Southampton City Council Climate Change Strategy 2023-2030

How we will become a net zero city and tackle the challenges of climate change

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Summary

What

This Strategy is Southampton City Council's response to the climate emergency and provides the framework for the council's actions to deliver net zero carbon.

The Strategy explores why tackling and adaptation to climate change is important, what needs to be considered and the wider benefits which will be achieved, and finally highlights key timescales and projects for delivery. It is accompanied by an action plan in the appendix which will provide more detail and assign actions to lead officers or teams. The action plan will be reviewed on an annual basis, whilst the overarching strategy itself is to be reviewed every three years.

- The council will need to reduce carbon emissions to **mitigate** the effects of global climate change and help ensure cleaner air, improve public health and achieve a green economy. Green economies will be more sustainable and ensure that natural assets continue to provide the resources and environmental services for our continued wellbeing. This involves the commitment to net zero, targets and offsetting/insetting and opportunities to support biodiversity. Nature-based solutions will be sought to contribute to reducing emissions in the first place and offsetting to be last resort with it remaining local, accountable, and long term. However, there will inevitably be the need for some offsetting as an interim solution. We will continue to explore opportunities to achieve true net zero.

- **Adaptation** is a necessary part of this process, and the council will need to put measures in place to influence and adjust the environment, behaviours, and practices to withstand the effects that climate change is likely to present and, benefit from opportunities.

- These outcomes rely on the council in becoming **resilient**, anticipating any shocks that climate change might bring to everyone's daily lives and being prepared to recover from their impacts in a timely and efficient manner. Preserving biodiversity goes hand in hand with tackling climate change as increasing the quality and quantity of green infrastructure will help tackle both the causes and effects of climate change. Climate change will have adverse effects on many species therefore tackling climate change is important for both human and animal health.

Summary

Why

Net zero means reducing emissions as close to zero as possible and to balance any remaining emissions by removing them from the atmosphere. The term net zero is important in terms of reducing global warming. Our world is warming causing more extreme weather events, and sea level rise. The scientific consensus is that human induced climate change has already started. The further warming of the atmosphere threatens our planet including our natural environment, and also human health and wellbeing.

The consequences include increased flooding, more frequent and severe heat waves, water scarcity, more pollution, and loss of biodiversity. There will be a detrimental impact on people's lives including health, and damage to homes and businesses. This could include impact on transport infrastructure from extreme weather events e.g. flooding on roads, buckling rail tracks, and landslips. Climate change is already having an impact, with parts of the UK reaching over 40oC in July 2022.

Southampton is a bustling muti-cultural city with a growing prosperous economy and population. With continually evolving attractive investment opportunities bringing more people and businesses into the region, it is essential that social, economic, and environmental sustainability (sustainable development) is not lost for the sake of economic growth without the consideration of climate risk and sustainable processes, such as the circular economy.

The priority will be on improving outcomes and to focus on actions which will have environmental, social, and economic co-benefits such as job creation, equity and social cohesion, energy independence, health and wellbeing, resilience, and citizen engagement. Without the commitment toward net zero and the pledge to strive toward clean economic growth, not only will Southampton struggle to deliver the net zero goal; climate adverse events will arrive without the preparedness and resilience that is needed to prevent localised climate catastrophe.

Summary

When

The UK Government has set a legally binding target to reach net zero by 2050. This is enshrined in the Climate Change Act 2008. To avoid the worst damages of climate change, most of the carbon emissions reduction needs to happen within the next 10 years.

Southampton City Council declared a climate emergency in 2019 and soon after set itself the challenge of being a net zero organisation by 2030. More recently, the Southampton City Council Corporate Plan (2022-2030) sets a vision for a zero carbon city by 2035, so that the city can be part of the solution to tackling climate change.

2030

Southampton City Council buildings and fleet

2035

Southampton City, inc. tenants emissions

2050

National Target

Summary

How

The council has identified four goals to achieve this target:

- Goal 1: achieve net zero for the council's scope 1 and 2 emissions
- Goal 2: reduce the council's scope 3 emissions and establish a practical solution to achieving net zero
- Goal 3: social housing stock to be net zero by 2035
- Goal 4: apply authority and use influence to support the city in becoming net zero and climate change ready by 2035.

When the word 'emissions', is used we're talking about greenhouse gas emissions (GHG) which increase climate warming. Greenhouse gases are mostly carbon dioxide (also known as CO_2) and methane (CH_4) from burning fossil fuels for energy and refrigerants. Throughout the Strategy carbon dioxide equivalent (CO_2e) is referred to when talking about tonnes which account for all greenhouse gasses in a single unit

- Scope 1 direct emissions that the council controls, mainly from fossil fuel use such as for heating or our vehicles
- Scope 2 indirect emissions generated from producing the energy used in our buildings. This is mainly electricity use
- Scope 3 indirect emissions from sources the council uses but does not own or control, but can influence such as staff travel, all goods and services bought by the council, council building waste disposal and water.

Summary

Who

Strong collaborative partnerships with key stakeholders and organisations to achieve climate adaptation and make climate-risk related financial decisions will be key to safeguarding Southampton's future and green economic growth.

To achieve the 2035 city goal, it is acknowledged that as an influential key stakeholder and service provider, and as an individual corporate body, Southampton City Council also has a crucial part to play; a duty to lead by example, to influence and enable positive change, to guarantee that net zero is driven forward and delivered across the Southampton area. In response to this crucial need, Southampton City Council has developed this Climate Change Strategy with a vision to create a truly sustainable and climate resilient city.

The majority of respondents of the Net Zero Strategy Consultation said that all of the groups listed in the survey (National Government, businesses, organisations & industry, regional & local authorities and individuals) have a responsibility to achieve net zero targets. The Net Zero Strategy has now been renamed the 'Climate Change Strategy' following consultation due to change in scope of the document and to aid understanding.

Context

2.1 Climate Change

The climate crisis is the most significant global issue to face humanity for hundreds, if not thousands, of years. Scientific evidence, gathered over many years, shows that the planet is warming, and that human activity is the main contributor to this warming. Carbon dioxide levels have increased by about 45% since before the industrial revolution. All evidence shows that this increase in greenhouse gases is almost entirely due to human activity and our reliance on fossil fuels.

The UK is already affected by long-term rising temperatures, the most recent decade (2008-2017) has been on average 1-1.2 °C warmer than the 1961-1990 average. All ten of the warmest years in the UK have occurred since 1990 with the nine warmest occurring since 2002. Along with warming at the Earth's surface, many other changes in the climate are occurring including rising sea levels and more extreme weather events.

Southampton is impacted by different types of flooding including tidal, fluvial, surface water and groundwater. Every type of flooding is being impacted by climate change, and with sea level rise and more intense rainfall we will likely to see incidents of flooding grow. To date the city has been impacted by all types of flooding:

- Tidal - Large areas of the city centre are located within Flood Zones 2 and 3 and are therefore vulnerable to tidal flooding. Impacts from tidal flood risk have been recorded in areas of St Denys, Northam, St Marys and Weston.

- Surface water - Southampton is over 80% urbanised meaning there is a significant coverage of impermeable surfaces across the city which limits infiltration, and increases the reliance on underground and aging infrastructure. Surface water flooding can occur anywhere and is dependent on the volume, intensity and location of rainfall, with significant impacts seen at Millbrook Road West, Thomas Lewis Way and Central Station to name a few.

- Fluvial - Fluvial flood risk can occur from any of the city's waterways, including the River Itchen, Test, Tanners Brook and Monks Brook. Areas vulnerable to fluvial flooding and have experienced flooding frequently include Woodmill and Mansbridge.

At the UN Climate Change conference (COP21) in December 2015, 195 countries adopted the first-ever universal global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C above pre-industrial levels and pursue efforts towards limiting to 1.5°C. To do this we need to reach net zero carbon emissions by 2050 globally to have chance at limiting temperature increase and avoiding the worst effects of climate change. The UK government was the first nation to set a legally binding target to be net zero by 2050. The council recognises the urgency of the climate change crisis, and the benefit of action as soon as possible.

Context

2.1 Climate Change

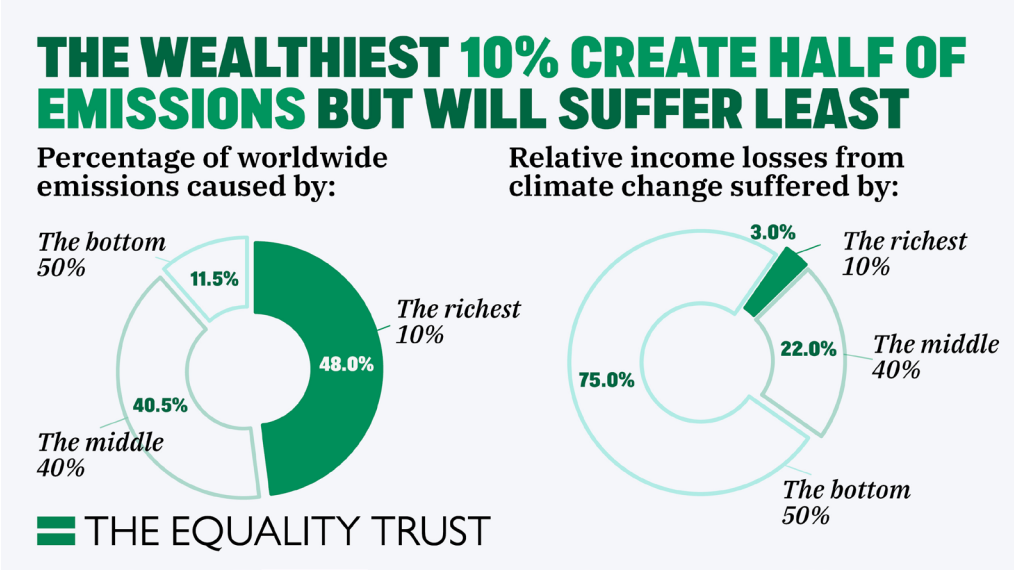
Net zero means reducing emissions as close to zero as possible and to balance any remaining emissions by removing them from the atmosphere, and 'offsetting' residual emissions with carbon sequestration nature-based actions such as planting trees, or technology-based actions such as carbon capture.

When the word 'emissions', is used we are talking about greenhouse gas emissions (GHG) which increase climate warming. Greenhouse gases are mostly carbon dioxide (also known as CO2) and methane (CH4) from burning fossil fuels for energy (in 2018, 89% of global CO2 emissions came from fossil fuels and industry) and refrigerants (cooling and fridges account for 10% of global emissions). Throughout the Strategy carbon dioxide equivalent (CO2e) is referred to when talking about tonnes which account for all greenhouse gasses in a single unit.

The further warming of the atmosphere threatens our planet including our natural environment, but also human health and wellbeing. Net zero will have many environmental, social, and economic benefits such as job creation, equity and social cohesion, health and wellbeing, resilience, and citizen engagement.

In addition to reducing emissions to mitigate climate change as far as possible, we need to be prepared to adapt and be resilient to the inevitable changes that climate change will bring. This will include being prepared for increased frequency of heat risk, flooding, water stress and extreme weather events, through measures such as increased green infrastructure, flood defences, water efficiency, better building design, and communication.

Within the strategic approach it is important to highlight the inequalities angle of climate change - that the most disadvantaged and who often have the lowest emissions will be the most impacted by climate change. We will need a more proportionate focus on the most vulnerable to ensure they are ready for the impacts of climate change. The – Council's fuel poverty agenda is a good example of this proportionate focus on those most in need. This issue captured in the infographic below from The Equality Trust.



Source:
The Equality Trust

Context

2.2 Southampton City & Council

The council delivers a wide range of services, e.g., planning, economic development, investment, waste services, and procurement, and has statutory duties and powers that can be used to directly change and influence the city environment. **The council has a significant influence in the decision making of how the city operates, and therefore it has a public duty to become an enabler for positive change and a responsibility to set an example for other businesses and organisations.** Working with other key influencers and organisations is key to making the net zero target in becoming a reality.

Southampton City Council's 2022-2030 Corporate Plan outlines the council's key values and ambitions for a cleaner, healthier, and prosperous city.

These are:

It is through this policy that Southampton City Council has committed to being a sustainable city and organisation, promoting social value, environmental enhancement, and clean economic growth. To boost sustainable development implementation throughout the city the council will need to address the direct effects of climate change and put measures in place to become more resilient and adaptive.

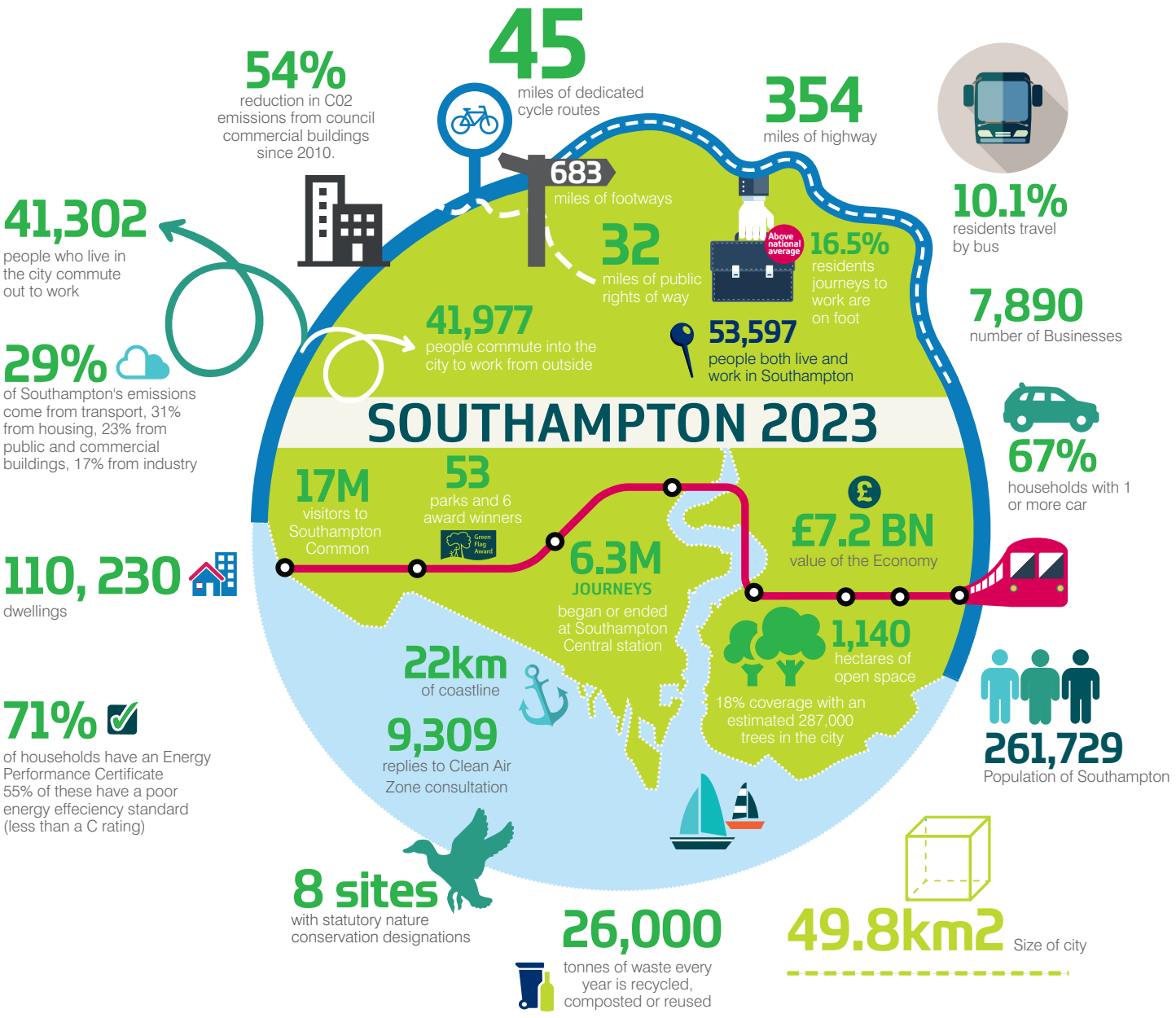
In autumn 2022, the government commissioned an Independent Review of Net Zero. The review was tasked with assessing the government's approach to net zero, to ensure it was pursuing the most economically efficient path to meeting its climate change commitments, given the changed economic context. It acknowledged that in order to achieve net zero, there will need to be significant investment across the board, whilst stating that the benefits of decarbonisation will outweigh the costs, both for the economy and wider society.

The report underlines the huge ambition from local authorities, highlighting the fact that over 300 local authorities have set net zero targets and/or declared climate emergencies. The role of local authorities is referred to as being extremely important and a locally led approach is outlined as being the most cost-effective way of delivering net zero, this is because all local areas are different with their own priorities, meaning that what works well in one area will not necessarily be the best approach for another area. The report demonstrated how a place-specific approach to net-zero results in significantly larger financial benefits, whilst making up just a fraction over the overall investment costs.

Context

2.2 Southampton City & Council

Southampton City Council is responsible for the delivery of a wide range of services dedicated to the Southampton community and is responsible for a large portfolio of buildings for with mixed use. These buildings include housing, leisure centres, schools, libraries, children's centres, the Civic Centre and the council offices. The council is also responsible for several car parks, street lighting and parks. Southampton has a key part to play and a crucial responsibility to manage these buildings sustainably. Improvements to the building fabric and efficiency is likely to have a dramatic impact alongside behaviour change programmes, such as My Journey.



Approach

3.1 Underlying Principles

1. **Lead by example**
   The focus of this Strategy is for Southampton City Council to lead by example, setting themselves challenging goals and influencing others to act.

2. **Visibility**
   The council will routinely provide information on efforts being made and progress achieved in a clear, transparent, and accessible manner, including participation in the Carbon Disclosure Project (CPD).

3. **Prioritise front loading emissions reduction** seek a net zero approach of reducing emissions as much as possible rather than a carbon neutrality approach that may rely on offsetting. Where offsetting is necessary local solutions will be prioritised.

4. **Seek out and prioritise actions with co-benefits**
   Actions that deliver co-benefits will be prioritised. Many actions to reduce emissions and build resilience if carried out well can deliver multiple benefits for our communities such as reducing congestion, improving air quality, improved health, and economic growth.

5. **Flexible and Reactive**
   It is important to state that any opportunity to accelerate delivery will be taken in line with the other key principles set out in The Strategy, in particular the availability of resources and funding.

6. **Proportionate, affordable, and equitable**
   As a local authority it is important to recognise the wider role to society in delivering public services for the public good. Any actions taken on climate change must be in line with this and would therefore have to adhere to the principles of proportionality, affordability and be equitable. We recognise our actions can have unforeseen and unintended consequences and we will assess these and take measures to address any harmful outcomes.

Approach

3.1 Underlying Principles

7. **Support the green economy, innovation, and green finance solutions**
   The council has identified digital transformation as a key driver for change in Southampton. Technology is an enabler that could deliver a significant step change towards a low carbon, resilient Southampton. It is therefore recognised as a key principle in this Strategy and that the council will actively prioritise the development and delivery of technology and innovation to support the climate change agenda.

8. **Embed in Policy**
   The council will recognise the need to embed principles across all Council functions and services. Ensure policy frameworks, decision making processes and funding mechanisms support their goals. It is recognised that there are significant challenges to Southampton achieving its targets. Achieving these targets will require national government action and changes to the national policy landscape. It will require a clear funded roadmap to support action at local level.

9. **Awareness and Collaboration**
   We will ensure that staff, businesses, and communities understand the role they can play and how to support our goals.

10. **Research and customer insight is used to inform decisions and service planning**
    We will make best use of the available research and local research capabilities to inform decisions, interventions and evaluations. We will achieve this by applying for external funding to build in-house research capability and building closer links with research and educational institutions to build better understanding of the research available and make best use of local researchers and students.

Governance

To support the council's vision, it is crucial that processes and mechanisms are put in place to ensure that there is democratic support from the current administration and the employees of the council. Below are key pieces of policy that will support the vision for net zero and how we will tackle climate change. The council will establish an internal board that will include senior representatives from across all service areas responsible for delivering our climate change actions and will report to elected members. The board will be provided with evidence of progress and given the opportunity to scrutinise progress.

City Strategy

This Green City Plan 2030 refers to the council's own operations, buildings, and services. However, the council also have an important role to play in leading by example across the city and further afield, working together with others, and sharing approaches to reducing emissions. The council has proposed setting a climate commission, an independent forum that will develop and deliver coordinated action to reduce emissions in Southampton. The council is committed to developing the right communications and activities to support residents and local organisations and businesses to reduce emissions.

Homes

In July 2021, the council published energy requirements for new build developments between 2021-2025. This will highlight the appropriate specifications for energy conservation, carbon reduction and use of renewables. The council is leading by example in council new builds, using their preferred approach of LETI (Low Energy Transformation Initiative) to achieve energy efficient homes. Healthy Homes is an established partnership for delivering efficiencies in homes to address fuel poverty and reducing carbon emissions.

Transport

The Local Transport Plan outlines the strategic direction for local transport infrastructure to make it fairer, better and more sustainable.

Governance

Business

Businesses to have training and advice on energy efficiency through the 360 programme the Green Growth Economic Development Strategy ensures we have the skills and jobs locally for the green economy. As we tackle climate change, we have the chance to create a new generation of decent, secure jobs in clean industries like electric cars, home insulation and renewable energy.

Energy

The council are working with partners across the city to produce a Local Area Energy Plan (LAEP) to help balance supply and demand and increase locally generated energy. A LAEP sets out the change required to transition an area's energy system to net zero in a given timeframe. This is achieved by exploring potential pathways that consider a range of technologies and scenarios, and when combined with stakeholder engagement leads to the identification of the most cost-effective preferred pathway and a sequenced plan of proposed actions to achieving an area's net zero goal. The council also took part in the Department of Business, Energy and Industrial Strategy's (BEIS) Heat Network Zones pilot which will inform future use of heat networks (heat from a central system that goes to more than one user), including expanding and de-carbonising the network in Southampton.

Air Quality

The council's Clean Air Strategy and Air Quality Action Plan 2023-2028 set out how we will improve air quality in the city and address the negative impacts it has on the health of our citizens. The Clean Air Strategy prioritises measures which can deliver on both air quality and climate change agendas. The Air Quality Action Plan offer then details 60 measures the council is pursuing to achieve these goals.

Health

The Health and Wellbeing Strategy (southampton.gov.uk) establishes how improving health outcomes and reducing health inequalities in Southampton requires action across a wide range of determinants of health. Considering health within related wider policy making can help enable cities to have a powerful positive influence on the places and conditions in which people are born, grow, work and live, impacting on mental, physical and social health and, in turn, on the city's development and growth. The We Can Be Active Strategy, which is the physical activity strategy for Hampshire & Isle of Wight including Southampton, includes actions which support more people to use active travel which has co-benefits for health and the environment.

Governance

Biodiversity and Green Infrastructure
The Biodiversity and Green Infrastructure Strategies are currently in development and expected to be published in 2023.

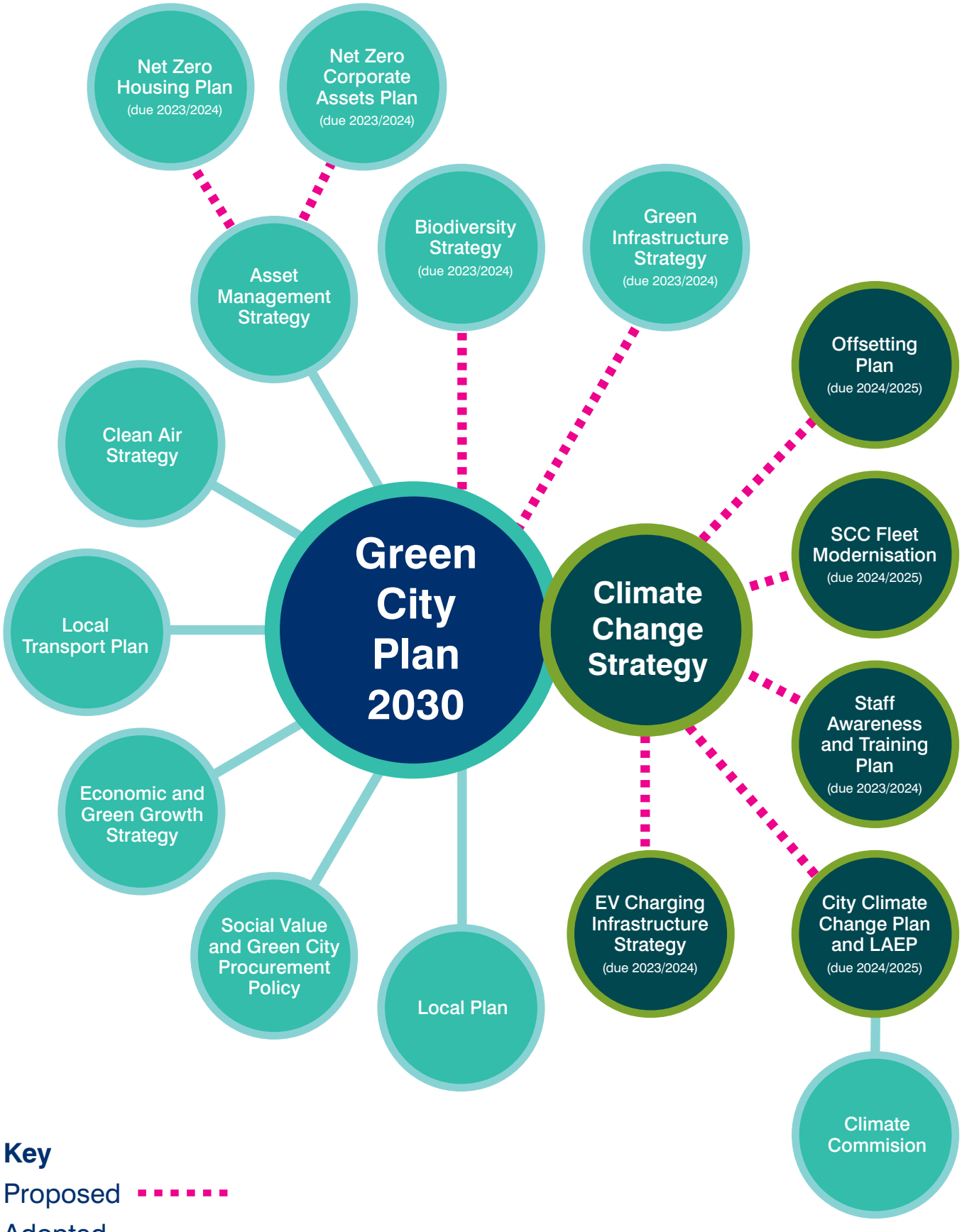
Our vision for biodiversity is to halt the decline of biodiversity in Southampton, protect and reconnect our habitats and restore species populations. We need to protect, enhance and connect our habitat. We need to improve the condition of those habitats. In turn, species diversity and species abundance will increase, ensuring that the entire city ecosystem is healthier and more resilient to future challenges such as climate change and increases in our population.

Our vision for Green Infrastructure is to create a greener, better linked city, delivering improvements for our residents' wellbeing, ensuring resilient green infrastructure that can continue to deliver ecosystem service benefits. The Green Infrastructure Strategy will set out how the council will ensure that the city is greener and better linked, benefitting both people and nature, has been drafted, setting out why we need green and blue infrastructure, what our priorities are and how the Strategy will be implemented.

Local governments are well placed to affect positive change in biodiversity management as they regulate interactions between land management and services for local communities. Policies for biodiversity and green infrastructure are closely aligned with other sustainability topics as they help mitigate both causes and effects of climate change, as well as providing places which contribute to people's wellbeing.

Strategy links diagram

This diagram shows where there are relevant links with other strategies and plans:



Emissions Calculations

4.1 Historic Emissions

This graph shows the historic emissions of Southampton City Council using Government methodology for the CRC (Carbon Reduction Commitment), which was discontinued in 2019, and was based on a business year April to March because of energy billing. We introduced a new calculation methodology in 2019/2020 to ensure we captured the full scope of our emissions and the new tool provides a more accurate and transparent method for calculations. However, the use of this new methodology means that there is some discrepancy between the historic calculations and more recent calculations we have taken from the new 2019/2020 baseline as a wider scope of emission is included.

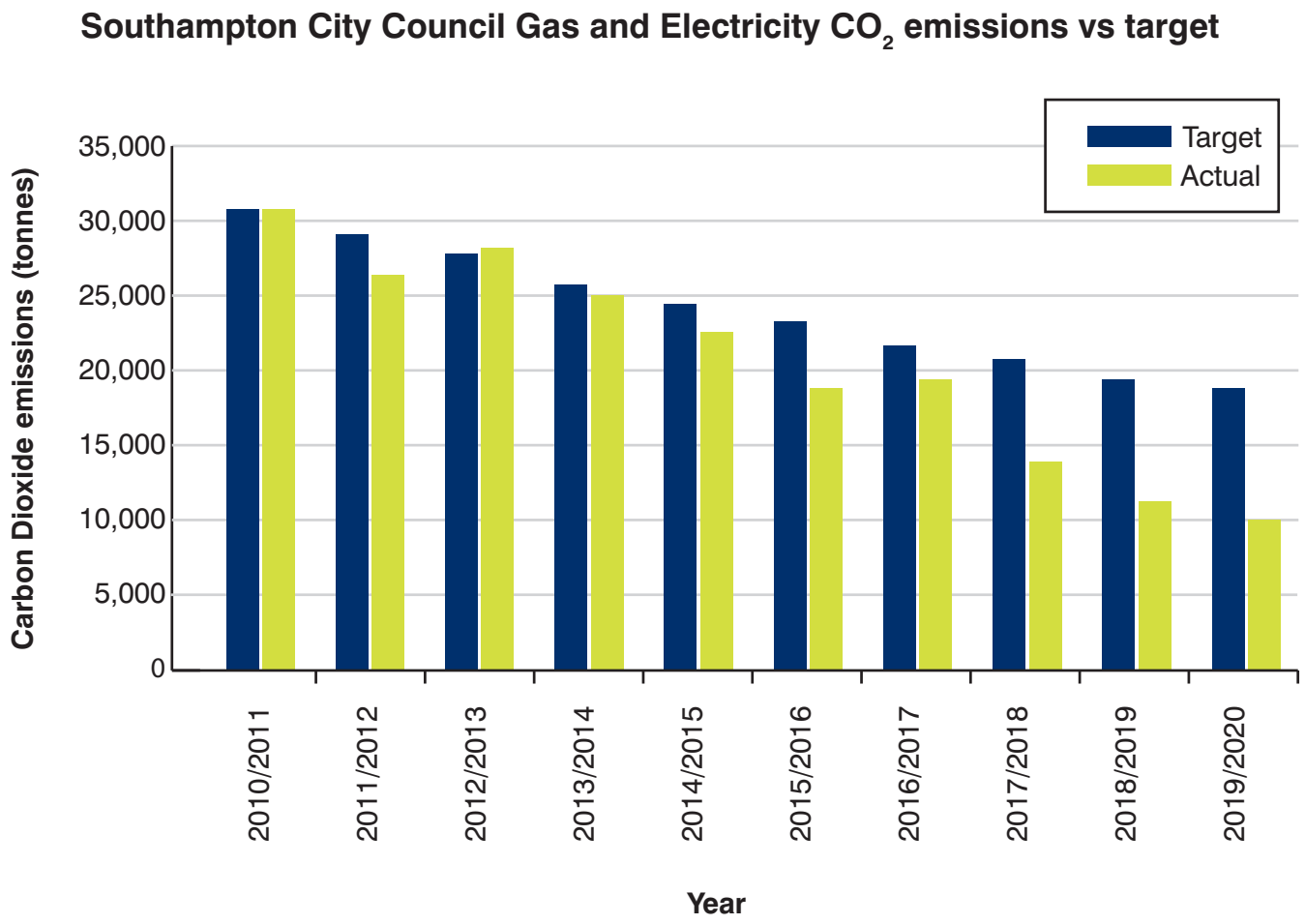


Fig. 1: Historic emissions based on CRC methodology

Emissions Calculations

4.2 Current Emissions

The council gathered a baseline of its carbon emissions data for the new 2019/2020 baseline. This new methodology uses the greenhouse gas reporting conversion factors from the UK Government to calculate the activity data supplied. Scopes 1 & 2 have only been included at this stage, with an estimate of those emissions being scope 3 at 70% of the overall total. With the council's heavy portfolio of housing stock scope 3 emissions are key to an accurate baseline.

To set ambitious carbon reduction targets the council must develop an accurate methodology of measuring all scope 3 emissions. Although some scope 3 emissions are measurable with the UK Government's GHG conversion factors, others based particularly around procurement are more difficult to quantify and we can at present only estimate this total. However best estimates are inaccurate and unlikely to reflect local action or progress, therefore a tool for scope 3 emissions is currently in development. The council has not measured or devised a baseline of the whole city's emissions at this stage but will endeavour to include this as the programme of carbon management work develops.

It is acknowledged that reduction measures alone will not reduce emissions to zero by our target dates. The process of offsetting residual emissions will be a necessary to reach our net zero goals as there will be emissions that cannot be reduced or mitigated despite our best efforts. The council's priority is to create an offsetting scheme that ensures that the benefits are retained in Southampton. These activities could include enhancing the city's biodiversity and green space to sequester carbon e.g., tree planting or enhancing existing buildings with green roofs. To understand how much offsetting will need to take place the council will need to monitor and report carbon emissions accurately and closely and budget and plan accordingly. Council carbon emissions data and the methodologies behind them will be published on a routine basis to ensure the council's progress is visible and will use the CPD scheme to ensure transparency across our activities.

Emissions Calculations

4.2 Current Emissions

A baseline from the year 2019 was chosen to gain a realistic grasp on the council's average 'business as usual' emissions instead of a 2020 or 2021 baseline due to the pandemic. See Appendix 2 for further information. Amongst the data sets that were generated, it was identified that energy and the use of council owned fleet vehicles were among the biggest polluters with controlled energy emissions totalling at 9697.21 tonnes of CO2e, with fleet emissions emitting a total of 1,688.41 of CO2e.

The biggest polluter was procurement activity, at an estimate of 30.846.71 tonnes of CO2e. Current carbon calculations are based on spend rather than the emissions and the lifecycle of the product or service purchased. Spend based calculations do not take into consideration the carbon emissions generated because of the purchase of that product, the activity that takes place to produce the product, or how a service is delivered e.g., supply chain. To reduce emissions, the council needs to adopt sustainable procurement practices, and needs to understand how to measure its impact. Steps have already been taken to make this reality with a Social Value Procurement and Green City Policy now in place. However, the council has greater control over council scope 1 and 2 emissions which is why we have formed the first goal to lead by example.

Emissions Calculations

Council emissions 2019-2020 (baseline year)

Source	Scope	Total Emissions (tonnes CO2e)	% of Total GHG Emissions
Natural Gas - Corporate	Scope 1	4,069.93	8.5%
Vehicles - Council fleet	Scope 1	1,688.41	3.5%
Fugitive GHG Emissions - Refrigerants	Scope 1	0.00	0.0%
Scope 1 sub-total		5,758.34	
Electricity - Corporate	Scope 2	5,627.28	11.8%
District Heating - Corporate	Scope 2	732.90	1.5%
District Cooling - Corporate Portfolio	Scope 2	406.48	0.9%
Scope 2 sub-total		6,766.66	
Council Procurement - Goods & Services	Scope 3	30,846.71	64.6%
Well-to-Tank - Utilities	Scope 3	1,520.52	3.2%
Employee Commuting	Scope 3	1,133.17	2.4%
Electricity T&D - Corporate Portfolio	Scope 3	477.75	1.0%
Well-to-Tank - Council Vehicles	Scope 3	401.93	0.8%
Well-to-Tank - Employee Commuting	Scope 3	422.87	0.9%
Business Travel	Scope 3	201.00	0.4%
Water (Supply & Treatment) - Corporate Portfolio	Scope 3	66.61	0.1%
Waste (SCC only)	Scope 3	41.26	0.1%
District Heating Distribution - Corporate Portfolio	Scope 3	36.64	0.1%
Well-to-Tank - Business Travel	Scope 3	48.94	0.1%
District Cooling Distribution - Corporate Portfolio	Scope 3	20.32	0.0%
Scope 3 sub-total		35,217.72	
Total GHG Emissions (tonnes CO2e)		47,742.73	

Emissions Calculations

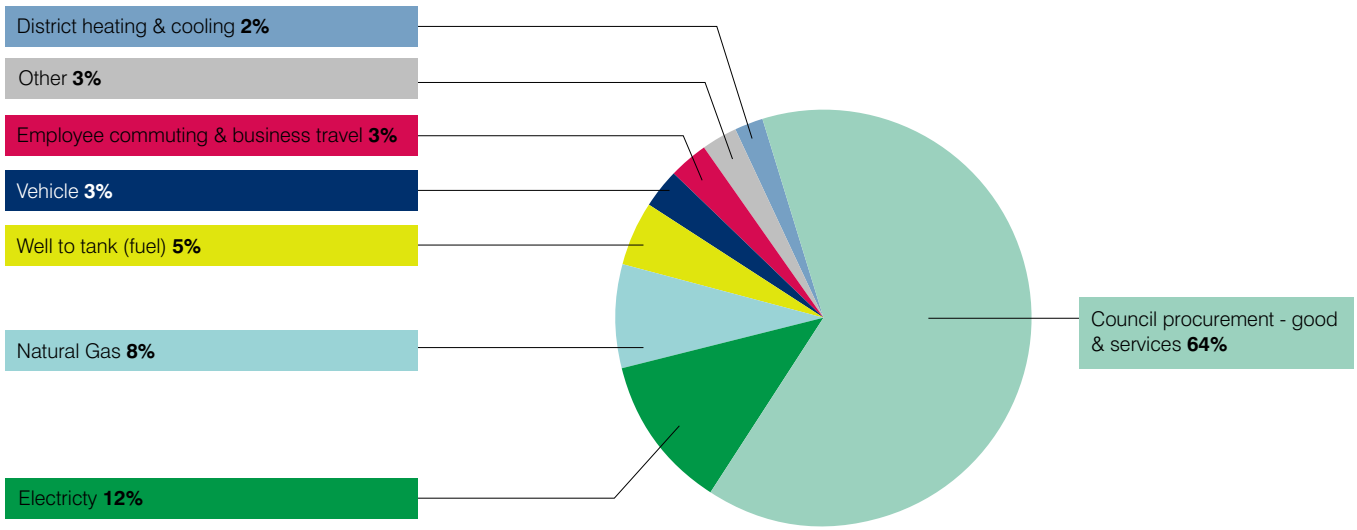
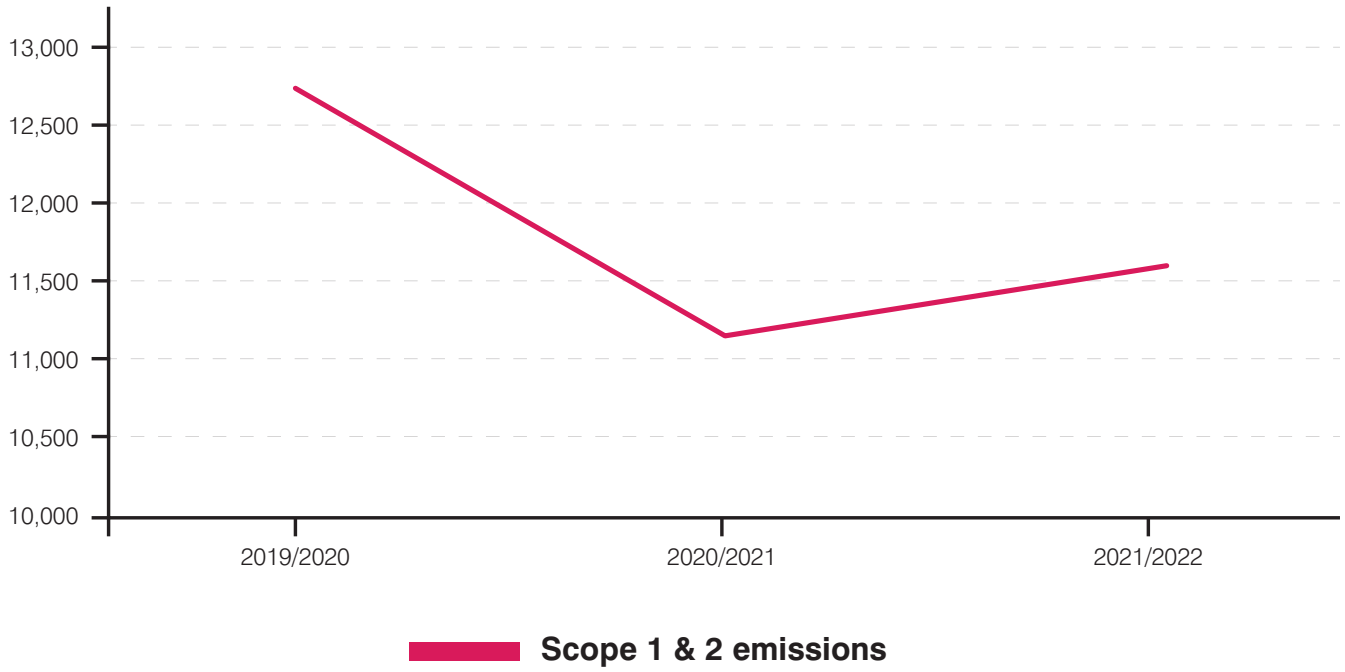


Fig. 1: SCC Emission sources by % 2019 baseline year

Emissions Calculations

Scope 1 and 2 emissions since baseline year



Year	Scope 1 & 2 emissions
2019/2020	12740.11
2020/2021	11122.65
2021/2022	11574.06

Scope 1 and 2 emissions since the baseline year 2019. Emissions fell by 1617 tC02 in 2020 however there was a slight rise in emissions in 2021/2022 due to the unusual circumstances in 2020/2021 owing to the coronavirus pandemic. This is why 2019/2020 has been taken as a baseline to show a more business as usual scenario. Overall emissions have fallen by 1166 tC02 since the baseline year.

Trajectory

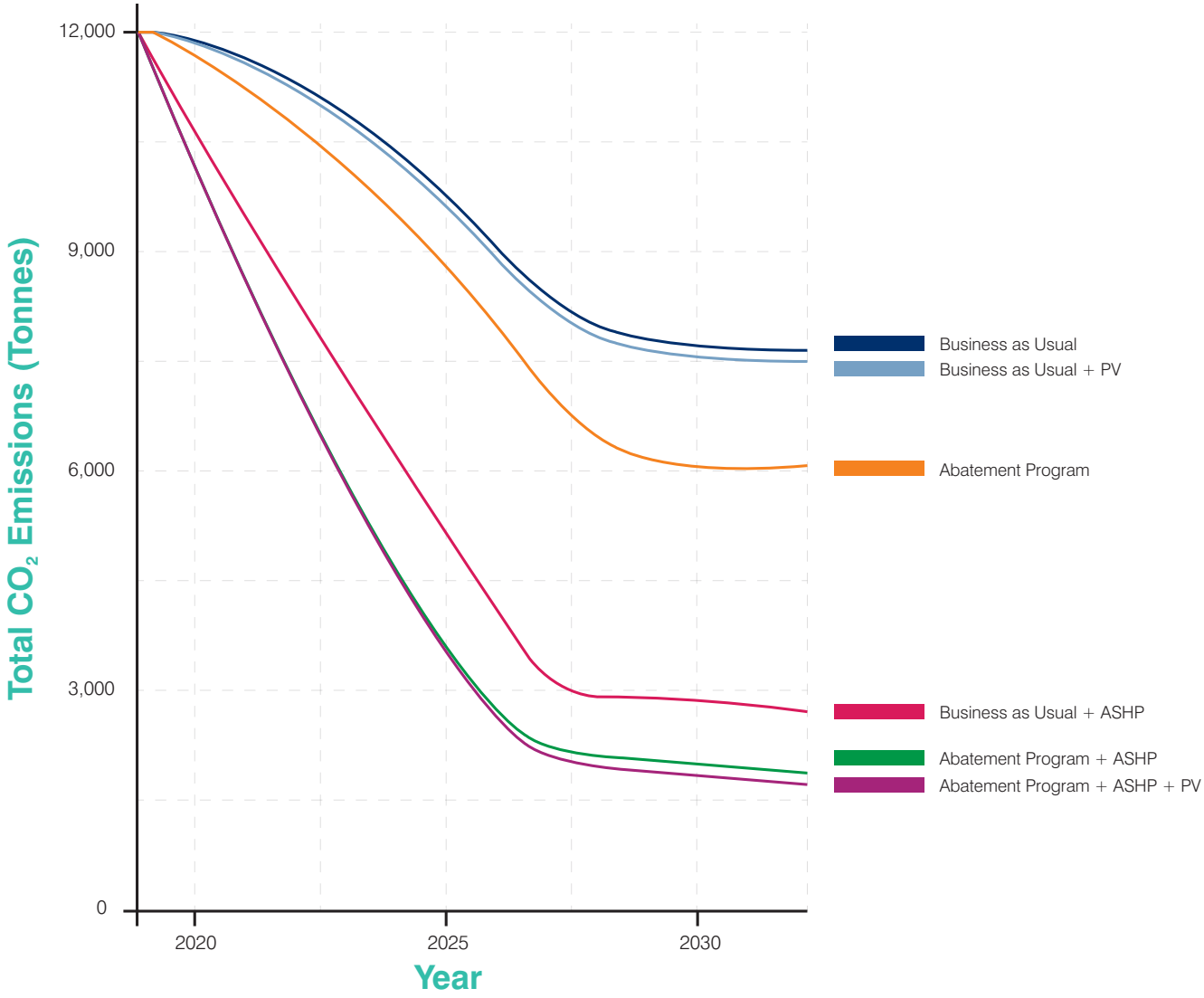
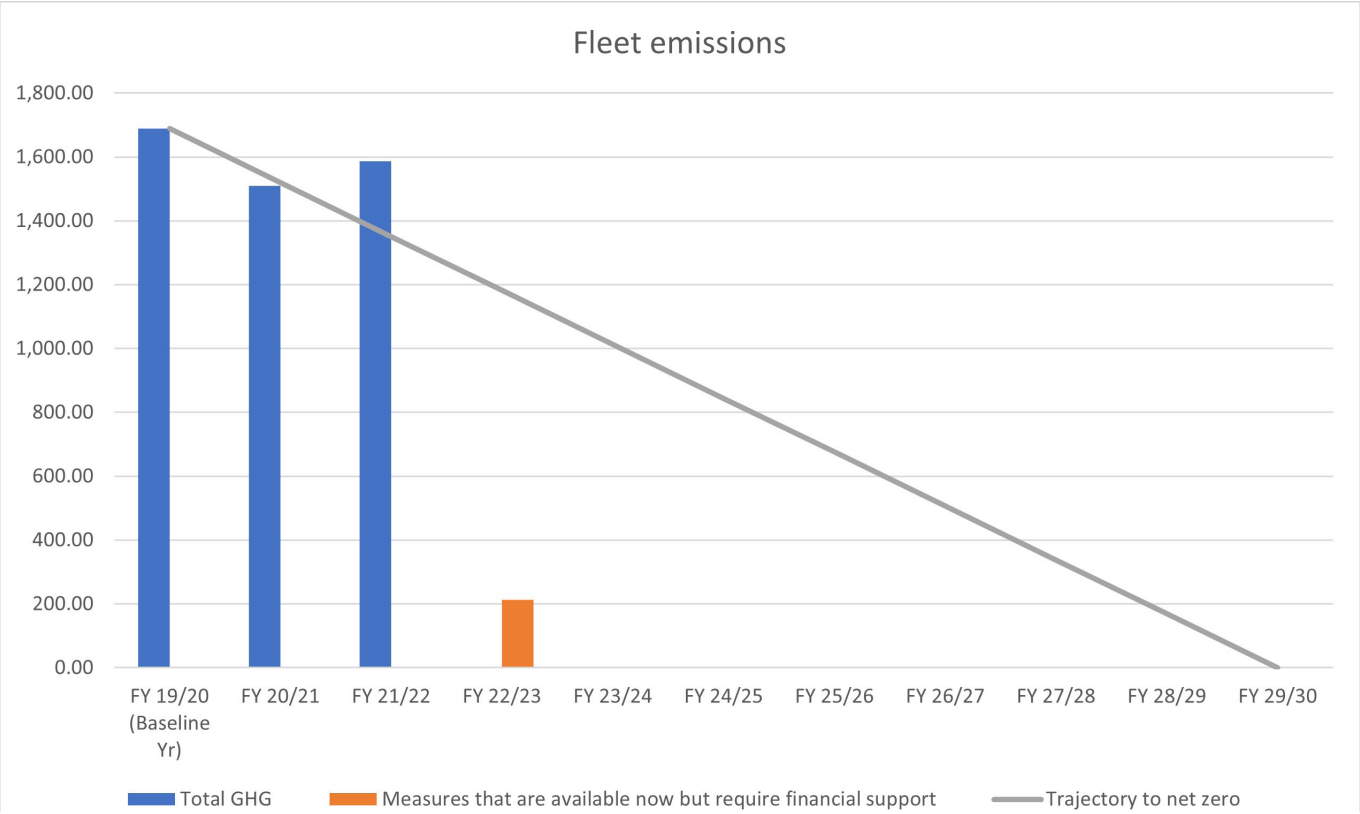


Fig 4a emissions trajectory for corporate assets (PV = photovoltaic solar panels, HTHP= high temperature heat pump, LTHP = low temperature heat pump)

Trajectory



4b emissions trajectory for fleet

Figures 4a and 4b illustrates the basic trajectory the council's most significant sources of scope 1 and scope 2 emissions could follow to achieve net zero by 2030. Ideally the council should prioritise actions that deliver the largest reductions and realise the greatest benefits first.

Figure 4a illustrates that a business-as-usual scenario will see a reduction in our emissions due to expected changes in technology and decarbonisation of the electricity grid, but this alone will not get the council to net zero by 2030. This Strategy demonstrates how the council will overcome these challenges.

Figure 4b shows a rise in fleet emissions in the last financial year. This is believed to be due to a reduction in outsourcing of maintenance activities across Housing Services and the need to increase the Council fleet to facilitate these direct works. This has resulted in emissions moving from scope 3 (supplier emissions) shifting to scope 1&2 (our own direct and indirect emissions). This trend highlights an urgent need to address fleet emissions in order to realise the desired trajectory. Whilst switching existing diesel vehicles to HVO (hydrogenated vegetable oil) could present an immediate solution, as it stands there are significant cost implications and the wider benefits will need to be explored in order to support a business case. Alternative fuels like HVO still generate residual emissions and will not offer the same benefits to local air quality that vehicles with zero tailpipe emissions can offer. So, although a quick solution, the medium to long term answer for a large proportion of the fleet will still need to be aligned with national policy and the phasing out of ICE (Internal combustion engine) and growth of the electric vehicle sector. This challenge will be addressed as part of the Fleet Modernisation Programme.

Our Priorities

As a council it is appreciated that there will be challenges on the road to net zero. In response to this the council have highlighted several priorities with actions to coincide with their four goals within this document.

Goal 1: achieve net zero for the council's scope 1 & 2 emissions

The council has identified two main priorities that will help us to achieve Goal 1:

- Mitigate emissions from all council owned buildings and infrastructure. This includes all buildings, schools, libraries, depots, the Civic Centre, other council offices, leisure centres, children's centres, parks, car parks, and street lighting (a total of 130 sites). These emissions are currently responsible for an estimated 10,836.59 CO_2e tonnes (per year).
- Minimise fleet emissions. There are currently 465 vehicles in the council's fleet, plus 500 pieces of small plant and horticultural machines from strimmer, blowers to tractors. These are responsible for an estimated 1,668.41 tonnes of CO_2e annually. This is approximately 13% of all scope 1 and 2 emissions.

Together, these emissions are responsible for a total of 12,505 CO_2e tonnes (per year).

Priority	What will the council do?
To minimise emissions from all council owned buildings and infrastructure.	• Review how we use and manage our buildings to find attainable, non-technical solution that will deliver reductions in carbon and energy costs. Aim to employ fabric first approach (insulation, repairs, draught proofing, ventilation) to reduce demand for energy and heating and to maximise energy efficiency. • Define delivery needs to 2030 by identifying measures (such as high efficiency LED lighting, solar electricity generation, heat pumps, insulation and improving the control of equipment) that can be installed to enable the council to minimise demand for energy. • Continue to drive forward with the Corporate Asset Decarbonisation Scheme (CADS) and 'invest to save' finance model to deliver reduced carbon emissions and to develop the businesses cases to secure investment as needed, while also securing grants where possible, particularly through central government's Public Sector Decarbonisation Scheme (PSDS). • Develop and deliver Phase 2 of CADS to reduce emissions and energy cost savings within financial year 2023/24. • Set up an annual CO2 and cost reporting process managed under a transparent measurement and verification process. • Continued assessment of council assets and new technical information so that CADS work programme has the right priorities. • Develop the right approach for the disposal of assets, to prioritise resources in the CADS work programme. • Continue effective procurement and management of energy contracts to ensure best value renewable energy is purchased and billing is accurate. • Looking at microgeneration and complex sites as a pilot with SW Energy Hub and Elexon. Complex sites allow export of electricity from one of our assets to another through the national grid, utilising the excess electricity we generate from solar panels on one building, in other buildings across the city.

Our Priorities

Priority	What will the council do?
To minimise fleet and staff travel emissions.	**Electrification – medium to long term** • Develop a financial model that makes the savings visible and drives the opportunity for investment in high capital costs that deliver revenue savings. The finance model will need to accommodate the cost of providing and maintaining an EV charging infrastructure to meet the needs of service areas. • Balance home base and workplace EV charging with appropriate infrastructure across the city and a solution for those vehicles without a base. • Ensure appropriate HR policies are able to facilitate the use of vehicle telematics and EV charging infrastructure **Transitional approach -short term** • Introduce a corporate wide telematics scheme (data on vehicle location and milage) to ensure council fleet is being used appropriately to contribute to council outcomes and provide information for EV transition. • Introduce eco-safe driver training to ensure staff have the right education and awareness for driving in a way to minimise emissions as much as possible, during the transition to an all-electric fleet • Develop a transition plan covering immediate opportunities and a strategic programme for fully transitioning the council fleet to electric. There are more immediate opportunities to switch our smaller, return to base vehicles to electric. Tackling larger vehicles and specific service areas presents significant challenges for us to address. As part of the transition, we will continue to explore affordable and more sustainable “drop-in” fuels that will deliver emission reductions. This could also include use of e-bikes and e-cargo bikes.

Our Priorities

Goal 2 – Set targets and reduce scope 3 emissions and establish a practical solution to achieving net zero

The council has identified three priorities that will help them to achieve this goal:

- Embed sustainability into the council's procurement processes. Based on spend and national carbon conversion factors, it is estimated that carbon emissions from procurement are currently 30,846.71 CO_2e tonnes (per year)
- Minimise emissions from waste. Emissions from the disposal of waste from Council buildings is responsible for an estimated 40.15 tonnes of CO_2e (per year)
- Reduce emissions from business travel. The council has over 3,000 employees. Emissions from staff and business travel is estimated at 2,207.91 tonnes of CO_2e (per year)

Together, these are responsible for a total of 33,094.77 CO_2e tonnes (per year)

Priority	What will the council do?
Embed sustainability into the council's procurement processes.	• Review, adopt and enforce the **Social Value and Green City Procurement Policy** The default should support the net zero agenda unless a business case can demonstrate a zero emission route is not a viable option. • Effectively measure through standard questions to suppliers on emissions, waste and air quality in tendering and contract monitoring with strategic and current suppliers and continue to monitor with annual updates. • Minimise demand by ensuring that existing assets are used effectively and question if buying is necessary, ensure volumes requested are accurate to avoid waste. • Embed sustainable outcomes as key consideration into the procurement process. • Seek goods and services that are designed to be reused and recycled, reduce and reuse resources, use sustainable materials, demonstrate a high standard of energy efficiency, use renewable energy, minimise use of single use plastics, minimise unnecessary resource use, protect and enhance ecosystems and the natural environment and minimise emissions of greenhouse gases and other pollutants. • Encourage innovative solutions to sustainability issues. • Forward plan for changes to Procurement Bill and align processes with embedding sustainability into how we procure. • Carbon Literacy Training sessions for staff to help decision making. • Work with partners to make progress on becoming a sustainable food city.

Our Priorities

Priority	What will the council do?
Minimise emissions from waste.	• Improve how we measure emissions from waste across council operations and buildings, so it is more accurate and can monitor progress. • Adopt Single Use Plastic guidance to remove and reduce across council building and services. • Utilise **Social Value and Green City Procurement Policy** to reduce waste through suppliers. • Follow the waste hierarchy of reduce, reuse, recycle to ensure we manage our waste, and look to develop circular economy. • Provide information, including bin labelling, to staff on best environmental practice through guidance, education sessions and communications so staff are engaged and knowledgeable. • Review contacts with waste partners to help ensure unnecessary emissions from refuse collection vehicles and waste recovery are minimised as far as is feasible.

To reduce emissions from business travel.	• The results from the 2022 staff travel survey will be used to identify priorities and develop proposals for renewing the Staff Travel Plan.
	  • Continue to offer a range of options for sustainable staff travel including walking, cycling, and public transport. Look into ways to finance a dedicated travel officer role (or part role) to look at driving this work forward.
	  • Continue to support the development of school travel plans looking at pupil, staff and visitor's trips. School travel commuting will fall under both the corporate Staff Travel Plan and individual school travel plans.
	• Encourage staff to consider a travel decision hierarchy, i.e. Do you need to travel? What are the travel options? And have you considered more sustainable options first?... before using your own car.
	• Encourage staff who need a car to undertake their work to travel by sustainable travel modes into Southampton and use Car Club vehicles where practical based in the city centre, reducing the need for private car use and drop off/collection fees when using car hire suppliers.
	• The council will ensure that employees will only get charged for the miles they travel and this will result in cost savings to the business.
	• Continue to develop MAAS platform, the Breeze Journey Planner to enable people to plan journeys in real time and buy all tickets in one app for seamless travel options.
	• Explore more options for encouraging sustainable travel through salary sacrifice schemes, Solent Go and rail discounts.
	• Pilot an internal Lift Share Scheme for council staff, for those where public transport is not an alternative option.
	• The council are investing in smart working. Genuine carbon savings for the increase in home working need to be measured, considering reduced commuting but also electricity and heating costs in the home.
	• Encourage active or more sustainable travel in communities such as council housing estates.

Our Priorities

Goal 3 – Social housing stock to be net zero by 2035

The council has identified one main priority that will help us to achieve this goal:

Minimise emissions from housing stock and communal areas. The council is a landlord for nearly 18,000 homes, 17% of all dwellings in the city. We estimate these homes are currently responsible for emitting 42,000 CO_2e tonnes (per year).

The definition of net zero for housing covers regulated energy (heating, hot water, and fixed lighting).

Priority	What will the council do?
To minimise emissions from housing stock and communal areas.	• Complete a data assessment which will assign Energy Performance Certificate (EPC) rating bands to all properties and identify properties of concern. A detailed retrofit strategy for council housing stock will be developed to prioritise properties and measures to identify the best opportunities and timescales. • The council will achieve an average EPC rating of C by 2030 (the current average EPC rating is D). There will be an ambition to go further than this where possible with targets of space heating demand for 25 KWh/m2/yr for existing stock and 15 KWh/mr/yr for new housing (building to Passivhaus levels). Two of the council's architects are Passivhaus certified. • Use a fabric first approach to reduce energy demand to address fuel poverty and future proof against low renewable energy capacity in the electricity network. • Will adopt zero carbon technologies that will be phased in where there are appropriate opportunities, with a need to identify a target date for no new gas installations, to ensure net zero by 2035 is achievable. • Will explore and determine a model for solar electricity generation and how this works for tenants. Use CAPT and Absolar to identify opportunities and develop a scheme for delivering the energy to households, using any surplus to cover investment by selling back to the grid. The council will use the export tariffs to share equitably across tenants to ensure those in properties not suitable for solar panels will not be left out of savings on their energy bills. Consideration of a strategic partner to deliver this scheme but will ensure the council benefits of from insetting carbon reductions.

Our Priorities

Priority	What will the council do?
To minimise emissions from housing stock and communal areas.	• The council will engage with tenants to agree on the new approach and offer guidance on using new systems. • Properties will be assessed and a hierarchical approach to heating systems applied, using existing heating networks, new heating networks and large-scale Air Source Heat Pump/ Ground Source Heat Pump solutions. • The council will ensure that all net zero carbon works coordinate with ongoing, new or existing repairs and maintenance or new build programmes. This will include, but won't be limited to, roof replacement and boiler replacement programmes. • The council will develop training to help upskill the workforce that will aid the transformation of the local economy at the scale and pace needed • Pursue the Social Housing Decarbonisation Fund and other appropriate grant opportunities to support the Housing Revenue Account and facilitate the delivery of measures at an appropriate scale.

Our Priorities

Goal 3 – Social housing stock to be net zero by 2035

Tackling climate change is important as the most vulnerable groups are often the most affected – this will include actions such as improving insulation for council tenants and assisting other residents to access funding for improving the energy efficiency of their homes. We are a landlord for nearly 18,000 properties and while we are not in direct control of these emissions, we are responsible for them. The council will not always have control over the sources of housing emissions, so it will need to consider carefully what it can account for. There are likely to be certain areas that the local authority has control over, and other tenanted areas where it has limited ability to manage the emissions. The council will be responsible for both the selection of the boiler/fuel and the standard of insulation. Whilst it cannot control the thermostat settings of how electricity is used it does have some control over a significant area of emissions.

Improvements to enhance energy efficiency will include looking at solutions such improving insulation, and also projects focusing on energy generation, for example, solar panels, air source heat pumps, or boiler replacement. Taking responsibility for areas that the council is responsible for, for example communal areas, will also help to reduce emissions if energy management is carried out effectively. Communication with residents surrounding smart energy choices and tips to reduce bills in their homes, or tips on how to be more energy efficient is likely to also have a positive impact.

To achieve the net zero goal, the council must set achievable targets against its services and deliverables. By doing this the council will be able to monitor and track its Net Zero Strategy goals effectively. A renewed programme of energy efficiency and decarbonisation measures will reduce this level over the decade and is currently in redevelopment. This includes an already committed spend of £30M of energy saving measures in social housing stock over the next five years. This will save 3,000 tonnes of carbon emissions and £2.5M off tenants heating bills per year.

Our Priorities

Goal 4: apply authority and use influence to support the city in becoming net zero and climate change ready by 2035

Currently, 29% of Southampton's emissions come from the transport sector, with all city housing then responsible for 31% of emissions, public and commercial buildings for 23% and industry 17%.

Some of what needs to be done will happen outside Southampton – for example through the on-going decarbonisation of electricity or the development of electric vehicles. However, numerous options could also be adopted within Southampton to reduce energy use and carbon emissions in homes, buildings, transport and industry.

All of the evidence suggests that there are unlikely to be many 'silver bullets' that lead to dramatic step changes in a city or area's carbon footprint, but that instead multiple options have to be adopted across all sectors.

We work with the Key Cities network which comprises of 27 similar sized cities across the UK that reflects and represents urban living in the UK. They have developed the figures below and we have based the themes of this goal on their suggested priority areas.

Our Priorities

Priority	Why is this important?	What will the council do?
Buildings (New Build & Planning, Industrial, Commercial & Residential Retrofit)	• Currently, in the City of Southampton, housing is responsible for 31% of emissions, with public and commercial buildings 23% • To meet both national and local climate change targets all new buildings must operate at net zero carbon by 2030 and all buildings (i.e., including existing) must operate at net zero carbon by 2050. Carbon neutrality is not going to be achieved in the timelines if new developments which are being designed and approved now are not of the highest possible standards.	• In July 2021 Southampton City council published energy requirements for new build development 2021-2025 to guide appropriate specifications for energy conservation, carbon reduction and use of renewables. This will be developed to be incorporated into the Local Plan (City Vision). • Introduce new policies within the Southampton Local Development Plan to support design and performance of new building stock • Pursue funding to offer local homeowners, low-income households and the fuel poor with financial support to retrofit energy efficiency and decarbonisation measures in their property. • Maintain and enhance the council's Healthy Homes Service and collaboration with the local charity, the Environment Centre (tEC), to offer advice to households and distribute grants to make safer, warmer, more energy efficient, low carbon homes, prioritising the vulnerable and fuel poor. • The Designer's Manual – the Southampton Home requires proposals to be informed by UK Green Building Council's Net Zero Carbon Buildings: A Framework Definition. The council will take this forward. • Improve the performance of properties within the private rental sector by; - Assessing the stock to identify priorities and opportunities, - Raising awareness amongst landlords and enforcing standards, - Encouraging and incentivising energy efficient, low carbon homes, - Identifying opportunities for landlords to use grants and other means to support the delivery of retrofit measures. • Recognise our role as a responsible landlord and identify a strategy and business plan for supporting our investment stock through CADS to aid tenants, and meeting of zero carbon city targets. • Explore net zero neighbourhoods – a way of aggregating projects on a geographical basis into a net zero programme. Investable projects e.g. building improvements and less tangible benefits e.g. green infrastructure will be packaged up for net impact. to aid tenants, and meeting of zero carbon city targets.

Our Priorities

Priority	Why is this important?	What will the council do?
Transport & Logistics	• Nearly a third of the city's carbon emissions come from the transport sector. • Transport emissions have remained relatively persistent. Whilst the cities emissions have generally fallen by 50% since 2005, transport emissions have decreased by 25%. • By 2040 another 30,000 people are predicted to be living in the city and more homes are planned in the Solent-area. This could generate another 74,000 trips in the city per day. • The city is also a maritime hub and the volume of goods and cruise ships passing through the port and city expected to double in the next 20 years. • The transport network is already strained and congestion is estimated to cost the economy more than £100M a year. As the city grows congestion could increase. We need to find solutions that deliver co-benefits including reduced emissions, cleaner air, and more active lifestyles.	• Continue to deliver the Local Transport Plan, including the Big Ideas to deliver a Southampton Mass Transit System, A 'Liveable' City Centre, Active Travel Zones, Park and Ride Sites, The Southampton Cycle Network and the overarching goals of working towards a zero emission city and improving connectivity. The council will align their Local Transport Plan with emerging government policy and complete a review in 2024 that will offer additional clarity on how the city can achieve net zero targets in relation to transport emissions. • Introduce an Electric Vehicle Charging Strategy in 2023 demonstrating how SCC will support EV users with a public charging infrastructure the capable of meeting future demand. • Introduce new policies within the Southampton Local Development Plan to support sustainable travel choices and safeguarding land for key transport improvements. • Deliver the Air Quality Action Plan, working towards continual improvement in the city's air quality while securing large co-benefits for decarbonisation.

Our Priorities

Priority	Why is this important?	What will the council do?
Energy & Utilities	• Heat networks are one of the most cost-effective ways of reducing carbon emissions from heating, and their efficiency and carbon-saving potential increases as they grow and connect to each other. They also offer financial savings for domestic and commercial customers. • It is estimated by the UK Climate Change Committee that around 18% of UK heat will need to come from heat networks by 2050 if the UK is to meet its carbon targets cost effectively. • The city centre has had an operational heat network since 1986, part powered by geothermal heat but currently reliant on gas. This connects many of the large energy users, including the Civic Centre, West Quay Shopping Centre and Ikea. • The city's electric supply infrastructure is constrained. Customers steering away from fossil fuels and seeking additional capacity to charge vehicles and heat buildings may find options limited. • Scope to generate renewable energy within the city is limited by demands on space. • Hydrogen offers a versatile opportunity to replace fossil fuels and reduce emissions but is not readily available and costs are currently high.	• The council will work with energy, heat and fuel suppliers, the Distribution Network Operator, Southern Gas Network and city stakeholders to develop a city-wide Heat and Energy Strategy, seeking to support decarbonisation whilst ensuring a balanced approach to managing supply. • The council will work with the operating company, the Government Department of Business, Energy and Industrial Strategy (BEIS) and other large energy consumers in the city to look at options for expanding and decarbonising the heat network. • The council will explore opportunities to work with property owners and suppliers on solar energy panels to maximise the cities roof top capacity. • Efforts will be increased to maximise energy efficiency measures across all city sectors. • Explore opportunities to improve the efficiency of the Heat Network by working with the operator and the council's own buildings, utilising the Government's Heat Network Efficiency Scheme where appropriate. • The council will support the Solent Cluster in pursuing opportunities to introduce low carbon fuel, so that we are involved in the conversations in exploring technologies and options.

Our Priorities

Priority	Why is this important?	What will the council do?
Public Sector Operations & Supply Chain	• Southampton is a city of opportunity, a regional hub of economic activity and a global gateway. Together with our vibrant, diverse population we are a city of many cultures and a leading hub of research and innovation. However, despite being an economic centre for the region, Southampton has high levels of deprivation, inequality, and disadvantage.	• Review The Southampton Economic & Green Growth Strategy 2020 – 2030 which aims to build the economy for and with communities so that everyone benefits from improved opportunities and outcomes. This Strategy builds on Southampton's ongoing economic growth and Green City agendas and sets out the plan to restore and renew our economy as a greener, fairer, and healthier city. • Net Zero 360 support for businesses to reduce emissions. • Explore decarbonising own investments – pensions and banking. • Explore financial models for supporting communities & businesses in decarbonisation measures such as Climate Bond, Community Municipal Investment or equivalent. • Make financial case for decarbonisation and explore opportunities to monetise by seeking external investment for insetting or social value opportunities.

Our Priorities

Priority	Why is this important?	What will the council do?
Waste & Circular Economy	• Government's Resources and Waste Strategy (2018) aims to eliminate avoidable wastes of all types by 2050 in England. • Reducing waste would help to prevent the need for the manufacture of new products. This is key to achieving net zero. • Furthermore, efficient recycling of waste places less demands on natural and virgin resources, thereby conserving environments. • A circular economy is defined as materials that are retained in use at their highest value for as long as possible and are then reused or repurposed, leaving a minimum of residual waste.	• Introduce a new policy 'Waste and the Circular Economy' into the new Local Plan. • Promote initiatives to reduce consumption of materials and products. • Promote local production of materials and products to reduce transport distances. • Promote measures to increase re-use or recycle of materials and reduce waste. • The council will seek to understand the climate change risks to the waste service industry and work to reduce their overall consumption. • Local Plan Policy on Reuse of buildings and adaptive design - much of the carbon emissions from buildings are from the materials used in their construction and the building process. The use of many buildings in Southampton has changed over time, for example with large Regency homes converted to smaller flats or offices. The upgrading and reuse of existing buildings, instead of their demolition and replacement with new buildings, can significantly improve a building's energy efficiency and make substantial energy savings. The reuse of foundations where possible can also reduce the amount of archaeological work required. The policy supports the reuse of existing buildings and materials to extend the lifespan of the building. • To support recycling, a requirement for new build to include dedicated internal space with fixed units to store recyclable waste. Requirement for all new homes to be provided with composting facilities. • Work with Climate Commission on Consumption & the Circular Economy topic to advocate for improvements in this area throughout the city.

Our Priorities

Priority	Why is this important?	What will the council do?
Land Use & Natural Capital	• Southampton is a city with a large amount of green space, with 49 parks and 1,140 hectares of open space, including Southampton Common which host over 17 million visitors a year. • Although Southampton appears to have a lot of public green space, the high population density means that there is a significant deficit of accessible green space per person, particularly in the West of the City where there are no Local Nature Reserves (green spaces for people and nature). • Despite best efforts there will be a need to 'offset' some of our current carbon emissions and there is an opportunity to achieve this at a local level through habitat creation. • Southampton is a densely developed city with little opportunity to create new green space. The council therefore need to adopt a broader approach to green infrastructure by trying to green up built development using landscape planting, street trees, green roofs, and green walls. This has been incorporated into the existing City Centre Action Plan which requires all developments, and especially the key sites, to assess the potential of the site for appropriate green infrastructure and provide suitable qualitative improvements.	• Include policies covering biodiversity, green infrastructure and open space in the Local Plan Review and any Supplementary Planning Documents. • Develop a Biodiversity Strategy that sets out how the council will halt the decline of biodiversity, protect, and re-connect Southampton habitats, restore species populations, and plan to undertake an external consultation on this in 2023. • A Green Grid Map has already been drafted, and already features in the new draft Local Plan. The Council is now working on a Green Grid Delivery Plan to accompany this. The Plan will outline how the council will extend and connect the green and blue infrastructure across the city, including linking into neighbouring land, with combined actions and effort from the council, residents, businesses, and developers • Formal partnership with the Hampshire & Isle of Wight Wildlife Trust has been established and the council is supporting the Trust to introduce a City Wilder Officer project to help households and businesses bring nature into the city and to also support the Waste of Space campaign alongside the Green Grid Action Plan. • The target of introducing 25 new urban meadows (by 2025) will be achieved and the council will continue to increase the extent and quality of their wildflower grasslands. • In the last two years the council has planted nearly 4,000 trees This year the council will employ the findings of the Tree Capacity Study to ensure the urban canopy continues to grow at pace and enhances every part of the city. • The council are also supporting the Southampton National Park City Project, working with the community-based project team to build and deliver a plan to achieve National Park City status by 2025.

Our Priorities

Priority	Why is this important?	What will the council do?
Climate Resilience & Adaptation	• **Adapt** – Look to adjust our environment, behaviours, and practices to withstand the effects that climate change is likely to present and, even benefit from opportunities. • **Be resilient** – anticipate those shocks that climate change might bring to our daily lives and prepared to recover from their impacts in a timely and efficient manner. • Water supply in the south-east is a major issue. The area is one of the driest regions in the UK and has the highest (and increasing) level of demand on water resources. • Southampton is a low-lying coastal city and is therefore susceptible to flood risk not only from tidal inundation, but also surface water, groundwater, and possible wastewater infrastructure overflows during extreme weather events. In addition, there is a risk of fluvial flooding from the city's Main Rivers which are the River Itchen, River Test, Holly Brook, Tanners Brook, Rolles Brook and Monks Brook, along with several other unnamed open channel and culverted watercourses.	• Water Resource & Quality, Flood Risk and Sustainable Drainage policies in the new Local Plan. • Continue to work with Southern Water to promote their 'Target 100' campaign to reduce water use across the city. • Flood defence infrastructure is critical to achieving sustainable growth in Southampton. The council will work with the Government, Environment Agency, developers, and individual landowners to manage the risk of flooding. • Where there is present day or future tidal flood risk, this will include implementation of a strategic flood defence as set out within the Southampton Coastal Flood and Erosion Risk Management Strategy (2012) or any future reiterations of this Strategy. This defence will be designed to integrate successfully into the wider cityscape, including improved public access to and along the waterfront. • Flood defence search zones will be mapped to support delivery of the city's flood defence needs. **Weston S hore Coastal Erosion Scheme (completed 2022)** – The scheme delivered 140m of rock armour revetment to reduce coastal erosion at Weston Shore. The scheme provides better protection to the site for the next 50 years, preventing the loss of a footpath, ensuring the safety of gas and sewage infrastructure, and lowering the risk of a former landfill site being exposed. **River Itchen Flood Alleviation Scheme (in progress, construction from 2027**) – The scheme will deliver 3.6km of flood risk infrastructure to reduce tidal flood risk over the next 100 years to communities in Northam, St Marys and Crosshouse (over 2200 properties by 2120), including roads, rail, critical infrastructure and pedestrian and cycle infrastructure. **School SuDS Project (in progress, construction 2024)** – The scheme will deliver SuDS in five schools that are classified as having a high surface water flood risk and have experienced frequent flooding. The implementation of SuDS in schools will educate younger generations on the importance of water, promote water reuse, and be used as a case study to improve implementation of SuDS across council schemes.

Our Priorities

Priority	Why is this important?	What will the council do?
Climate Resilience & Adaptation	• The impact of climate change will mean more areas of the city become at risk of flooding. Rising sea levels will increase both the extent of tidal flooding, with the changing climate increasing the likelihood of surface water flooding where water is either unable to soak into the dry ground, or through in exceedance of capacity provided by watercourses or underground sewer infrastructure due to increased rate of runoff. • The summer of 2022 saw unprecedented high temperature, exceeding 40 degrees in some parts of the UK, leading the Government to issue heat health warnings equating to a national emergency for the first time. As well as placing a burden on the healthcare system, the heatwaves disrupted transport infrastructure and the utility sectors, and caused economic losses at the local, regional and national levels.	**Daisy Dip Flood Alleviation Scheme (in progress, construction TBC)** – The scheme aim is to daylight a culvert through the Daisy Dip recreation ground to reduce surface water flood risk to properties downstream, and to improve biodiversity and amenity through creating new habitat. • Installation of Green Infrastructure (GI), including trees and on buildings (such as green roofs) across the city, and protection and maintenance of existing GI assets. Improving the quality and quantity of GI will increase the volume of carbon that can be stored and ultimately sequestrated whilst also helping to reduce flooding and heat stress. Co-benefits of action include biodiversity uplift, increased citizen health and wellbeing from time spent in nature and economic gains for example uplifted house prices or revenue generated from events in green spaces. • Property measures such as passive building cooling and retrofitting will aid adaptation and resilience. • Preparedness and response through behaviour change, heatwave plans, targeted public communication and messaging, and overheating assessments for new builds. • Urban measures such physical shading in public spaces, indoor and outdoor cool spaces and streets, and heat resistant infrastructure (e.g. sustainable drainage systems). • There is a need to avoid maladaptation/ malmitigation where response to climate change effects exacerbate climate change (e.g. air conditioning in response to heat) or where mitigation measures reduce the ability to adapt to the effects of climate change. • The council needs to undertake a Climate and Vulnerability Risk Assessment for the City. As per underlying principle 1 Lead by example we need to do this for our own services and responsibilities and facilitate other key organisations across the city to do the same. The assessment is used to determine the nature and extent of risks posed by climate change. This is done by analysing potential future climate hazards and evaluating existing vulnerabilities to understand the seriousness of the potential impacts on people, assets, services, livelihoods and the environment. The Assessment should consider: vulnerable populations; water security; nature; transition risks and include a high-emissions scenario. Identified hazards should be incorporated into overall risk management frameworks, with a process established for prioritising identified hazards. The Climate and Vulnerability risk assessment should include addressing climate anxiety.

Our Priorities

Priority	Why is this important?	What will the council do?
Communication & Community Engagement	• The first meeting of the Southampton Climate Commission took place in November 2022, with key representatives from public sector, businesses, and residents' groups. • The Commission will help build capacity in the city to address the challenges of climate change and provide a platform for deliberation and democracy. The Commission will seek to: • Create shared responsibility and mobilise local action with meaningful representation of different groups. • Demonstrate how climate action can be an opportunity to deliver co-benefits. • Strengthen the evidence base and promote the adoption and delivery of appropriate climate action plans across sectors. • Inform, guide, support, and track progress towards appropriate local climate targets, promote transparency and encourage the replication/scaling up of best practice. • Develop business cases in collaboration with a range of partners to support successful delivery of emission reductions.	• Southampton Climate Commission, could help in achieving our goals. It is a model other UK cities have introduced, bringing together representation from a range of stakeholders to develop ownership and oversight and establish agreed targets and positive action. **Progress to Date** • **2021:** High level assessment of emissions in Southampton was undertaken by Leeds University using projections based on a carbon budget assigned by population • **Jan – June 2022:** Consultation with the Chamber of Commerce, Local Enterprise Partnership (LEP), Workplace Travel Network, key partners and a survey open to the public with overall support for a climate commission • **July 2022:** Workshop on Climate Commission development including review of Terms of Reference • **Nov 2022:** First meeting of Commission • **2023:** Quarterly meetings Citizens Climate Assembly – The University of Southampton are currently engaged in setting up a Citizens Assembly focussed on climate change. It is expected to be launched this year (2023). www.rebootingdemocracy.ac.uk/scca • We are collaborating with the University of Southampton on a number of projects including Pioneering Places – exploring the non-technical barriers to achieving net zero. These projects have the potential to attract significant funding to help the city on its journey to net zero.

Our Priorities

Priority	Why is this important?	What will the council do?
Socially Inclusive & Healthy Communities	Southampton City has a diverse population of over 250,000, many of whom are living in deprived areas and experiencing poor health. As a relatively deprived coastal city, Southampton ranks 55th out of 317 local authorities (where 1 is the most deprived), making it more deprived than our ONS 'most similar' authorities of Bristol (82nd) and Leeds (92nd). In the 2021 Census, 32% of residents described their ethnicity as non-white British. Southampton has significant health inequalities: people living in the most deprived parts of the city are almost twice as likely to die prematurely than those in the most affluent areas. Men living in the most deprived areas in Southampton live on average 6.6 years less than those in the most affluent areas; for women this difference is 3.1 years. There is an inequality gap in terms of pay between those working in the city and those resident in the city (£680 median gross weekly pay for workers compared to £643 for residents in 2022). Southampton often has more challenges than the national average in terms of the wider determinants of health including housing (with 13.6% of households being overcrowded in 2011), crime (crime rate of 136 crimes per 1k population in 2021/22) and child poverty (22.2% of Southampton children in low-income families in 2020/21).	• Improvements in public health will be delivered as co-benefits of many of the actions listed above including more active travel and more green space. It is vital that any plans include public health as a key component across its different action themes. • Air Pollution is addressed through the Air Quality Strategy & Action Plan • Creating sustainable, accessible neighbourhoods can help people better access services and facilities by active travel modes incorporating physical activity into everyday life and lowering emissions. They also increase opportunities for residents to meet and engage with each other fostering a greater sense of community and belonging. • Heat and Extreme weather. Impacts of heat events are widespread, and especially severe for at-risk groups and vulnerable communities. This means working closely with health colleagues as well as sustainable design policies in the Local Plan. • Socially Inclusive includes the needs of disabled people, which includes involvement in debates and in shaping solutions. Disabled representatives must be at the table when environmental solutions are developed and plans implemented, to ensure that societal barriers to inclusion are reduced not increased.

To find out more and pledge your support visit Southampton.gov.uk/GreenCity

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