relevant.

5.2. Waste management

SCC has already set 3 key deliverables to aid in reducing waste within the *Our Greener City Plan*



- Extend the range of materials accepted by the Council’s recycling services;
- Introduce a city-wide **waste reduction and recycling initiative** to identify and address barriers to waste prevention, reuse and recycling; and
- **Double waste recycling rates** by 2030.

Measures proposed to aid in delivering waste efficiency in the housing portfolio are set out below:

Construction waste can be minimised during the construction process via the effective and appropriate management of construction site waste. It is proposed that on construction sites, Site Waste Management Plans (SWMPs) are implemented to outline procedures and good practice measures that can be adopted on site – including setting target benchmarks for resource efficiency.

Contractual targets will be set with construction partners as below for new build schemes:

Construction Resource Efficiency Targets (Either tonnage/volume metric can be opted for)

Waste generated per 100m ² (project wide gross internal floor area (GIFA)) for new build residential projects	
m ³ per 100m ²	Tonnes per 100m ²
≤8.1	≤4.9

Diversion from Landfill Targets (Either tonnage/volume metric can be opted for)

Type of Waste	Percentage diverted from landfill (by Volume)	Percentage diverted from landfill (by Tonnage)
Construction	70%	80%
Demolition	80%	90%



For refurbishment schemes, custom targets will need to be set on a site-specific basis, based on the extent of the refurbishment works being undertaken.

A significant amount of waste is also produced by households. SCC has ambitions to improve waste management facilities and extend the range of materials accepted by the council's recycling services. Encouraging home occupants to choose materials that can be recycled and to compost biodegradable waste will aid in reducing the amount of operational waste being sent to landfill across SCC's asset portfolio. Composters are to be provided to homes with gardens to aid in enabling this. Kitchens are to be designed to enable easy recycling – i.e. by incorporating in-cupboard waste and recycling bins for the separation of waste. Providing occupants with information about Local Authority collection schemes and local recycling facilities will also aid in facilitating this process. Bin stores are to be designed to allow adequate space for general waste, recyclable waste and compostable waste segregation – with reference to the requirements detailed in the *SCC Residential Design Guide*. Consideration of underground waste storage facilities is to be encouraged by a provider such as Sulo.

5.3. Resource efficiency

SCC has set 4 key deliverables to aid improving resource efficiency

- Manage our resource demand by **ensuring existing assets are used effectively**;
- Implementation of the newly adopted **Council Social Value and Sustainable Procurement Policy Framework**;
- Embed sustainable outcomes as a key consideration into the procurement process; and
- Engage with **contract suppliers who demonstrate environmentally and socially sustainable behaviours** within their organisation.



Measures proposed to aid in delivering resource efficiency in the housing portfolio are set out below:

There is an associated degree of embodied carbon in construction materials. On new developments and refurbishment works, where practically and economically feasible, SCC will prioritise the use of locally sourced construction materials and equipment with a low embodied carbon impact over their lifetime.

The use of prefabricated construction materials in some instances, may aid in reducing waste on site and will therefore be considered where practical and financially viable.

The principles of designing for deconstruction will also be encouraged – increasing the potential quantity of construction materials that could be re-used at the end of a new home's life.

5.4. Local air quality

SCC recognise that poor air quality can have a detrimental impact on human health and wellbeing. The city has produced a *Clean Air Strategy*, *Local NO₂ Plan* and *Air Quality Action Plan* to address air quality in the city. SCC has set the ambition in *Our Greener City* commitment for nitrogen dioxide levels of 25ug/m to be achieved in the city by 2025.

SCC has set 3 key ambitious targets to aid in improving air quality in the city within *Our Greener City* commitment



- 100% of bus routes to be serviced by **clean air zone compliant buses** by 2020;
- Work with partners to deliver the infrastructure needed to support a **zero-emission public transport system** across the city by 2030; and
- Be in the top 10% of UK cities for number of **public electric vehicle charging units** by 2025.

Measures proposed to aid in delivering improved local air quality in the housing portfolio are set out below:

Local air quality can also be improved by encouraging use of sustainable means of transport – such as walking, cycling and using public transport. According to the travel hierarchy, priority will be given to active travel measures (i.e. walking and cycling) ahead of technological improvements.

SCC has already been awarded funding by the Clean Bus Technology Fund and Bus Partnership to work with local bus providers in the city to tackle the older, non-euro 6 buses servicing the city. A fleet upgrade programme is being implemented to ensure all operational buses in the city will meet the same standard as a Euro 6 vehicle by the end of this year. Encouraging more home occupiers to use these means of sustainable transport may be achieved via articles in newsletters or inclusion within home welcome packs.

In the government's 10 Point Plan for a Green Industrial Revolution that was released on the 18th of November 2020, it has been proposed that no new cars or vans powered wholly by diesel or petrol will be sold in the UK from 2030. This, along with the associated reductions in localised car exhaust emissions, will prioritise the rollout of the integration of electric car charging points in new homes and across the city to facilitate this move away from fossil fuel using vehicles. For existing homes in the portfolio, it is proposed that SCC undertake a trial of streetlight charging technology. Streetlights can be retrofitted with charging technology to allow residents to charge their cars via smart cables when parked adjacent to an upgraded streetlight. Bills are then sent to residents via their phone/PC. Rollout of this strategy could enable the housing portfolio to be 2030 ready, when the proportion of electric vehicles is anticipated to start increasing rapidly. It is proposed that, in the first instance, SCC approach Scottish and Southern Electricity Networks to establish their interest in collaborating with this endeavour.

It is also proposed for SCC to undertake a feasibility study into the potential of introducing centralised multi-storey car parks for residents of their housing estates. Centralised car parking facilities could offer secure parking with integrated electric charging facilities for residents.

Separation of car storage from homes could encourage walking, offer more potential for green areas within the estates and allow children to play more safely on the streets outside their homes.

There is also an increasing focus on particulate matter. Indoor fireplaces contribute significantly to fine particulate matter. It is proposed for no new indoor fireplaces to be installed in new build properties being added to the SCC portfolio, and for existing fireplaces to be removed from existing SCC properties during void periods.

It is proposed for a local air quality assessment to be undertaken on the existing SCC housing portfolio – to determine which properties are in areas of poor air quality and in need of mitigation measures. Potential measures will then be assessed for viability which include mechanical ventilation systems with filtration and installation of green walls/tall hedges to aid in ‘blocking’ pollutants from sources such as busy roads.

On new build housing schemes and major refurbishment schemes, it is proposed for air quality assessments, as set out above, to be undertaken as part of the design process and for necessary mitigation measures to be incorporated within the design proposals. It is also proposed to require contractors to implement construction traffic management plans and dust management plans to mitigate detrimental air quality impacts. Low NO_x (>24mg/kWh) boilers should be installed as a minimum, although with a preference for all electric heating solutions. A shift towards electric heating solutions (as proposed as part of the decarbonisation strategy) will reduce local NO_x emissions and therefore, as well as aiding in meeting the city’s decarbonisation targets, will also have a positive impact on local air quality.



5.5. Water efficiency

The World Economic Forum's Global Risks 2019 report listed water security as one of the top five global risks in terms of impact, with water supplies in Southern England coming under increasing pressure due to population growth and urbanisation. Therefore, the importance of reducing water consumption is becoming an increasingly critical priority.



On new build developments, SCC will aspire for low flow/low volume appliances to be installed to reduce the potable water usage within dwellings. Properties with gardens will have rainwater harvesting butts installed – the architect design brief will include this as a mandatory item.

The SCC *Our Greener City* commitment has also set out an aspiration to assist Southern Water conservation schemes – including Aqua Hacks which aims to educate and inform homeowners on how they could reduce their household potable water usage.

5.6. Natural Environment

Access to publicly accessible green space and the natural environment is recognised as having a positive impact on the wellbeing of local residents. Enhancing existing and providing new green infrastructure across the city can aid in increasing biodiversity, 'offsetting' carbon emissions and mitigating the urban heat island effect.

SCC has set 3 key ambitious targets to aid in protecting and enhancing the natural environment in the city within SCC's *Our Greener City* commitment:



- Establish a Green Space volunteers forum to harness and **engage public interest** in improving the city's open spaces;
- 25 new **urban wildflower meadows** to be introduced by 2025 through the implementation of a Grassland Management Plan; and
- **Increase city tree coverage** by planting at least 5,000 trees in public land by 2030, to be aided by accessing the Urban Tree Challenge Fund.

Measures proposed to aid in delivering an enhanced natural environment in the housing portfolio are set out below:

The redevelopment of previously developed brownfield sites instead of the development of greenfield sites will continue to be prioritised by SCC.

Further to this, there is intent for a 'Green Grid' to be mapped for the city as part of the *Our Greener City* commitment. To aid in facilitating this mapping, it is proposed for green infrastructure asset registers to be developed for the SCC housing estates and natural capital assessments to be undertaken to establish their current ecological value.

it is proposed for scope for enhancement of the green infrastructure assets to be appraised in relation to the below:

- **Biodiversity conservation and enhancement;**
- **Potential to reduce fragmentation;**
- **Potential for increasing access to green space;**
- **Climate change adaptation; and**
- **Potential for enhancing health and wellbeing.**

As part of the consideration for biodiversity enhancement, the scope for the planting of new trees within the estates is to be explored - given the benefits of trees to rainwater attenuation, local air quality and the general wellbeing of residents. It is envisioned that the proposed feasibility study into the potential for car parking facilities may aid in providing some free area in the locality of the homes within the portfolio for this provision.

For redevelopments/new build schemes being added to the SCC housing portfolio that will require a planning application, there will be a Biodiversity Net Gain (BNG) requirement that will be met as part of the development proposals. A BNG policy for SCC projects that do not require a planning consent to proceed will be developed as part of the 'Green Grid' work being undertaken.

For new planting, species will be selected that support biodiversity. Reference will be made to the planting standard requirements set out in the City Services Policy.



6. Conclusion

This strategy document has outlined some key actions SCC has undertaken to date in enhancing the energy efficiency and climate change impacts of their housing portfolio, and an outline of their strategy for the future. It has been demonstrated that housing has a key role in reducing the council's impact on and enhancement of the natural environment and public health.

It is proposed for this to be a working strategy document, to be reviewed at 2-year intervals. This will enable the targets and strategy set out in this document to be updated in line with the ongoing assessment of the existing housing stock and updates to central government policy - including the upcoming changes to Part L of the Building Regulations due June 2022.

Key energy efficiency objectives have been set out for the period of 2021-2025 for both existing and new build properties to further improve the energy performance of their portfolio – taking into account social and financial factors. SCC's wider sustainability agenda has also been addressed, setting out the aspirations for the enhancement of the council's housing portfolio to aid in the development of a cleaner, green, healthier and more sustainable city.



