Welcome to the CDP-ICLEI Unified Reporting System 2021

WWF OPCC Introduction

0. Introduction

(0.1) Please give a general description and introduction to your city including your city's reporting boundary in the table below.

	Administrative boundary	Description of city
Please complete	City / Municipality	Sunderland is a coastal city located on the River Wear in Tyne and Wear, North East England (see attached map for boundary). With a population of 277,500, Sunderland is home to 127,000 households spread across 60 neighbourhoods. Sunderland is the second largest local authority area in Tyne and Wear covering a total of 137 square kilometres. Sunderland City Council has set out ambitious targets to be a carbon neutral local authority by 2030 and is working with partners across Sunderland for the city to be carbon neutral by 2040 and deliver against the city's Low Carbon Framework. Sunderland is also growing its reputation as a digital trailblazer and is actively exploiting the many benefits that connectivity and technology can bring to its people and businesses through its ambitious Smart City agenda which is already starting to deliver real benefits with early use cases ranging from primary school classrooms to advanced manufacturing. Sunderland was historically known for its traditional industries of shipbuilding and coalmining as well as glassmaking. Today, Sunderland's economy is focused around three key sectors – automotive and advanced manufacturing, financial and customer services, and software and digital. Home to the UK's biggest and most productive car plant – Nissan Motor Manufacturing UK - the city is a European centre for electric vehicle production, with significant expertise in advanced manufacturing more broadly, including in aerospace, and electrification of advanced manufacturing.

		Sunderland is transforming to lead in new forms of transport and energy, shifting focus from shipbuilding and coalmining, to electric vehicles and battery technology and production. As at end March 2021, Sunderland has 80 internationally owned companies originating in 20 territories and employing more than 26,000 people. Sunderland is working hard to improve the health and social outcomes of residents. It is one of the 20% most deprived districts/unitary authorities in England and approximately 23% (11,100) children live-in low-income families. The health of people in Sunderland is generally worse than the England average. Life expectancy for both men and women is lower than the national average in England. The city is well connected from a transport perspective with regional and national rail services as well as easy access to the national highways infrastructure with three road bridges across the River Wear (which cuts through the city). The Tyne and Wear Metro connects Sunderland to each of the four Tyneside local authorities. The closest airports to the city are Newcastle International Airport and Durham Tees Valley Airport, and the city also has a municipally owned Port – the Port of Sunderland. Sunderland currently has 63 designated wildlife sites. In addition to the River Wear, the smaller River Don also runs through Sunderland, Large parts of the city sit on a Magnesium Limestone aquifer. The city is approximately 80 meters above sea level. [1]

[1]Sunderland City Boundary.pdf

(0.2) If you have not previously submitted your Letter of Commitment to the Global Covenant of Mayors, either through the relevant regional covenant or through the Global Covenant secretariat, please attach the letter signed by an appropriately mandated official (e.g. Mayor, City Council) to this question.

SCC - Cov of Mayors signed doc.bmp

City Details

(0.3) Please provide information about your city's Mayor or equivalent legal representative authority in the table below.

	Leader title	Leader name	Current term end year
Please complete	Cllr	Graeme Miller	2022

(0.4) Please select the currency used for all financial information disclosed throughout your response.

GBP Pound Sterling

(0.5) Please provide details of your city's current population. Report the population in the year of your reported inventory, if possible.

	Current population	Current population year	Projected population	Projected population year
Please complete	277,417	2018	275,624	2040

(0.6) Please provide further details about the geography of your city.

	Land area of the city boundary as defined in question 0.1 (in square km)
Please complete	139.5

1. Governance and Data Management

Governance

(1.0) Please detail sustainability goals and targets (e.g. GHG reductions) that are incorporated into your city's master plan and describe how these are addressed in the table below.

Sustainability goals and targets	Description
Emissions reduction targets	In recognition of the Paris Agreement, Sunderland City Council declared a climate emergency in 2019. The climate emergency declaration committed Sunderland to help combat climate change by reducing citywide emissions and helping global temperature rise stay below 1.5°C by 2050. In 2020/21 Sunderland's 2030 Shadow Board, made up of Sunderland City Council and partner organisations, prepared the Low Carbon Framework (available at https://www.sunderland.gov.uk/media/22959/Sunderland-Low-Carbon-Framework/pdf/Sunderland_Low_Carbon_Framework1.pdf?m=637461416504170000) which set out their approach for Sunderland to achieve carbon neutrality by 2040 and was adopted in December 2020. This includes seven strategic priorities: Our Behaviour, Policies and Operational Practices, An Energy Efficient Built Environment, Renewable Energy Generation and Storage, Low Carbon and Active Transport, Green Economy and Consumption and Waste. The Council endorsed the Low Carbon Framework in January 2021 and at the same time adopted its Low Carbon Action Plan which included a target for the Council to become carbon neutral by 2030.

Emissions reduction targets	Sunderland's Core Strategy and Development Plan (available at https://www.sunderland.gov.uk/CSDP) has a spatial vision that by 2033, Sunderland will be a city at the heart of a low carbon regional economy, and several master planning documents reflect the ambition to reduce carbon emissions in the city and set out guidance to facilitate delivery against targets. The Riverside Sunderland Masterplan, which is for a new urban quarter being created in Sunderland city centre (and is available at https://www.riversidesunderland.com/sites/default/files/2020-10/sunderland_masterplan_relaunch_RevU_spreads.pdf), has the ambition of developing Riverside Sunderland into one of the UK's first carbon-neutral neighbourhoods. Key goals of the Riverside Sunderland low emissions approach are to design for low energy consumption; maximise opportunities for heat recovery; integrate Riverside Sunderland into a city-wide low-carbon heating network; generate energy from renewable sources; reduce car dependency and use modern methods of construction (MMC). A Supplementary Planning Document was adopted by the Council in December 2020 which provides planning guidance for the delivery of the site (available at https://www.sunderland.gov.uk/media/22904/Riverside-Sunderland-SPD/pdf/Riverside_Sunderland_SPD.pdf?m=637437352115230000) The South Sunderland Growth Area Supplementary Planning Document (SSGA SPD), (which is available at https://www.sunderland.gov.uk/media/22413/SSGA-SPD-June-2020/pdf/SSGA_SPD_-_June_2020.pdf?m=637279202064570000), also recognises that Sunderland has an important part to play in tackling climate change and contributing to the national target of carbon neutrality by 2050. The SSGA SPD also recognises that the built environment contributes significantly to climate change, and therefore ensures that sustainable design and construction are incorporated into development to help reduce citywide emissions and mitigate against climate change. All the above contributes to one of the central ambitions in the City Plan (available at https://www.sunderland.gov.uk/media/21728/City-Plan-Sunderland-2019-2030/pdf/oce21555_Council_Strategy_2030_Reformed_Presentation_v2.pdf?m=637569323260530000) that Sunderland will be a dynamic smart city with a low carbon economy.
Adaptation targets	Several climate change vulnerability assessments have identified rainstorm, flooding, heatwaves, and cold waves as Sunderland's most significant natural hazards because of climate change. Consequently, Sunderland prepares a Local Flood Risk Management Strategy every 5-6 years, which has the target of decreasing the number of properties at high flood risk. Sunderland also adheres to the England Heatwave Plan, which has the target of reducing the harm to health from severe heat and heatwaves. Sunderland also adheres to the Cold Weather Plan (CWP) for England, which aims to prevent avoidable harm to health, by alerting people to the negative effects of cold weather and enabling them to

	prepare and respond appropriately. The CWP also aims to reduce pressure on the health and social care system during winter through improved anticipatory actions with vulnerable people.
Adaptation targets	Climate change adaptation targets are integrated into numerous policies within Sunderland's adopted Core Strategy and Development Plan and consequently planning decisions taken on new developments within the city. Firstly, Strategic Priority 9 of the plan has the goal of adapting to and minimising the impact of climate change by reducing carbon emissions, maximising the use of low carbon energy solutions, and seeking to reduce the risk/impact of flooding. This ambition also feeds into Policy SP1 which requires sustainable patterns of development to mitigate against climate change. Policies WWE2 (Flood risk and coastal management) and WWE3 (Water management) aim to reduce flood risk and implement sustainable coastal management. As part of adapting to climate change, development is also required to achieve a high quality of design (Policy BH1 – Design Quality); and where possible integrate sustainable design and construction (Policy BH2 – Sustainable Design and Construction). Policy NE1 (Green and Blue Infrastructure) also states development should apply climate change mitigation and adaptation measures, including flood risk and watercourse management. Strategic Priorities 1 (Our Behaviour) and 2 (Policies and Operational Practices) within Sunderland's Low Carbon Framework and Low Carbon Action Plan aim to adapt our actions and policies to reduce vulnerability to climate change impacts, protecting social, economic and natural systems. Strategic Priority 1 aims to engage with residents, communities and partners and encourage positive behaviour change to reduce individual carbon footprints. Strategic Priority 2 aims to adapt the policies and operational practices of our organisations to embrace and support carbon initiatives, including climate resilience and offsetting, procurement, governance, and engagement.
Adaptation targets	The International Advanced Manufacturing Park (IAMP) Area Action Plan 2017-2032 (available at https://www.sunderland.gov.uk/article/12757/International-Advanced-Manufacturing-Park), which is part of the Local Plan and provides the planning policy context for the development of a 370-acre enterprise zone specialising in the development of automotive and advanced manufacturing sectors, has several policies relating to adaptation. Policy D1 (Masterplan Design) requires development proposals for the IAMP to accommodate drainage infrastructure within the street network with Sustainable Drainage Systems (SuDS) placed to enable effective water quality management. Policy IN2 (Flood Risk and Drainage) requires development proposals to be accompanied by a FRA (Flood Risk Assessment), a surface water drainage strategy which incorporates SuDS, and evidence there is sufficient capacity in the foul sewer network to support development.

	In addition, the Riverside Sunderland SPD requires development to incorporate SuDS as integral features to the green infrastructure and street layout, to act as positive features to the development and help to reduce flood risk. Development is also required to ensure that surface water run-off levels are in accordance with council standards. Similarly, the SSGA SPD aims to address climate related risks within the area, such as surface water flooding and drainage. These SPDs reflect well-established work in the city including through the Minster Quarter Masterplan (available at https://www.sunderland.gov.uk/media/19720/Minster-Quarter-Masterplan-Supplementary-Planning-Document-March-2017/pdf/Minster_Quarter_Masterplan_Supplementary_Planning_Document_March_2017.pdf?m=636450401674000000). This recognised that key design principles must be adopted within this district, to ensure the area is resilient to the potentially severe adverse effects of climate change. For example, all development proposals were required to consider the effect of the proposed development on flood risk, both on-site and offsite, commensurate with the scale and impact of the development, through the completion of an FRA. In addition, development in the Minster Quarter will required the integration of SuDS to manage surface water drainage and where SuDS are provided, arrangements were required to be put in place for their whole life management and maintenance.
Adaptation targets	Sunderland's five Neighbourhood Investment Plans (available at https://www.sunderland.gov.uk/Neighbourhood-Investment-Plans) which cover the five areas of the city - North, East and West Sunderland, Coalfields and Washington - aim to incorporate climate resilience through the prioritisation of tree and shrub planting programmes, improvement of drainage systems, reviewing of transport routes, reducing carbon footprint, creating green solutions, implementing traffic calming and investing in active travel infrastructure. The Riverside Sunderland Masterplan also ensures that tree planting and sustainable urban drainage will promote climate change resilience. Finally, Sunderland also has a city-wide Green Infrastructure strategy which prioritises the protection, enhancement, and repair of strategic green infrastructure corridors, addressing the green infrastructure deficit in areas of social, economic, and environmental need and future proofing the city for climate change. Climate change is a growing threat to business continuity in Sunderland and across the globe. Sunderland City Council recognises it must build its resilience to severe weather impacts and prepare for climate change in order to minimise disruption or costs associated with damage to properties, declining productivity, illness and accidents, changes to prices or availability of raw materials, changes in the availability and cost of insurance and impact on global supply chains. This commitment is outlined within the Council's Business Continuity and Strategic Framework which is aligned to the City Plan.

Renewable energy targets	The importance of a shift to renewable energy supplies for reducing citywide carbon emissions and the consequent threat of climate change is well documented. Due to this, Sunderland City Council have signed the UK100 Pledge, committing to 100% clean energy by 2050.
Renewable energy targets	Within Sunderland's Core Strategy and Development Plan, Policy WWE1 (Decentralised, Renewable and Low Carbon Energy) ensures that the development of decentralised, renewable, and low carbon energy will be supported within the city. Furthermore, 'Renewable Energy and Storage' also sits as Strategic Priority 4 within the Low Carbon Framework and Low Carbon Action Plan. These documents set out the future actions and requirements for developing renewable energy generation and storage, and renewable/district heating schemes in the city. Within the Council's Draft Allocations and Designations Plan (available at https://www.sunderland.gov.uk/media/22878/AD-01-Allocations-and-Designations-Plan-2020/pdf/AD.01_Allocations_and_Designations_Plan_20201.pdf?m=637435558267800000), which was published for consultation between December 2020 and February 2021, the Council also proposed to designate a range of areas and began the process by identifying areas considered to be potentially suitable for wind energy development to seek views ahead of proposing designations. In addition, Policy D1 within the IAMP AAP seeks to optimise the use of solar panel use on buildings. One of the main aims for Riverside Sunderland, is for this new urban quarter to be one of the UK's first carbon neutral neighbourhoods, and one of the key features of the Riverside Sunderland Masterplan is to give priority to renewable sources. There are several targets for renewable energy at Riverside Sunderland. Domestically, the target is for 100% of the annual energy requirement to be generated on site. Non-domestically, the target is for the annual energy requirement for at least two floors of the development to be generated on-site. The Council adopted an SPD for Riverside Sunderland in December 2020 which provides specific guidance on the delivery of the area. Finally, the creation of a sustainable low carbon community is also priority within South Sunderland Growth Area (SSGA) planning. In its sustainability section it sets out that solar water heating, photo-voltaic, biomass boilers and ground/air source heat pump systems should be considered and promoted where viable. All of the above will contribute to one of the key 2030 City Plan goals, to make Sunderland a dynamic smart city.
Energy efficiency targets	In Sunderland's Core Strategy and Development Plan, Policy BH1 requires development to achieve high-quality design standards, maximise opportunities to create sustainable mixed-use developments and to maximise opportunities for buildings and spaces to benefit from sunlight and passive solar energy. Policy BH2 requires the incorporation of sustainable design and construction methods where

	possible, maximising energy efficiency and integrating the use of renewable and low carbon energy. In addition, Policy D1 within the IAMP AAP encourages the use of solar gain on buildings. 'An Energy Efficient Built Environment' is also strategic priority 3 within Sunderland's Low Carbon Framework and the underpinning partner Low Carbon Action Plans. This strategic priority has the central aim of improving the energy efficiency of existing homes, buildings and infrastructure and works towards zero carbon for new homes and buildings. This is to help improve quality of life, reduce energy demand and fuel costs, improve health and wellbeing, and minimise incidents of fuel poverty within the city. The Council's Low Carbon Action Plan sets out actions which the Council is currently taking to help achieve these goals. Reducing energy consumption and using clean energy is a key aspect of the Riverside Sunderland Masterplan. A range of targets for both domestic and non-domestic buildings are set out for both 2025 and 2030 to reduce operational energy, reduce space heating demand, increase renewable generation on roofs, reduce embodied carbon, and decrease portable water use. For example, the Riverside Sunderland project aims to reduce the operational energy consumption in domestic buildings to 70 kWh/m2/y by 2025, and to 0-35 kWh/m2/y by 2030. The Council adopted an SPD for Riverside Sunderland in December 2020 which provides specific guidance on the delivery of the area. The creation of a sustainable low carbon community is a priority in SSGA planning. In its sustainability section it sets out that solar water heating, photo-voltaics, biomass boilers and ground/air source heat pump systems should be considered and promoted where viable. The Council adopted an SPD for the SSGA which provides specific guidance on the delivery of the area.
Water security targets	The Northumbrian Water Resources Management Plan 2021-2025 (WRMP – attached in section 14) and the Northumbria Water Basin Management Plan (available at Northumbria_RBD_Part_1_river_basin_management_plan.pdf (publishing.service.gov.uk) cover Sunderland and have water security targets. The WRMP aims to reduce leakage by 15% between 2020 and 2025, and a further 10% over each subsequent 5-year period through to 2045. In addition, the WRMP aims to annually reduce per capita water consumption by 0.12l/head/day (0.33 Ml/day) by delivering water efficiency activities. The Northumbria Water Basin Management Plan aims to provide a long-term framework to protect water quality within the river basin district. The plan has numerous objectives in-line with the European Water Framework Directive. The main environmental objectives are to prevent deterioration of surface and groundwater; achieve good status for all water bodies or, for heavily modified water bodies and artificial water bodies, good ecological potential and good surface water chemical status; reverse significant increases in the concentrations of pollutants in groundwater; and reduce discharges, emissions and loses of hazardous substances into surface water.

Water security targets	Policies WWE3 (Water Management) and WWE4 (Water Quality) within Sunderland's Core Strategy and Development Plan also aim to protect and enhance water security in Sunderland. Policy WWE3 requires development to consider the effect on flood risk, on-site and off-site, and commensurate with the scale and impact of the proposals, through the likes of flood risk assessments, incorporation of SuDS (that include rainwater harvesting and green roofs), separation, minimisation and control of surface water, incorporation of allowance for climate change in accordance with Environment Agency guidance and ensuring protection where sites may be susceptible to over land flood flows (as shown in the Strategic Flood Risk Assessment). Policy WWE4 requires the quantity and quality of surface and groundwater bodies and the quality of bathing water to be protected, and where possible enhanced, in accordance with the Northumbria River Basin Management Plan. This includes water quality assessments for any physical modifications to a water course and any development which could indirectly, adversely affect water bodies. Policy WWE4 also requires developments that discharge into a watercourse to incorporate pollution control measures, and developments which run adjacent to, over or in a watercourse and consider opportunities to improve river environments and water quality where applicable.
Waste management targets	Sunderland, along with neighbouring Local Authorities Gateshead and South Tyneside, form the South Tyne and Wear Waste Management Partnership (STWWMP), which together recently published a Joint Municipal Waste Management Strategy for 2021-2025. Within this, there are several targets in-line with the European Waste Framework Directive. This includes the aim to increase municipal waste recycling by 55% by 2025, 60% by 2030, and 65% by 2035. The National '25-year Natural Environment Plan' (available at https://www.gov.uk/government/publications/25-year-environment-plan) also sets out national commitments, which the STWWMP will also be required to contribute to. These include working towards zero avoidable waste by 2050; working towards the elimination of plastic waste by 2042; meeting existing and developing new ambitious targets for landfill diversion, reuse, and recycling; eliminating waste crime; reducing litter; and reducing marine plastic pollution.
Waste management targets	Within Sunderland's Core Strategy and Development Plan, Policy WWE6 (Waste Management) requires all development to encourage and support the minimisation of waste production and the re-use and recovery of waste materials. Waste and Consumption is also Strategic Priority 7 in the Low Carbon Framework and Sunderland has already taken action to ensure that waste is managed more sustainably in the city, such as committing as a partnership to the Single Use Plastics Pledge to eliminate the use of single use plastics wherever possible. The Low Carbon Action Plan sets out numerous actions which will help Sunderland to reduce waste, changing what we consume and how it is produced, continuing to avoid the disposal of waste by landfill and increasing opportunities to move up the waste hierarchy.

	The Riverside Sunderland Masterplan aims to ensure that Riverside Sunderland produces less waste, promotes a sharing economy, and that any waste that is produced is reused or recycled. The Masterplan also requires effective waste segregation within the new urban quarter, as well as including a range of community reuse and sharing services such as: growing food and composting organic waste on site; waste collection and delivery services to minimise travel and encourage take back of materials and packaging; and community sharing schemes for power tools, e-bikes, camping equipment and other items. The Council adopted an SPD for Riverside Sunderland in December 2020 which provides specific guidance on the delivery of the area. Both the Minster Quarter Masterplan and the SSGA SPD require the storage and collection of waste to be carefully considered, and the layout of development to be designed to ensure that collection can be easy and efficient and allow for flexibility to adapt to new waste requirements.
Sustainable food consumption/production targets	Sunderland City Council recently published the 'Sunderland Healthy City Plan 2020-2030' (https://www.sunderland.gov.uk/media/23331/Sunderland-Healthy-City-Plan-2020-2030/pdf/HCP_front_postHWBB_22.3.21.pdf?m=637545088604400000), with the vision that by 2030 every individual in Sunderland will have healthy and happy lives, with no one left behind, and several of the 9 strategic priorities within the plan focus on sustainable food consumption. Part of the 'healthy weight' strategic priority aims to improve the health of children and young people, families, adults and influence the environment to support a healthy weight. For children and young people, the plan aims to increase the take up of Healthy Start Vitamins in the city and increase awareness of their benefits. Change4Life Sunderland will also deliver preventative services within communities and tailored support for children, young people and families in areas of greatest need. More schools will also sign up to and achieve the Food and Nutrition charter mark, as part of the Sunderland Healthy Schools Award, with approximately 20 already having formally recorded their interest as at July 2021. For adults and families, Public Health campaigns will support people to manage their own healthy weight. 'This mum moves' programme will also support women to be active and have a healthy diet during and after pregnancy and finally, healthy weight interventions will be co-produced with our communities. To influence the environment, the plan will develop the commitment to the Food Active Local Authority Declaration on Healthy Weight. This includes the delivery of a city-wide Healthy Weight Plan. The Council will also consult with partners and prioritise five commitments from the Healthy Weight Declaration for 2020-22. Development of Hot Food Takeaways will also continue to be restricted through Policy VC5 of the Council's Core Strategy and Development Plan, which seeks to restrict the development of new hot food takeaways in wards with higher childhood obesity rates and within 400m of entry points to schools. The healthy weight

	recommendation will be implemented in the health inequalities strategy by working with a wide range of partners. This includes improved access to healthy food for vulnerable groups. Finally, the number of allotments and edible community gardens will be increased within the city.
Biodiversity targets	As part of Sunderland's Core Strategy and Development Plan, Sunderland has a spatial vision that by 2033, the city will have a network of green infrastructure, supporting and protecting our biodiversity and wildlife. Therefore, a range of policies within the Plan support this vision. Policy BH2 (Sustainable design and construction) ensures that, where possible, major development should include opportunities to incorporate measures which enhance biodiversity value, such as green roofs. Policy NE2 (Biodiversity and geodiversity) ensures that, where appropriate, development must demonstrate how it will provide net gains in biodiversity and avoid or minimise adverse impacts on biodiversity in accordance with the mitigation hierarchy. Also, any development which would adversely affect a SSSI, a Local Wildlife Site, wildlife corridor or local nature reserve are required to demonstrate that the reasons for the development, including the lack of an alternative solution, clearly outweigh the nature conservation, ecological, educational, recreational or intrinsic value of the site and the national policy to safeguard the national network of such sites. Policy NE3 (Woodlands/hedgerows and trees) requires development to provide biodiversity net gain. Finally, Policy WWE4 (Water quality) ensures that development adjacent to, over or in, a main river or ordinary watercourse should consider opportunities to improve the river environment and water quality by improving the biodiversity and ecological connectivity of the watercourse. The Draft Allocations and Designations Plan identifies a proposed wildlife network designation which seeks to establish a buffer around protected sites and provide steppingstones and linkages between these.
Biodiversity targets	Sunderland has a Green Infrastructure Strategy (available at https://www.sunderland.gov.uk/media/20889/SD-46-Sunderland-Green-Infrastructure-Strategy-2018-/pdf/SD.46_Sunderland_Green_Infrastructure_Strategy_2018.pdf?m=636802959791130000), which aims to protect a range of district and inter-Green Infrastructure Corridors and assets which provide multiple benefits to people and wildlife across the city. Within this, green infrastructure planning goes beyond directly providing food, refuge and shelter for species; it aims to future-proof the landscape to allow for the continued viability of species, enabling individuals, groups and gene-pools to adapt and move through the landscape in response to climate change, extreme weather events, disease and anthropogenic disturbance. As set out below in nature-based solutions, Sunderland intends to develop a Biodiversity Supplementary Planning Document following enactment of the Environmental Bill.
Targets for nature-based solutions	It is well understood that Green Infrastructure and nature-based solutions can provide a wide range of social, economic, and environmental benefits including mitigating the impacts of extreme weather and flooding, enhancing environmental quality, sustainable food production, supporting biodiversity, health and wellbeing. Therefore, Sunderland's Core Strategy and Development Plan has a spatial vision

	that by 2033 the city will have a high-quality natural environment. Policy NE1 of the Plan (Green and blue infrastructure) seeks to protect the environment by maintaining and improving the Green and Blue Infrastructure Network. To achieve this, the policy seeks to ensure that new development: incorporates existing and/or new green infrastructure features within their design; addresses corridor gaps where feasible; supports the management of existing wildlife corridors; applies climate change mitigation and adaptation measures, including flood risk and watercourse management; links walking and cycling routes to and through corridors; and protects, enhances and restores natural green and blue space. The Plan is supported by a Habitats Regulations Assessment and supporting Mitigation Strategy which set out how the impacts upon the Natura 2000 sites along the coast will be carefully managed. The Council has previously consulted on a Draft Biodiversity Supplementary Planning Document Scoping Report which sets out how the Council will seek to deliver biodiversity net gains in the future. It is intended that the document will be progressed further once the Environment Bill passes through Parliament and further information is known on its requirements. An Interim Biodiversity Strategy is currently being prepared to guide new development within the Washington area where a significant level of development is proposed, which will inform the mitigation approach taken more widely across the city in advance of the SPD being progressed.
Targets for nature-based solutions	The IAMP AAP, which sets out the policy framework for a new large employment development, includes policies EN1 and EN2 which requires the designation of an Ecological and Landscape Mitigation Area (ELMA) which will secure nature-based solutions to mitigate the impacts of the development. The Riverside Sunderland Masterplan is guided by principles of integrated sustainability and consequently, Riverside Sunderland aims to support a circular economy by using efficient designs, sustainable materials, and nature-based solutions, as well as working with the landscape to implement sustainable urban drainage. Similarly, the earlier Minster Quarter Masterplan aimed to improve green infrastructure, providing green spaces and links whilst solving urban and climatic challenges by building with nature. Finally, the development of nature-based solutions is also incorporated in the city-wide Sunderland Green Infrastructure Strategy, as well as the 5 Neighbourhood Investment Plans. This is to be ensured through the prioritisation of tree and shrub planting programmes, improvement of drainage systems, reducing carbon footprint, and creating green solutions.

(1.6) Please provide information on the overall impact of COVID-19 on climate action in your city.

	Impact of COVID-19 on climate action in your city	Comment
Response	Other, please specify COVID-19 has caused a range of positive and negative impacts on climate action in Sunderland.	COVID-19 has led to a range of positive and negative impacts on climate action in Sunderland. Positively, COVID-19 has significantly increased awareness and experience of the benefits of agile/online working, including saving money and reducing carbon emissions. Many businesses and partner organisations in Sunderland now have the ambition of reducing the number of unnecessary transport journeys – either from commuting or business travel as well as increasing the availability of low carbon and active transport options for staff. Sustaining these positive travel behaviours will help to reduce emissions from transport within the city in future years, mitigating against climate change. The Council is in the process of updating its flexible working policies and procedures to support this approach as well as carrying out staff surveys to increase understanding of employee travel patterns and preference. The benefits of active travel, such as walking and cycling, have also become more widely recognised since the start of the COVID-19 pandemic. It is hoped that more people will continue to travel actively in the future, to help reduce CO2 emissions from transport. To catalyse this, Sunderland City Council aims to improve transport infrastructure which supports active travel, with a new Local Cycling and Walking Investment Plan which is currently being developed for the city. The plan aims to make walking and cycling the natural choices for shorter journeys or as part of a longer journey for all ages. Since the beginning of the COVID-19 pandemic, Sunderland has witnessed greater funding availability for climate action from UK Central Government. This is an indication that climate action is continually becoming more widely recognised as arguably the greatest global challenge this century. Furthermore, this increased funding provides the opportunity for the city to take greater action to mitigate climate change than ever before. Due to COVID-19 and the introduction of social distancing, citizens within Sunderland, as elsewhere, are now more aware of how infection can spread between people, particularly in enclosed spaces. This is reflected in reduced

		confidence in public transport in many areas and could have a potentially negative impact on climate action within the city if this pattern of behaviour continues and embeds. Although Sunderland aims to shift towards low carbon and sustainable transport, the mode share of public transport journeys may decrease significantly because of the pandemic. For example, as of 02/01/21 North East England bus patronage was down by 77% compared to pre-COVID-19, and as of 01/06/2021 remained down by 24%. Likewise, Metro patronage remains 31% lower than pre-COVID-19 levels as of 18/07/2021. To reduce vulnerability to COVID-19, our residents may favour using private transport modes such as the private car, meaning increased CO2 emissions. Hence, there is a recognition that the public transport modal share will need to be rebuilt, and actions will need to be taken so that citizens in Sunderland are assured that public transport is a safe option.

(1.7) Please provide information specifically on the impact of the COVID-19 economic response on climate action in your city and synergies between COVID-19 recovery interventions and climate action.

	Impact of COVID-19 economic response on city's budget for financing climate action in your city	COVID-19 recovery interventions and climate action synergies	Explanation
Response	No change on finance available for climate action	Recovery interventions that develop or strengthen universal social protection systems that enhance resilience to shocks, including climate change Recovery interventions that support just	COVID-19 has significantly impacted Sunderland. Therefore, more than ever, ensuring our communities are resilient is vital for a just transition. A key strategic priority within Sunderland City Council's Community Wealth Building Strategy (CWBS) is Improving Community Resilience and Sunderland City Council, in partnership with the voluntary and community enterprise sector, has worked to improve community resilience during 2020/21. This included: publishing a Statement of Intent for fuel energy measures to address fuel poverty/energy efficiency in privately owned homes; launching an affordable credit solution for all

		transition strategies for workers and communities Recovery interventions that boost public and sustainable transport options Recovery interventions that build out broadband and internet services to those with inadequate access Recovery interventions that scale up investments in and access to digital technologies, funding mechanisms, and capacity-building solutions to enhance resilience to shocks, including climate change Recovery interventions that increase access to urban green spaces	residents and staff; recommissioning advice provision for benefits, debt, employment and housing across neighbourhoods; developing and expanding a 'Making your money go further' toolkit; adopting a standard financial assessment by the council and key partners and a coordinated approach to debt support; implementing a financial resilience service to support the new Council Housing Service in creating sustainable tenancies; reviewing Adult Learning specifications to reflect a better aligned curriculum with meaningful progression pathways for learners to achieve their goals; and increasing resident participation in digital opportunities. This has led to numerous positive outcomes to improve community resilience within Sunderland. For example: over £1 million in financial gains for Sunderland residents has been achieved by Welfare Rights Service and first tier advice providers; the Council has paid for organisations' Fareshare subscriptions – providing over 78 tonnes of extra food for residents; over 650 Credit Union members; over 2000 local welfare provision Crisis and Community Care awards, and Discretionary Housing Payment awards have been made by the council to financially insecure or vulnerable Sunderland residents; 33 organisations have been provided with funding worth £19,500 to purchase essential care items for their own customers; and 34 organisations were provided with 3000 council resilience packs to give to their own customers - which included Tesco cards worth a total of £60,000. Work under this Strategic Priority of the CWBS is ongoing. Regarding transport, Sunderland recently secured £1.125 million from the Department for Transport Active Travel Fund to support local active travel. The fund supports the installation of temporary projects for COVID-19 recovery as well as longer-term projects. Sunderland plans to use this funding to develop the A183 cycleway on Whitburn Road. This will increase health and wellbeing and reduce emissions. The Active Sunderland Board (ASB), which brings together key organisations that can influence physical activity in Sunderland, works to tackle the

			largest issues that lead to inequalities in physical activity. This includes recovering from COVID-19 and reinventing as a vibrant, relevant, and sustainable network of organisations providing physical activity opportunities to meet the needs of different people. The ASB will encourage increased investment in physical activity increasing walking and cycling rates as a climate action synergy. The ASB also aims to maximise access to green and blue space for physical activity, also improving public health. Regarding recovery interventions that build out broadband and internet services to those with inadequate access, and recovery interventions that scale up investments in - and access to - digital technologies, funding mechanisms, and capacity-building solutions, Sunderland has an ambitious Smart City Vision and Delivery Programme available at (https://www.sunderlandoursmartcity.com). Sunderland has attracted significant investment to deliver ubiquitous next generation digital connectivity, leaving no one and nowhere behind. This is enabling the delivery of a raft of transformational use cases, accelerating the benefits from digital technologies across all sectors from Smart Homes/Assistive Technologies to Connected Automated Logistics. COVID-19 has increased the Council's focus on agile working. Council staff will move to a new City Hall from late 2021. Before COVID-19, arrangements were being put in place to have 7 desks for 10 members of staff in the new City Hall, however since the pandemic occurred this number has changed to 5 desks for 10 members of staff. Agile working is being encouraged by Council leadership and should also reduce the risk of staff shortage at key times as staff can work from home if weather is severe. Also, the agile working and desk ratio approach will routinely reduce emissions from operational buildings. Finally, agile working will geographically spread the work of the council city-wide and beyond, reducing the business continuity impact of any power outages with a lower concentration of staff likely to be affected as within

			one large building.

2. Climate Hazards and Vulnerability

Climate Risk and Vulnerability Assessment

(2.0) Has a climate change risk and vulnerability assessment been undertaken for your city?

Yes

(2.0a) Please select the primary process or methodology used to undertake the risk and vulnerability assessment of your city.

	Primary methodology	Description
Risk assessment methodology	UK Climate Impacts Partnership Framework (UKCIP)	UKCIP framework helps UK organisations, sectors and governments adapt to changing climates through the generation, exchange, and application of knowledge. UKCIP provide scenarios on how the climate might change in the future and co-ordinates research on dealing with this future climate. Their work helps to improve the flow of information between researchers and decision-makers, enhancing long-term relationships between the research, policy and practitioner communities. UKCIP also work to improve the exchange of knowledge between climate change adaptation and the related agendas of mitigation, disaster risk reduction and sustainable development. Further information can be found at https://www.ukcip.org.uk/.

GCoM Additional Information

(2.0b) Please attach and provide details on your climate change risk and vulnerability assessment. Please provide details on the boundary of your assessment, and where this differs from your city's boundary, please provide an explanation.

Publication title and attach the document

Sunderland Level 1 Strategic Flood Risk Assessment (SFRA)

AD.25_Strategic_Flood_Risk_Assessment_Level_1.pdf

Web link

https://sunderland.gov.uk/media/22850/AD-25-Strategic-Flood-Risk-Assessment-Level-1/pdf/AD.25_Strategic_Flood_Risk_Assessment_Level_1.pdf?m=637431304023570000

Year of publication or approval from local government

2020

Boundary of assessment relative to city boundary (reported in 0.1)

Same – covers entire city and nothing else

Explanation of boundary choice where the assessment boundary differs from the city boundary

NA

Primary author of assessment

Consultant

Does the assessment identify vulnerable populations?

Yes

Areas/sectors covered by the risk and vulnerability assessment

Energy
Water Supply & Sanitation
Transport
Industrial
Commercial
Residential
Public health
Emergency Management
Land use planning

Please explain

This Level 1 Strategic Flood Risk Assessment (SFRA) uses up-to-date flood risk information together with the most current flood risk and planning policy available from the National Planning Policy Framework and Flood Risk and Coastal Change Practice Planning Guidance.

The Level 1 SFRA focusses on collecting readily available flood risk information from stakeholders, the aim being to help identify the number and spatial distribution of flood risk sources present throughout the area to inform the application of the Sequential Test.

Sunderland City Council (SCC) requires this Level 1 SFRA to initiate the sequential risk-based approach to the allocation of land for development. This will help to inform and provide the evidence base for the Local Planning Authority's (LPA) Allocations & Designations Plan (A&D Plan).

Publication title and attach the document

Northumbria Community Risk Register

Northumbria-Community-Risk-Register-version-7.pdf

Northumbria-Community-Risk-Register-version-7.pdf

Web link

https://www.northumberland.gov.uk/NorthumberlandCountyCouncil/media/Local-Resilience-Forum/Northumbria-Community-Risk-Register-version-7.pdf

Year of publication or approval from local government

2014

Boundary of assessment relative to city boundary (reported in 0.1)

Larger – covers the whole city and adjoining areas

Explanation of boundary choice where the assessment boundary differs from the city boundary

The Northumbria Community Risk Register covers the County of Northumberland, as well as Tyne and Wear.

Primary author of assessment

Regional / state / provincial government

Does the assessment identify vulnerable populations?

Yes

Areas/sectors covered by the risk and vulnerability assessment

Transport
Food and agriculture
Waste Management
Industrial
Residential
Education
Public health
Emergency Management

Please explain

The Northumbria Risk Register is prepared by the Northumbria Local Resilience Forum and provides risk information on emergencies that could happen within the Northumbria area, together with an assessment of how likely they are to happen and the impacts if they do.

The Risk Register identifies:

1. Emergency Management Steps
2. Northumbria's Top Risks
3. What you can do to be prepared in an emergency
4. How your local community can be prepared
5. Business Continuity Management
6. Further Information

Publication title and attach the document

UK Climate Change Risk Assessment

UK Climate Change Risk Assessment 2017.pdf

Web link

https://www.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Synthesis-Report-Committee-on-Climate-Change.pdf

Year of publication or approval from local government

2017

Boundary of assessment relative to city boundary (reported in 0.1)

Larger – covers the whole city and adjoining areas

Explanation of boundary choice where the assessment boundary differs from the city boundary

The Climate Change Committee (CCC) is an independent statutory body established under the Climate Change 2008 to advise the UK and devolved administration governments on setting and meeting carbon budgets and preparing for climate change.

This report provides the larger picture for the whole of the UK

Primary author of assessment

Consultant

Does the assessment identify vulnerable populations?

Yes

Areas/sectors covered by the risk and vulnerability assessment

Energy
Water Supply & Sanitation
Transport
Food and agriculture
Waste Management
Environment, Biodiversity and Forestry
Industrial
Commercial
Residential
Education
Public health
Law & Order
Emergency Management
Land use planning
Tourism

Please explain

The Climate Change Act requires the UK Government to compile every five years its assessments of the risks and opportunities arising from the UK from climate change.

This report aims to assess the urgency of further action to tackle current and future risks, and realise opportunities, arising for the UK from climate change.

Publication title and attach the document

A Summary of Climate Change Risks for North East England

HLP05_4__A_Summary_of_Climate_Change_Risks_for_North_East_England_2012 (6).pdf

Web link

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj1sILD2oXyAhWMgVwKHQ7LB44QFjABegQIERAD&url=https%3A%2F%2Fwww.hartlepool.gov.uk%2Fdownload%2Fdownloads%2Fid%2F3015%2Fhlp05_4_a_summary_of_climate_change_risks_for_north_east_england_2012pdf.pdf&usg=AOvVaw3sJ2t-WYuAUcGLa6On20dp

Year of publication or approval from local government

2012

Boundary of assessment relative to city boundary (reported in 0.1)

Larger – covers the whole city and adjoining areas

Explanation of boundary choice where the assessment boundary differs from the city boundary

Includes the whole of North East England (Northumberland, Tyne and Wear, County Durham and the Tees Valley).

Primary author of assessment

Consultant

Does the assessment identify vulnerable populations?

Yes

Areas/sectors covered by the risk and vulnerability assessment

Energy
Water Supply & Sanitation
Transport
Food and agriculture
Waste Management
Environment, Biodiversity and Forestry
Industrial
Commercial
Residential
Education
Public health
Emergency Management

Land use planning
Tourism

Please explain

The UK Climate Change Risk Assessment (CCRA) is an independent research project, funded by UK Government and Devolved Governments that analyses the main risks and opportunities to the UK, arising from climate change over the coming years. It provides the underpinning evidence to inform discussions on adaptation actions needed in such areas as infrastructure, health, environment and business.

This report coincides with the UK CCRA, applying its context to the North East of England, to provide an understanding of the key threats and opportunities associated with climate change in the North East England region.

Publication title and attach the document

North East England Climate Change Adaptation Study 2008

North East Climate Change Adaptation Study 2008.pdf

Web link

Year of publication or approval from local government

2008

Boundary of assessment relative to city boundary (reported in 0.1)

Larger – covers the whole city and adjoining areas

Explanation of boundary choice where the assessment boundary differs from the city boundary

Includes the whole of North East England (Northumberland, Tyne and Wear, County Durham and the Tees Valley).

Primary author of assessment

Consultant

Does the assessment identify vulnerable populations?

No

Areas/sectors covered by the risk and vulnerability assessment

Energy
Transport
Food and agriculture
Environment, Biodiversity and Forestry
Public health
Land use planning

Please explain

The North East England Climate Change Adaptation Study 2008:
• Projects climate changes across the region to the 2050s using state-of-the-art modelling techniques.
• Assesses the impacts of the projected climate changes on current services, assets, communities, business and infrastructure.
• Identifies what needs to be done to adapt the impacts

Identifies which organisations are best placed to take the lead in taking forward the identified adaptation actions.

Climate Hazards

(2.1) Please list the most significant climate hazards faced by your city and indicate the probability and consequence of these hazards, as well as the expected future change in frequency and intensity. Please also select the most relevant assets or services that are affected by the climate hazard and provide a description of the impact.

Climate Hazards

Extreme cold temperature > Cold wave

Did this hazard significantly impact your city before 2021?

Yes

Current probability of hazard

Medium

Current magnitude of hazard

Medium

Social impact of hazard overall

Increased incidence and prevalence of disease and illness
Increased demand for public services
Increased demand for healthcare services
Increased risk to already vulnerable populations
Increased resource demand

Most relevant assets / services affected overall

Energy
Transport
Commercial
Residential
Education
Public health

Emergency services

Please identify which vulnerable populations are affected

Children & youth
Elderly
Marginalized groups
Persons with disabilities
Persons with chronic diseases
Low-income households
Unemployed persons
Persons living in sub-standard housing

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Medium High

When do you first expect to experience those changes in frequency and intensity?

Short-term (by 2025)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

In 2018, Anticyclone Hartmut (the Beast from the East) brought widespread cold temperatures and heavy snowfall to large areas of the UK, including Sunderland. There were 17 UK deaths due to the mixed effects of Anticyclone Hartmut with Storm Emma. Many schools in Sunderland had to be closed temporarily.

Anticyclone Hartmut, and subsequent weather events, caused millions of pounds of damage on Sunderland's coastline:
• Old North Pier: The cost estimate was £1.25m as a large section of the pier (35 metres/114ft) was lost. The 19th century pier helps protect Marine Walk Beach to its north and helps stop sediment building up in the Port of Sunderland's navigation channel to its south. It has been estimated that without the pier it could annually cost up to £100k for port dredging works.
• Stonehill Wall: The cost estimate was £1.5m as storms severely damaged the 240m/787ft long wall's concrete deck.
• New South Pier: The cost estimate is £0.35m as the 850m/2,788ft long pier lost sections of its concrete deck and granite coping.

It is likely that, because of climate change, the frequency, length, and intensity of cold waves will increase, causing more widespread disruption to the UK in the future.

The Northumbria LRF Community Risk Register lists Adverse Weather, including cold waves and consequent failure of essential services as top risk. The frequency of such events is likely to increase significantly in the future, increasing the health risks for people in Sunderland, particularly the vulnerable populations in the city, as well as the risk to the economy.

Climate Hazards

Extreme hot temperature > Heat wave

Did this hazard significantly impact your city before 2021?

No

Current probability of hazard

Low

Current magnitude of hazard

Low

Social impact of hazard overall

Increased incidence and prevalence of disease and illness
Increased demand for public services
Increased demand for healthcare services
Increased risk to already vulnerable populations
Increased resource demand

Most relevant assets / services affected overall

Energy
Residential
Public health
Emergency services
Land use planning

Please identify which vulnerable populations are affected

Children & youth
Elderly
Persons with disabilities
Persons with chronic diseases
Low-income households
Unemployed persons
Persons living in sub-standard housing

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Medium Low

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

Several heatwaves occurred in the Summer of 2018 across Britain and Northern Ireland. At the time, the British Isles were in the middle of a strong anticyclone inside a strong northward meander of the jet stream. This was part of the 2018 European heatwave. The Met Office declared summer 2018 the joint hottest on record with 1976, 2003 and 2006.

The heatwaves contributed to excess deaths in the UK, particularly effecting the vulnerable elderly population:
- The first heatwave (25th-27th June) saw an estimated 188 excess deaths observed above baseline levels.
- The second heatwave (30th June-10th July) saw 266 excess deaths.
- The third heatwave (21st-29th July) saw 409 excess deaths.

The Northumbria LRF Community Risk Register lists Adverse Weather, including heatwaves and consequent failure of essential services as top risk. The frequency of such events is likely to increase significantly in the future, increasing the health risks for people in Sunderland, particularly the vulnerable populations in the city, as well as the risk to the economy.

Climate Hazards

Flood and sea level rise > River flood

Did this hazard significantly impact your city before 2021?

Yes

Current probability of hazard

Medium

Current magnitude of hazard

Low

Social impact of hazard overall

Increased demand for public services
Increased risk to already vulnerable populations
Increased resource demand

Population displacement

Most relevant assets / services affected overall

Transport
Waste management
Commercial
Residential
Public health
Emergency services
Land use planning

Please identify which vulnerable populations are affected

Women & girls
Children & youth
Elderly
Indigenous population
Marginalized groups
Persons with disabilities
Persons with chronic diseases
Low-income households
Unemployed persons
Persons living in sub-standard housing

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Medium Low

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

The River Wear has a long and varied flood history with significant events occurring in the 1940s, 1960s, 1990s and more recently in 2000, 2005 and 2012. Most historic incidents have occurred in Washington. Many River Wear flooding events are at property level. Historic river flooding has impacted upon properties, gardens to properties, highways and footpaths. Climate change will increase rainfall events in the UK in the future, increasing the frequency and intensity of river flooding. The city also has a number of other watercourses which is likely to impact directly on the flooding of residential and commercial properties in heavy rainfall events.

Climate Hazards

Flood and sea level rise > Coastal flood

Did this hazard significantly impact your city before 2021?

Yes

Current probability of hazard

Medium Low

Current magnitude of hazard

Medium Low

Social impact of hazard overall

Increased demand for public services
Increased demand for healthcare services
Increased risk to already vulnerable populations
Increased resource demand
Population displacement

Most relevant assets / services affected overall

Water supply & sanitation
Transport
Environment, biodiversity, forestry
Industrial
Commercial
Residential
Public health
Emergency services
Land use planning

Please identify which vulnerable populations are affected

Women & girls
Children & youth
Elderly
Indigenous population
Marginalized groups
Persons with disabilities
Persons with chronic diseases
Low-income households

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Medium

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

Coastal flooding mainly threatens North and East Sunderland. In East Sunderland, large areas of our Port area are currently at risk of flooding from the sea. There is a risk of overtopping coastal assets during climate change scenarios and a number of assets have been identified as being in poor condition.

The risk of flooding in North Sunderland is lower than in East Sunderland. Most of the coastline is protected by coastal defences. However, although assets are generally in good condition in North Sunderland, overtopping still occurs often, particularly when spring tides coincide with strong onshore wind and wave conditions, leading to flooding of Marine Walk, Roker and the promenade at South Bents and Dykeland Road, Seaburn. In both North and East Sunderland, there is a risk of increased coastal flooding during climate change events.

In addition to coastal flooding, coastal erosion is now having an impact on the undefended cliffs between Hendon Promenade and Ryhope Dene, East Sunderland. The situation will likely increase as climate change has a greater impact on sea conditions.

Climate Hazards

Extreme Precipitation > Rain storm

Did this hazard significantly impact your city before 2021?

Yes

Current probability of hazard

Medium High

Current magnitude of hazard

Medium

Social impact of hazard overall

Increased demand for public services
Increased resource demand

Most relevant assets / services affected overall

Water supply & sanitation
Transport

Waste management
Environment, biodiversity, forestry
Industrial
Commercial
Residential
Tourism
Public health
Emergency services
Land use planning

Please identify which vulnerable populations are affected

Women & girls
Children & youth
Elderly
Indigenous population
Marginalized groups
Persons with disabilities
Persons with chronic diseases
Low-income households
Unemployed persons
Persons living in sub-standard housing

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Medium High

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

The Sunderland Local Flood Risk Management Strategy 2016 (Attached in Section 3) states that the 2012 flooding event in Sunderland was predominantly as a result of surface water runoff. This was an extended intense rainfall event which did not allow the ground, drainage systems and watercourses to recover. Some of the locations affected had not flooded to this extent before and the impact on Washington in particular was significant. Approximately 40 internal flooding locations were recorded during this event. There is no definitive number of properties flooded but each of the 40 flooding locations had recorded internal flooding of between one and ten properties.

Rainstorms are likely to become more intense and frequent in the future due to the

impacts of climate change. This along with the increase in impermeable surfaces will likely lead to increased flash flooding.

GCoM Common Reporting Framework Reporting Requirements for European Cities

(2.2) Please identify and describe the factors that most greatly affect your city's ability to adapt to climate change and indicate how those factors either support or challenge this ability.

Factors that affect ability to adapt	Indicate if this factor either supports or challenges the ability to adapt	Level of degree to which factor challenges/supports the adaptive capacity of your city	Please describe how the factor supports or challenges the adaptive capacity of your city
Access to basic services	Supports	Moderately supports	Overall, Sunderland has adequate access to basic services. This includes good shelter, health and care, infrastructure, transport, power and water supply. Gentoo (Sunderland's largest social housing provider), health and care services, Council infrastructure and transport teams, businesses, the national grid, and Northumbrian Water are already planning to mitigate and adapt to climate change within the city.
Access to healthcare	Supports	Significantly supports	The UK National Health Service (NHS) ensures that every citizen in the UK has access to medical and health care services without charge. Therefore, Sunderland's residents have universal access to treatment or support caused by climate change induced ill-health. NHS Sunderland Clinical Commissioning Group plans and buys local NHS care and services to meet the needs of 280,000 people and 53 GP practices, split by the areas of Coalfield, Sunderland East, Sunderland North, Sunderland West, and Washington. The city has a handful of primary care centres providing urgent

			and primary care including Washington, Bunny Hill, Houghton, Pallion and Grindon Lane. South Tyneside & Sunderland NHS Foundation Trust also provides a range of community healthcare services, including St Benedict's Hospice & Specialist Palliative Care in Sunderland and operates facilities across the city including the Sunderland Royal Hospital, The Eye Infirmary and The Galleries Health Centre in addition to Monkwearmouth Hospital which is operated by Cumbria, Northumberland, Tyne & Wear NHS Foundation Trust. The NHS has also published their own climate change mitigation and adaptation plan, aiming to become the world's first national health system to become net-zero, in line with the UK's low carbon targets. South Tyneside & Sunderland NHS Foundation Trust and the Clinical Commissioning Group are part of the 2030 Shadow Board.
Access to education	Supports	Significantly supports	There are a range of opportunities to include climate change, its impact and adaptations within the curriculum and in extra-curriculum activities at primary and secondary levels and the Climate Commission for UK Higher and Further Education is in place to catalyse action to create real impact and drive change. For primary education, Sunderland currently has 83 primary schools catering for approximately 24,000 children aged 4-11. This is made up of a combination of maintained schools, academies and faith schools. In terms of secondary education, Sunderland has one Community Secondary School, three Voluntary Aided Roman Catholic Secondary Schools, one Voluntary

			Aided Church of England Academy, 13 other Academies and two Free Schools. Together these serve approximately 15,500 pupils. There are three Primary Special Schools and three Secondary Special Schools within the city, which cater for children with special educational need as well as a Pupil Referral Unit to ensure all young people have access to education. For tertiary education, Sunderland College provides further and higher education courses to approximately 11,100 students. Finally, Sunderland University provides undergraduate and postgraduate degree courses to students across three campuses in Sunderland, London and Hong Kong. Student numbers are circa 21,000 comprising of 12,300 at the Sunderland campus.
Land use planning	Supports	Significantly supports	Land use planning in Sunderland accounts for climate change mitigation and adaptation, to help reduce the vulnerability of our residents, environment and economy to the effects of climate change. The Council's Local Plan is informed by a detailed evidence base which includes a Strategic Flood Risk Assessment to ensure that development is directed towards locations which are not at risk of flooding. Wider examples include the city's Local Flood Risk Management Strategy and to a certain extent the city's five Neighbourhood Investment Plans.
Public health	Challenges	Significantly challenges	The health of people in Sunderland is generally worse than the English national average. According to the UK Indices of Multiple Deprivation, Sunderland is one of the 20% most deprived districts/unitary authorities in

			England. According to data from February 2021, both life expectancy and healthy life expectancy for men and women is lower than the national average in England (at 57.9 and 56.5 respectively for health life expectancy, compared to the UK average of 63.4 and 63.9 , and at 77 and 81.4 respectively for life expectancy at birth, compared to the UK average of 79.8 and 83.4 respectively). Many residents have underlying health conditions. Due to relatively poor public health, Sunderland has many residents who are vulnerable to climate hazards such as flooding, air pollution, heatwaves, and cold waves.
Poverty	Challenges	Significantly challenges	According to the UK Indices of Multiple Deprivation, 11,395 children in Sunderland live in low-income families; Sunderland's unemployment is 6.8%; and 19,290 households in Sunderland are in fuel poverty as of 2020. There is also a high degree of inequality within the city, with significant differences in the quality of life between different wards in the city. Climate change presents numerous issues for Sunderland residents who live in poverty. For example, these citizens may reside in poor quality housing which may be badly insulated. This makes them more vulnerable to cold waves and poor winter weather, which is likely to increase in frequency, length, and magnitude in the future. Likewise, as the frequency and intensity of flooding events are likely to increase in the future due to climate change, poverty levels may reduce the ability of some residents to obtain adequate. An important part of adapting to climate change is being able to support all our

			residents who may be impacts.
Community engagement	Challenges	Moderately challenges	For Sunderland to achieve carbon neutrality, and adapt to climate change, collective action is needed. It will require the input and commitment of every resident and business. However, a recent residents survey conducted with Sunderland residents concluded that there is a need for further climate change awareness building, with around 1/3 of the population indicating they need more information on ways they can reduce their environmental impact, to help the city adapt in the future. The Council and its partners have identified public engagement as one of its strategic priorities within the Low Carbon Framework to help raise awareness. Reducing carbon emissions is also a key element of the Community Wealth Building charter which anchor organisations across the city are committed to working towards as part of the city's Community Wealth Building Strategy as referenced elsewhere in question 6.0. A plan is in place for the first meeting of the city's Young People's Advisory Group to take place in October 2021 which will be an important part of ensuring young people's voices are heard and shape the approaches that are taken. In addition, plans are in place to begin to work pro-actively across the areas covered by each of the Neighbourhood Investment Plans to identify opportunities for engagement in relation to the city-wide low carbon target.

(2.3) Is your city facing risks to public health or health systems associated with climate change?

Yes

(2.3a) Please report on how climate change impacts health outcomes and health services in your city.

Area affected by climate change

Health outcomes
Health systems (service provision, infrastructure and technologies)
Areas outside the health sector (e.g. agriculture, water and sanitation, transport, power generation, built environment)

Health-related risk and vulnerability assessment undertaken

Yes

Identify the climate hazards most significantly impacting the selected areas

Extreme Precipitation > Rain storm
Extreme Precipitation > Heavy snow
Extreme Precipitation > Hail
Storm and wind > Severe wind
Storm and wind > Storm surge
Storm and wind > Lightning / thunderstorm
Extreme cold temperature > Cold wave
Extreme hot temperature > Heat wave
Flood and sea level rise > River flood
Flood and sea level rise > Coastal flood
Flood and sea level rise > Groundwater flood
Chemical change > Atmospheric CO2 concentrations

Identify the climate-related health issues faced by your city

Heat-related illnesses
Air-pollution related illnesses
Exacerbation of Non-Communicable Disease Symptoms (e.g. respiratory disease, cardiovascular disease, renal disease)
Mental health impacts
Direct physical injuries and deaths due to extreme weather events
Disruption to water, sanitation and wastewater services
Disruption to health service provision
Overwhelming of health service provision due to increased demand
Damage/destruction to health infrastructure and technology
Disruption of health-related services (e.g. roads, electricity, communications, emergency/ambulatory response, laboratories, pharmacies)

Timescale of climate-related issues for the selected health area

Medium-term (2026-2050)

Please identify which vulnerable populations are affected by these climate-related impacts

Children and youth
Elderly
Persons with disabilities
Persons with pre-existing medical conditions
Low-income households
Unemployed persons
Persons living in sub-standard housing

Please explain

Sunderland prepared a Local Flood Risk Management Strategy in 2016 which covers precipitation and flooding related health hazards. The Sunderland Health Protection Plan 2020 aims to protect and improve Public Health within the city. This will make our populations less vulnerable to climate related hazards. The UK Government and Public Health England also prepare cold weather and heatwave plans for the nation, which Sunderland adheres to. The combination of these plans covers many of the health risks selected, to reduce the vulnerability of our residents.

3. Adaptation

Adaptation Actions

GCoM Common Reporting Framework Reporting Requirements for European Cities

(3.0) Please describe the main actions you are taking to reduce the risk to, and vulnerability of, your city's infrastructure, services, citizens, and businesses from climate change as identified in the Climate Hazards section.

Climate hazards

Flood and sea level rise > River flood

Action

Flood mapping

Action title

Sunderland Level 1 Strategic Flood Risk Assessment (SFRA)

Status of action

Operation

Means of implementation

Education
Stakeholder engagement
Infrastructure development
Assessment and evaluation activities
Monitor activities
Development and implementation of action plan
Policy and regulation

Co-benefit area

Disaster Risk Reduction
Enhanced resilience
Disaster preparedness
Enhanced climate change adaptation
Improved public health

Sectors/areas adaptation action applies to

Energy
Transport (Mobility)
Building and Infrastructure
Industry
Spatial Planning
Water
Public Health and Safety
Business and Financial Service
Social Services

Action description and implementation progress

The SFRA uses up-to-date flood risk information together with the most current flood risk and planning policy available from the National Planning Policy Framework and Flood Risk and Coastal Change Practice Planning Guidance.

The SFRA focusses on collecting readily available flood risk information from stakeholders, the aim being to help identify the number and spatial distribution of flood risk sources present throughout the Sunderland City Council's Local Plan area to inform the application of the Sequential Test. The Assessment forms part of the evidence base for the Council's Local Plan and has informed policy content.

The SFRA was first implemented in 2011, and is updated regularly, with the most recent update being in 2020, and is subject to public consultation as part of this process.

As well as river flooding, this action can also helps mitigate against other climate hazards such as storm surge, flash / surface flooding, rainstorm, coastal flooding and groundwater flooding.

Finance status

Finance secured

Majority funding source

Local

Total cost of the project (currency)

0

Total cost provided by the local government (currency)

0

Total cost provided by the majority funding source (currency)

0

Web link

https://sunderland.gov.uk/media/22850/AD-25-Strategic-Flood-Risk-Assessment-Level-1/pdf/AD.25_Strategic_Flood_Risk_Assessment_Level_1.pdf?m=637431304023570000

Climate hazards

Flood and sea level rise > River flood

Action

Public preparedness (including practice exercises/drills)

Action title

Local Flood Risk Management Strategy

Status of action

Operation

Means of implementation

Education
Capacity building and training activities
Awareness raising program or campaign
Stakeholder engagement
Infrastructure development
Assessment and evaluation activities
Monitor activities
Development and implementation of action plan
Policy and regulation

Co-benefit area

Disaster Risk Reduction
Enhanced resilience
Disaster preparedness
Enhanced climate change adaptation
Improved public health

Sectors/areas adaptation action applies to

Energy
Transport (Mobility)
Building and Infrastructure
Industry
Spatial Planning
Water
Public Health and Safety
Business and Financial Service
Social Services

Action description and implementation progress

Sunderland prepares a Local Flood Risk Management Strategy every 5-6 years, with the most recent one being published in 2016 and the next due to be published later in 2021.

The purpose of the LFRMS is to act as a robust guidance tool for Risk Management Authorities operating in Sunderland to deliver a coordinated, improved approach to all flood risk management activities. In addition, the overriding vision for the LFRMS is for Sunderland City Council to take a lead role in better understanding local flood risk. Providing this information in the form of the LFRMS can facilitate communities to also improve their own knowledge and understanding of the risk of flooding across Sunderland.

As well as river flooding, this action can also help mitigate against other climate hazards such as storm surge, flash / surface flooding, rainstorm, coastal flooding and groundwater flooding.

Finance status

Finance secured

Majority funding source

Local

Total cost of the project (currency)

0

Total cost provided by the local government (currency)

0

Total cost provided by the majority funding source (currency)

0

Web link

https://www.sunderland.gov.uk/media/23162/Local-flood-risk-management-strategy/pdf/Sunderland_LFRMS_-_Final_Version_-_Complete.pdf?m=637502096317830000

Climate hazards

Flood and sea level rise > Coastal flood

Action

Flood defences – development and operation & storage

Action title

Structural measures to reduce flood risk

Status of action

Implementation

Means of implementation

Education
Stakeholder engagement
Infrastructure development
Development and implementation of action plan

Co-benefit area

Disaster Risk Reduction
Enhanced resilience
Disaster preparedness
Enhanced climate change adaptation
Economic growth
Job creation
Improved public health

Sectors/areas adaptation action applies to

Building and Infrastructure
Spatial Planning
Water
Public Health and Safety

Action description and implementation progress

Sunderland City Council as landowner provides flood defence maintenance and improvement works along the River Wear and around the Port of Sunderland. Major works are currently being undertaken to ensure defences are fit for purpose through the Strategic Frontages 3 coastal project. Sunderland City Council also provides flood resilience from surface water flooding and it is proposed that 45 schemes to improve resilience to surface water flooding will be undertaken in the next 5 years.

Sunderland City Council has proposed schemes for flood reduction to be funded by the Regional Medium-Term Plan. It is predicted that £2-3 million will be spent on flood defence schemes from 2021-2022. It is hoped, subject to funding, that schemes will go ahead at Jack Crawford House and Pallion among others.

As well as coastal flooding, this action can also help mitigate against other climate

hazards such as storm surge, flash / surface flooding, rainstorm and river flooding.

Finance status

Feasibility finalized, and finance partially secured

Majority funding source

Local

Total cost of the project (currency)

2,500,000

Total cost provided by the local government (currency)

Total cost provided by the majority funding source (currency)

2,500,000

Web link

https://www.sunderland.gov.uk/article/17812/Sea-defences-back-in-2021

Climate hazards

Extreme Precipitation > Rain storm

Action

Implementing climate-resilient sustainable urban drainage systems

Action title

Sustainable urban drainage

Status of action

Implementation

Means of implementation

Stakeholder engagement
Infrastructure development
Development and implementation of action plan

Co-benefit area

Disaster Risk Reduction
Enhanced resilience
Disaster preparedness
Enhanced climate change adaptation
Economic growth
Job creation
Improved public health

Sectors/areas adaptation action applies to

Building and Infrastructure

Spatial Planning
Water
Waste
Public Health and Safety

Action description and implementation progress

The provision of Sustainable Drainage Systems (SuDS) is a requirement in a range of council policies in Sunderland's Core Strategy and as part of the master planning for Riverside Sunderland, IAMP site and the South Sunderland Growth Area as well as with the Minster Quarter.

As well as rainstorm, this action can also help mitigate against other climate hazards such as storm surge, flash / surface flooding, river flooding, coastal flooding and groundwater flooding.

Finance status

Finance secured

Majority funding source

Local

Total cost of the project (currency)

Total cost provided by the local government (currency)

Total cost provided by the majority funding source (currency)

Web link

https://www.sunderland.gov.uk/media/23096/SCC-SUDS-Approval-and-adoption-final/pdf/SCC_SUDS_Approval_and_adoption_-_final.pdf?m=637487435770370000

Climate hazards

Extreme hot temperature > Heat wave

Action

Nature-based solutions policy (e.g. street trees, green roofs)

Action title

Sunderland Green Infrastructure Strategy and Green Infrastructure Delivery and Action Plan

Status of action

Implementation

Means of implementation

Education
Capacity building and training activities
Awareness raising program or campaign
Stakeholder engagement
Infrastructure development
Assessment and evaluation activities
Monitor activities
Development and implementation of action plan
Policy and regulation

Co-benefit area

Disaster Risk Reduction
Enhanced resilience
Enhanced climate change adaptation
Reduced GHG emissions
Social inclusion, social justice
Social community and labour improvements
Greening the economy
Job creation
Improved public health
Resource conservation (e.g. soil, water)
Ecosystem preservation and biodiversity improvement
Shift to more sustainable behaviours

Sectors/areas adaptation action applies to

Transport (Mobility)
Building and Infrastructure
Spatial Planning
Agriculture and Forestry
Water
Public Health and Safety
Business and Financial Service

Action description and implementation progress

Sunderland has a Green Infrastructure Strategy (SGIS) which supports the Core Strategy and Development Plan 2017-2033. SGIS builds upon Sunderland Council's Greenspace Audit and utilises a range of wider socio-economic and environmental indicators, relevant to the National Planning Policy Framework objectives, to map where there is greatest area-based need for the public benefits that green infrastructure brings.

To translate SGIS into a series of projects for delivery and action over the next 15 years, from 2018-2033, Sunderland also has a Green Infrastructure Delivery and Action Plan. A range of actions are set out in this document, some of which include the development of a 'Green Infrastructure Offsetting Matrix', creating filter strips and natural swales, permeable paving, wetlands and woodlands wherever feasible to help cope with flash flooding, repairing broken corridors, creating reed beds at stream sources to slow down flash flooding, increasing woodland cover, and creating buffer zones to protected wildlife

sites.

Among a wealth of benefits, SGIS and Green Infrastructure Delivery and Action Plan help Sunderland's rural, urban and coastal communities mitigate the risks associated with climate change and adapt to its impacts through nature based solutions by: storing carbon; improving drainage and managing flooding; improving water quality; supporting adaptive management in coastal infrastructure; reducing air pollution; and increasing shading cover.
Green Infrastructure improvements proposed also seek to improve the cycle network across the city and access to local facilities on foot, thereby promoting and encouraging a modal shift to active transport.

As well as heat waves, this action can also help mitigate against other climate hazards such as flash / surface flooding, river flooding, coastal flooding, groundwater flooding, extreme hot days and atmospheric CO2 conditions.

Note – the costs included reflect the total essential cost for the delivery of green infrastructure in the city, as stated in the Infrastructure Delivery Plan (available at https://www.sunderland.gov.uk/media/20388/Publication-Draft-Infrastructure-Delivery-Plan-2017-/pdf/66_Publication_Draft_Infrastructure_Delivery_Plan_2018.pdf?m=636644851765170000) which gives further details on the associated costs with specific green infrastructure projects.

Finance status

Feasibility finalized, and finance partially secured

Majority funding source

Local

Total cost of the project (currency)

168,000

Total cost provided by the local government (currency)

Total cost provided by the majority funding source (currency)

Web link

https://www.sunderland.gov.uk/media/21396/EX1-017-Sunderland-Green-Infrastructure-Delivery-and-Action-Plan/pdf/EX1.017_Sunderland_Green_Infrastructure_-_Delivery_and_Action_Plan.pdf?m=636918745551330000
https://www.sunderland.gov.uk/media/20889/SD-46-Sunderland-Green-Infrastructure-Strategy-2018-/pdf/SD.46_Sunderland_Green_Infrastructure_Strategy_2018.pdf?m=63680295979113

0000

Climate hazards

Extreme cold temperature > Cold wave

Action

Real time risk monitoring

Action title

Advanced weather warnings

Status of action

Monitoring and reporting

Means of implementation

Education
Awareness raising program or campaign
Assessment and evaluation activities

Co-benefit area

Disaster Risk Reduction
Enhanced resilience
Disaster preparedness
Enhanced climate change adaptation
Economic growth
Improved public health
Improved access to data for informed decision-making

Sectors/areas adaptation action applies to

Public Health and Safety
Other, please specify
Environmental Health

Action description and implementation progress

As a city we receive Weather Warnings directly from the Met Office to enable mitigating action to be undertaken. In the case of a widespread Event the Local Resilience Forum would be stood up and we would deal with the situation in a Multi-Agency capacity as part of our well-established emergency planning and response approach.

As well as cold waves, his action can also help mitigate against other climate hazards such as heat waves, flash / surface flooding, river flooding, coastal flooding and rainstorm.

Finance status

Finance secured

Majority funding source

Local

Total cost of the project (currency)

0

Total cost provided by the local government (currency)

0

Total cost provided by the majority funding source (currency)

0

Web link

https://www.metoffice.gov.uk/weather/forecast/gcz02e3x23kg?WT.mc_id=Twitter_Weatherdesk_Enquiries#?date=2021-06-03

Climate hazards

Extreme cold temperature > Cold wave

Action

Crisis management including warning and evacuation systems

Action title

Northumbria LRF Community Risk Register and UK-wide Cold Weather and Heatwave Plans

Status of action

Monitoring and reporting

Means of implementation

Education
Awareness raising program or campaign
Assessment and evaluation activities
Monitor activities

Co-benefit area

Disaster Risk Reduction
Enhanced resilience
Disaster preparedness
Enhanced climate change adaptation
Economic growth
Improved public health
Improved access to data for informed decision-making

Sectors/areas adaptation action applies to

Transport (Mobility)

Building and Infrastructure
Public Health and Safety
Other, please specify
Environmental Health

Action description and implementation progress

The Northumbria Local Resilience Forum (LRF) Community Risk Register lists Adverse Weather and Failure of Essential Services as a top risk in the North East and gives advice to the community as to how to mitigate.

Sunderland City Council is also following the recommended guidance from both the UK Heatwave and UK Cold Weather Plans, which further guide public agencies to reduce the risks to health from these respective climate hazards.

Finance status

Finance secured

Majority funding source

Local

Total cost of the project (currency)

0

Total cost provided by the local government (currency)

0

Total cost provided by the majority funding source (currency)

0

Web link

https://www.gov.uk/government/publications/heatwave-plan-for-england
https://www.gov.uk/government/publications/cold-weather-plan-cwp-for-england
https://www.northumberland.gov.uk/NorthumberlandCountyCouncil/media/Local-Resilience-Forum/Northumbria-Community-Risk-Register-version-7.pdf

Adaptation Planning

GCoM Common Reporting Framework Reporting Requirements for European Cities

(3.2) Does your city council, or similar authority, have a published plan that addresses climate change adaptation and/or resilience?

Yes

GCoM Additional Information

(3.2a) Please provide more information on your plan that addresses climate change adaptation and/or resilience and attach the document. Please provide details on the boundary of your plan, and where this differs from your city's boundary, please provide an explanation.

Publication title and attach the document

Sunderland Local Flood Risk Management Strategy

Sunderland_LFRMS_-_Final_Version_-_Complete.pdf

Web link

https://www.sunderland.gov.uk/media/23162/Local-flood-risk-management-strategy/pdf/Sunderland_LFRMS_-_Final_Version_-_Complete.pdf?m=637502096317830000

Sectors/areas covered by plan that addresses climate change adaptation

Building and Infrastructure
Industry
Spatial Planning
Water
Public Health and Safety

Climate hazards factored into plan that addresses climate change adaptation

Extreme Precipitation > Rain storm
Extreme Precipitation > Heavy snow
Flood and sea level rise > Flash / surface flood
Flood and sea level rise > River flood
Flood and sea level rise > Coastal flood
Flood and sea level rise > Groundwater flood

Year of adoption of adaptation plan by local government

2016

Boundary of plan relative to city boundary (reported in 0.1)

Same - covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why

Stage of implementation

Plan in implementation

Type of plan

Integrated mitigation / adaptation

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?

Don't know

Describe the synergies, trade-offs, and co-benefits of this interaction

Primary author of plan

Description of the stakeholder engagement processes

Stakeholders are engaged through:
• Regular external meetings so stakeholders can be made aware of actions relevant to them.
• Strong working partnership with all relevant stakeholders, including public consultation, to ensure that the most cost-effective measures are implemented in local flood risk management.
• Working in collaboration with the Environment Agency, Northumbrian Water and other stakeholders to deliver schemes with multiple partners and funding.
• Local workshops with stakeholders who have on the ground knowledge of flood risk at a local level.
• Regular review of the key issues relating to the Local Flood Risk Management Strategy.

Publication title and attach the document

Heatwave Plan for England

Heatwave_plan_for_England_2020.pdf

Web link

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888668/Heatwave_plan_for_England_2020.pdf

Sectors/areas covered by plan that addresses climate change adaptation

Energy
Transport (Mobility)
Building and Infrastructure
Water
Public Health and Safety
Business and Financial Service
Social Services

Climate hazards factored into plan that addresses climate change adaptation

Extreme hot temperature > Heat wave
Extreme hot temperature > Extreme hot days

Year of adoption of adaptation plan by local government

2018

Boundary of plan relative to city boundary (reported in 0.1)

Larger – covers the whole city and adjoining areas

If the city boundary is different from the plan boundary, please explain why

This plan covers the whole of England and Sunderland follows national adaptation plans in this area.

Stage of implementation

Plan in implementation

Type of plan

Integrated mitigation / adaptation

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?

Not intending to undertake

Describe the synergies, trade-offs, and co-benefits of this interaction

Not assessed.

Primary author of plan

National / central government

Description of the stakeholder engagement processes

N/A

Publication title and attach the document

Cold Weather Plan for England

the_cold_weather_plan_for_england_2018.pdf

Web link

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/748492/the_cold_weather_plan_for_england_2018.pdf

Sectors/areas covered by plan that addresses climate change adaptation

Energy
Transport (Mobility)
Building and Infrastructure
Public Health and Safety
Business and Financial Service
Social Services

Climate hazards factored into plan that addresses climate change adaptation

Extreme Precipitation > Heavy snow
Extreme cold temperature > Cold wave

Extreme cold temperature > Extreme cold days

Year of adoption of adaptation plan by local government

2018

Boundary of plan relative to city boundary (reported in 0.1)

Larger – covers the whole city and adjoining areas

If the city boundary is different from the plan boundary, please explain why

This plan covers the whole of England and Sunderland follows national adaptation plans in this area.

Stage of implementation

Plan in implementation

Type of plan

Standalone

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?

Don't know

Describe the synergies, trade-offs, and co-benefits of this interaction

Not assessed.

Primary author of plan

National / central government

Description of the stakeholder engagement processes

N/A

Adaptation Goals

(3.3) Please describe the main goals of your city's adaptation efforts and the metrics / KPIs for each goal.

Adaptation goal

Reduce citywide flood risk

Climate hazards that adaptation goal addresses

Extreme Precipitation > Rain storm
Storm and wind > Storm surge
Flood and sea level rise > Flash / surface flood
Flood and sea level rise > River flood
Flood and sea level rise > Coastal flood
Flood and sea level rise > Groundwater flood

Target year of goal

Description of metric / indicator used to track goal

Citywide flood risk.

Does this goal align with a requirement from a higher level of government?

Yes

Select the initiatives related to this adaptation goal that your city has committed to

Global Covenant of Mayors for Climate & Energy
Individual City Commitment

Comment

Sunderland City Council aims to reduce citywide flood risk annually. The magnitude of each annual goal is typically set in relation to the possible scheme funding available and the magnitude of flood risk reduction achievable.

Adaptation goal

Reduce vulnerability to air pollution

Climate hazards that adaptation goal addresses

Chemical change > Atmospheric CO2 concentrations

Target year of goal

Description of metric / indicator used to track goal

Mortality attributable to air pollution.

Does this goal align with a requirement from a higher level of government?

Yes

Select the initiatives related to this adaptation goal that your city has committed to

Global Covenant of Mayors for Climate & Energy
Individual City Commitment

Comment

Sunderland City Council aims to reduce mortality due to air pollution each year. This is a common national goal through Public Health England. More information can be found at https://fingertips.phe.org.uk/profile/health-protection/data#page/0/gid/1000002/pat/6/ati/102/are/E08000024/iid/93463/age/288/sex/4/cid/4/tbm/1.

Adaptation goal

Reduce fuel poverty due to climate change

Climate hazards that adaptation goal addresses

Extreme Precipitation > Heavy snow
Extreme cold temperature > Cold wave
Extreme cold temperature > Extreme cold days

Target year of goal

Description of metric / indicator used to track goal

Number of residents who are fuel poor.

Does this goal align with a requirement from a higher level of government?

Yes

Select the initiatives related to this adaptation goal that your city has committed to

Global Covenant of Mayors for Climate & Energy
Individual City Commitment

Comment

Sunderland City Council aims to reduce the number of residents within the city who are fuel poor. This is a common national goal through Public Health England. More information can be found at https://fingertips.phe.org.uk/profile/wider-determinants/data#page/0/gid/1938133043/pat/6/ati/102/are/E08.

4. City-wide Emissions

City-wide GHG Emissions Data

(4.0) Does your city have a city-wide emissions inventory to report?

Yes

(4.1) Please state the dates of the accounting year or 12-month period for which you are reporting your latest city-wide GHG emissions inventory.

	From	To
Accounting year dates	January 1, 2018	December 31, 2018

(4.2) Please indicate the category that best describes the boundary of your city-wide GHG emissions inventory.

	Boundary of inventory relative to city boundary (reported in 0.1)	Excluded sources / areas	Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Please explain	Same – covers entire city and nothing else	N/A	N/A

(4.3) Please give the name of the primary protocol, standard, or methodology you have used to calculate your city's city-wide GHG emissions.

	Primary protocol	Comment
Emissions methodology	Global Protocol for Community Greenhouse Gas Emissions Inventories (GPC)	The GPC provides a robust framework for accounting and reporting city-wide greenhouse gas emissions. It seeks to: - Help cities develop a comprehensive and robust greenhouse gas inventory in order to support climate action planning. - Help cities establish a base year emissions inventory, set reduction targets and track their performance. - Ensure consistent and transparent measurement and reporting of greenhouse gas emissions between cities, following internationally recognized greenhouse gas accounting and reporting principles. - Enable city inventories to be aggregated at subnational and national levels. - Demonstrate the important role that cities play in tackling climate change and facilitate insight through benchmarking and aggregation of comparable data.

(4.4) Which gases are included in your city-wide emissions inventory?

CO2
CH4
N20

GCoM Additional Information

(4.5) Please attach your city-wide inventory in Excel or other spreadsheet format and provide additional details on the inventory calculation methods in the table below.

Document title and attachment

Sunderland Scatter Inventory 2018

SunderlandScatterInventory2018.xlsx

Emissions inventory format

I have attached my inventory in the SCATTER output format and will report my emissions in the CRF format (4.6a)

Web link

https://scattercities.com/

Emissions factors used

IPCC

Global Warming Potential
(select relevant IPCC Assessment Report)

IPCC 4th AR (2007)

Please select which additional sectors are included in the inventory

Industrial process and/or product use
Agriculture, forestry or other land use sectors

Population in inventory year

277,500

Overall level of confidence

Medium

Comment on level of confidence

SCATTER is based on the Accounting and Reporting Standard developed by the Greenhouse Gas Protocol for Community-Scale Greenhouse Gas Emissions Inventories.
Some parts of our inventory are not estimated by SCATTER. SCATTER is continually working to improve the accuracy and functionality of the tool.

SCATTER data is verified by SCATTER only, we will consider having our city data externally verified in the future, to increase our confidence in the data.

GCoM Common Reporting Framework Reporting Requirements for European Cities

(4.6a) The Global Covenant of Mayors requires committed cities to report their inventories in the format of the new Common Reporting Framework, to encourage standard reporting of emissions data. Please provide a breakdown of your city-wide emissions by sector and sub-sector in the table below. Where emissions data is not available, please use the relevant notation keys to explain the reason why.

	Direct emissions (metric tonnes CO2e)	If you have no direct emissions to	Indirect emissions from the use of grid-	If you have no indirect emissions to	Emissions occurring outside the city	If you have no emissions occurring	Please explain any excluded sources,

		report, please select a notation key to explain why	supplied electricity, heat, steam and/or cooling (metric tonnes CO2e)	report, please select a notation key to explain why	boundary as a result of in-city activities (metric tonnes CO2e)	outside the city boundary to report as a result of in-city activities, please select a notation key to explain why	identify any emissions covered under an ETS and provide any other comments
Stationary energy > Residential buildings	307,505.19		106,959.75		60,838.72		
Stationary energy > Commercial buildings & facilities	42,047.11		98,214.59		21,679.17		
Stationary energy > Institutional buildings & facilities	34,444.14		21,325.01		8,219.9		
Stationary energy > Industrial buildings & facilities	118,055.05		119,887.99		40,902.19		
Stationary energy > Agriculture	899.44		0.23		212.24		
Stationary energy > Fugitive emissions	78,406.7		0	NO	0	NE	All estimated fugitive emissions are direct. Scope 3 fugitive emissions

							are beyond the scope of the current analysis.
Total Stationary Energy	581,357.64		346,387.56		131,852.22		
Transportation > On-road	367,667.5		0	IE	10,084.25		Electricity consumption from on-road transport included in Stationary Energy figures
Transportation > Rail	589.83		0	IE	138.91		Electricity consumption from rail transport included in Stationary Energy figures
Transportation > Waterborne navigation	4,692.18		0	IE	0	IE	All UK waterborne transport assumed to be diesel.
Transportation > Aviation	0	NO	0	IE	285,781.76		Electricity consumption from aviation not possible to separate from stationary energy data.

Transportation > Off-road	3,676.68		0	IE	0	NE	Electricity consumption from off-road transport included in Stationary Energy figures
Total Transport	376,626.19		0	IE	296,004.92		
Waste > Solid waste disposal	4,607.64		0	NE	0	IE	
Waste > Biological treatment	0	NO	0	NE	0	IE	
Waste > Incineration and open burning	0	NO	0	NE	0	IE	
Waste > Wastewater	32,660.53		0	NE	0	NO	
Total Waste	37,268.17		0	NE	0	IE	
IPPU > Industrial process	102,923.44		0	NE	0	NE	Beyond the scope of the current analysis; we plan to include in future.
IPPU > Product use	0	NE	0	NE	0	NE	Beyond the scope of the current analysis; we plan to include in future.
Total IPPU	102,923.44		0	NE	0	NE	Beyond the scope of the current analysis;

							we plan to include in future.
AFOLU > Livestock	1,101.78		0	NE	0	NE	Beyond the scope of the current analysis; we plan to include in future.
AFOLU > Land use	-7,794.65		0	NE	0	NE	Beyond the scope of the current analysis; we plan to include in future.
AFOLU > Other AFOLU	0	NE	0	NE	0	NE	Beyond the scope of the current analysis; we plan to include in future.
Total AFOLU	-6,692.87		0	NE	0	NE	Beyond the scope of the current analysis; we plan to include in future.
Generation of grid-supplied energy > Electricity-only generation	0	NO	0	NE	0	NO	
Generation of grid-supplied energy > CHP generation	0	NO	0	NE	0	NO	

Generation of grid-supplied energy > Heat/cold generation	0	NO	0	NE	0	NO	
Generation of grid-supplied energy > Local renewable generation	2.82		0	NO	0	NO	We have not extracted electricity-specific emissions from factors used for renewable electricity. All emissions are included in Scope 1.
Total Generation of grid-supplied energy	2.82		0	NE	0	NE	
Total Emissions (excluding generation of grid-supplied energy)	1,091,482.57		346,387.56		427,857.14		

(4.8) Please indicate if your city-wide emissions have increased, decreased, or stayed the same since your last emissions inventory, and describe why.

	Change in emissions	Primary reason for change	Please explain and quantify changes in emissions
Please explain	This is our first year of calculation	Other, please specify Calculating an emissions inventory was a natural step on a proactive basis, following on from the adoption of the citywide Low Carbon Framework in December 2020.	N/A

(4.9) Does your city have a consumption-based inventory to measure emissions from consumption of goods and services by your residents?

	Response	Provide an overview and attach your consumption-based inventory if relevant
Please complete	Do not know	We do not have a consumption-based inventory at present, although have not ruled this out in the future.

City-wide external verification

(4.12) Has the city-wide GHG emissions data you are currently reporting been externally verified or audited in part or in whole?

Intending to undertake in the next 2 years

Historical emissions inventories

(4.13) Please provide details on any historical, base year or recalculated city-wide emissions inventories your city has, in order to allow assessment of targets in the table below.

Inventory date from

January 1, 2015

Inventory date to

December 31, 2015

Scopes / boundary covered

Scope 1 (direct)

Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

1,390,327

Is this inventory a base year inventory or a recalculated version of a previously reported inventory?

Other, please specify

No

Methodology

Regional or country specific methodology

File name and attach your inventory

2005-19_UK_local_and_regional_CO2_emissions (4)

2005-19_UK_local_and_regional_CO2_emissions (4).xlsx

Web link

https://data.gov.uk/dataset/723c243d-2f1a-4d27-8b61-cdb93e5b10ff/emissions-of-carbon-dioxide-for-local-authority-areas

Comments

This publication combines data from the UK's Greenhouse Gas Inventory with data from several other sources, including local energy consumption statistics, to produce a nationally consistent set of carbon dioxide emissions estimates at local authority level from 2005 to 2018. They show "territorial" emissions, meaning emissions that occur within the UK's borders.

The data shows emissions allocated on an "end-user" basis where emissions are distributed according to the point of energy consumption (or point of emission if not energy related). Except for the energy industry, emissions from the production of goods are assigned to where the production takes place. Therefore, emissions from the production of goods which are exported will be included, and emissions from the production of goods which are imported, are excluded.

Carbon dioxide (CO2) is the main greenhouse gas, accounting for about 81 per cent of the UK greenhouse gas emissions in 2018. In recent years, increasing emphasis has been placed on the role of regional bodies and local government in contributing to energy efficiency improvements and hence reductions in carbon dioxide emissions. The statistics are largely consistent with the UK national Greenhouse Gas Inventory and with the Devolved Administration Greenhouse Gas Inventories but there are some minor methodological differences outlined in the methodology report.

Inventory date from

January 1, 2016

Inventory date to

December 31, 2016

Scopes / boundary covered

Scope 1 (direct)
Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

1,315,443

Is this inventory a base year inventory or a recalculated version of a previously reported inventory?

Other, please specify

No

Methodology

Regional or country specific methodology

File name and attach your inventory

2005-19_UK_local_and_regional_CO2_emissions (4)

2005-19_UK_local_and_regional_CO2_emissions (4).xlsx

Web link

https://data.gov.uk/dataset/723c243d-2f1a-4d27-8b61-cdb93e5b10ff/emissions-of-carbon-dioxide-for-local-authority-areas

Comments

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The data shows emissions allocated on an "end-user" basis where emissions are distributed according to the point of energy consumption (or point of emission if not energy related). Except for the energy industry, emissions from the production of goods are assigned to where the production takes place. Therefore, emissions from the production of goods which are exported will be included, and emissions from the production of goods which are imported, are excluded.

Carbon dioxide (CO2) is the main greenhouse gas, accounting for about 81 per cent of the UK greenhouse gas emissions in 2018. In recent years, increasing emphasis has been placed on the role of regional bodies and local government in contributing to energy efficiency improvements and hence reductions in carbon dioxide emissions. The statistics are largely consistent with the UK national Greenhouse Gas Inventory and with the Devolved Administration Greenhouse Gas Inventories but there are some minor methodological differences outlined in the methodology report.

Inventory date from

January 1, 2017

Inventory date to

December 31, 2017

Scopes / boundary covered

Scope 1 (direct)
Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

1,268,571

Is this inventory a base year inventory or a recalculated version of a previously reported inventory?

Other, please specify

No

Methodology

Regional or country specific methodology

File name and attach your inventory

2005-19_UK_local_and_regional_CO2_emissions (4)

2005-19_UK_local_and_regional_CO2_emissions (4).xlsx

Web link

https://data.gov.uk/dataset/723c243d-2f1a-4d27-8b61-cdb93e5b10ff/emissions-of-carbon-dioxide-for-local-authority-areas

Comments

This publication combines data from the UK's Greenhouse Gas Inventory with data from several other sources, including local energy consumption statistics, to produce a nationally consistent set of carbon dioxide emissions estimates at local authority level from 2005 to 2018. They show "territorial" emissions, meaning emissions that occur within the UK's borders.

The data shows emissions allocated on an "end-user" basis where emissions are distributed according to the point of energy consumption (or point of emission if not energy related). Except for the energy industry, emissions from the production of goods are assigned to where the production takes place. Therefore, emissions from the production of goods which are exported will be included, and emissions from the production of goods which are imported, are excluded.

Carbon dioxide (CO2) is the main greenhouse gas, accounting for about 81 per cent of the UK greenhouse gas emissions in 2018. In recent years, increasing emphasis has been placed on the role of regional bodies and local government in contributing to energy efficiency improvements and hence reductions in carbon dioxide emissions. The statistics are largely consistent with the UK national Greenhouse Gas Inventory and with the Devolved Administration Greenhouse Gas Inventories but there are some minor methodological differences outlined in the methodology report.

Inventory date from

January 1, 2018

Inventory date to

December 31, 2018

Scopes / boundary covered

Scope 1 (direct)
Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

1,251,585

Is this inventory a base year inventory or a recalculated version of a previously reported inventory?

Base year inventory

Methodology

Regional or country specific methodology

File name and attach your inventory

2005-19_UK_local_and_regional_CO2_emissions (4)

2005-19_UK_local_and_regional_CO2_emissions (4).xlsx

Web link

https://data.gov.uk/dataset/723c243d-2f1a-4d27-8b61-cdb93e5b10ff/emissions-of-carbon-dioxide-for-local-authority-areas

Comments

This publication combines data from the UK's Greenhouse Gas Inventory with data from several other sources, including local energy consumption statistics, to produce a nationally consistent set of carbon dioxide emissions estimates at local authority level from 2005 to 2018. They show "territorial" emissions, meaning emissions that occur within the UK's borders.

The data shows emissions allocated on an "end-user" basis where emissions are distributed according to the point of energy consumption (or point of emission if not energy related). Except for the energy industry, emissions from the production of goods are assigned to where the production takes place. Therefore, emissions from the production of goods which are exported will be included, and emissions from the production of goods which are imported, are excluded.

Carbon dioxide (CO2) is the main greenhouse gas, accounting for about 81 per cent of the UK greenhouse gas emissions in 2018. In recent years, increasing emphasis has been placed on the role of regional bodies and local government in contributing to energy efficiency improvements and hence reductions in carbon dioxide emissions. The statistics are largely consistent with the UK national Greenhouse Gas Inventory and with the Devolved Administration Greenhouse Gas Inventories but there are some minor methodological differences outlined in the methodology report.

Inventory date from

January 1, 2019

Inventory date to

December 31, 2019

Scopes / boundary covered

Scope 1 (direct)
Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

1,177,920

Is this inventory a base year inventory or a recalculated version of a previously reported inventory?

Other, please specify

No

Methodology

Regional or country specific methodology

File name and attach your inventory

2005-19_UK_local_and_regional_CO2_emissions (4)

2005-19_UK_local_and_regional_CO2_emissions (4).xlsx

Web link

https://data.gov.uk/dataset/723c243d-2f1a-4d27-8b61-cdb93e5b10ff/emissions-of-carbon-dioxide-for-local-authority-areas

Comments

This publication combines data from the UK's Greenhouse Gas Inventory with data from several other sources, including local energy consumption statistics, to produce a nationally consistent set of carbon dioxide emissions estimates at local authority level from 2005 to 2018. They show "territorial" emissions, meaning emissions that occur within the UK's borders.

The data shows emissions allocated on an "end-user" basis where emissions are distributed according to the point of energy consumption (or point of emission if not energy related). Except for the energy industry, emissions from the production of goods are assigned to where the production takes place. Therefore, emissions from the production of goods which are exported will be included, and emissions from the production of goods which are imported, are excluded.

Carbon dioxide (CO2) is the main greenhouse gas, accounting for about 81 per cent of the UK greenhouse gas emissions in 2018. In recent years, increasing emphasis has been placed on the role of regional bodies and local government in contributing to energy efficiency improvements and hence reductions in carbon dioxide emissions. The statistics are largely consistent with the UK national Greenhouse Gas Inventory and with the Devolved Administration Greenhouse Gas Inventories but there are some minor methodological differences outlined in the methodology report.

GCoM Emission Factor and Activity Data

(4.14) State if the emissions factors and activity data used to calculate your cities emissions are accessible within the attached emissions inventory in question 4.5. If so, please describe where these are located within the attached inventory.

Emissions factors and Activity Data Reported

Emissions factors and activity data accessibility

Emissions factors and activity data are accessible within the attached inventory in question 4.5

State the location of emissions factors and activity data within the attached inventory in question 4.5

Breakdown of emissions factors is provided within the 'Full Table' tab.

5. Emissions Reduction

Mitigation Target setting

GCoM Common Reporting Framework Reporting Requirements for European Cities

(5.0) Do you have a GHG emissions reduction target(s) in place at the city-wide level?

Base year emissions (absolute) target

Fixed level target

(5.0a) Please provide details of your total city-wide base year emissions reduction (absolute) target(s). In addition, you may add rows to provide details of your sector-specific targets, by providing the base year emissions specific to that target.

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Boundary of target relative to city boundary (reported in 0.1)

Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year

2015

Year target was set

2019

Base year emissions (metric tonnes CO2e)

1,398,700

Percentage reduction target

16.1

Target year

2020

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]

1,173,509.3

Percentage of target achieved so far

94.2

Is this target considered to be your cities most ambitious target?

Other, please specify

Interim target contributing to our longer-term target for carbon neutrality by 2040.

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy
One Planet City Challenge
Individual City Commitment
Science-Based Targets for Cities

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

This is an interim base-year target suggested by the Tyndall Centre, which will keep us in-line to achieve our long-term goal of carbon neutral city status by 2040, and stay within a carbon budget of 8.2 million tonnes for the period 2020-2100. The 'percentage of target achieved so far' refers to our progress as of the year 2019.

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Boundary of target relative to city boundary (reported in 0.1)

Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year

2015

Year target was set

2019

Base year emissions (metric tonnes CO2e)

1,398,700

Percentage reduction target

61.5

Target year

2025

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]

538,499.5

Percentage of target achieved so far

20.9

Is this target considered to be your cities most ambitious target?

Other, please specify

Interim target contributing to our longer-term target for carbon neutrality by 2040.

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy
One Planet City Challenge
Individual City Commitment
Science-Based Targets for Cities

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

This is an interim base-year target suggested by the Tyndall Centre, which will keep us in-line to achieve our long-term goal of carbon neutral city status by 2040, and stay within a carbon budget of 8.2 million tonnes for the period 2020-2100. The 'percentage of target achieved so far' refers to our progress as of the year 2019.

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Boundary of target relative to city boundary (reported in 0.1)

Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year

2015

Year target was set

2019

Base year emissions (metric tonnes CO2e)

1,398,700

Percentage reduction target

82.4

Target year

2030

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]

246,171.2

Percentage of target achieved so far

18.4

Is this target considered to be your cities most ambitious target?

Other, please specify

Interim target contributing to our longer-term target for carbon neutrality by 2040.

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy
One Planet City Challenge
Individual City Commitment
Science-Based Targets for Cities

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

This is an interim base-year target suggested by the Tyndall Centre, which will keep us in-line to achieve our long-term goal of carbon neutral city status by 2040, and stay within a carbon budget of 8.2 million tonnes for the period 2020-2100. The 'percentage of target achieved so far' refers to our progress as of the year 2019.

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Boundary of target relative to city boundary (reported in 0.1)

Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year

2015

Year target was set

2019

Base year emissions (metric tonnes CO2e)

1,398,700

Percentage reduction target

91.9

Target year

2035

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]

113,294.7

Percentage of target achieved so far

16.5

Is this target considered to be your cities most ambitious target?

Other, please specify

Interim target contributing to our longer-term target for carbon neutrality by 2040.

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy
One Planet City Challenge
Individual City Commitment
Science-Based Targets for Cities

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

This is an interim base-year target suggested by the Tyndall Centre, which will keep us in-line to achieve our long-term goal of carbon neutral city status by 2040, and stay within a carbon budget of 8.2 million tonnes for the period 2020-2100. The 'percentage of target achieved so far' refers to our progress as of the year 2019.

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Boundary of target relative to city boundary (reported in 0.1)

Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year

2015

Year target was set

2019

Base year emissions (metric tonnes CO2e)

1,398,700

Percentage reduction target

96.3

Target year

2040

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]

51,751.9

Percentage of target achieved so far

15.7

Is this target considered to be your cities most ambitious target?

Yes

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy
One Planet City Challenge
Individual City Commitment
Science-Based Targets for Cities

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

Our overarching city-wide target suggested by the Tyndall Centre is to achieve carbon neutral status by 2040 and stay within a carbon budget of 8.2 million tonnes for the period 2020-2100 (see response to 5.0b below for further information).

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Boundary of target relative to city boundary (reported in 0.1)

Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year

2015

Year target was set

2019

Base year emissions (metric tonnes CO2e)

1,398,700

Percentage reduction target

98.3

Target year

2045

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]

23,777.9

Percentage of target achieved so far

15.4

Is this target considered to be your cities most ambitious target?

Yes

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy
One Planet City Challenge
Individual City Commitment
Science-Based Targets for Cities

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

Our overarching city-wide target suggested by the Tyndall Centre is to achieve carbon neutral status by 2040 and stay within a carbon budget of 8.2 million tonnes for the period 2020-2100 (see response to 5.0b below for further information).

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Boundary of target relative to city boundary (reported in 0.1)

Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year

2015

Year target was set

2019

Base year emissions (metric tonnes CO2e)

1,398,700

Percentage reduction target

99.2

Target year

2050

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]

11,189.6

Percentage of target achieved so far

15.3

Is this target considered to be your cities most ambitious target?

Yes

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy
One Planet City Challenge
Individual City Commitment
Science-Based Targets for Cities

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

Our overarching city-wide target suggested by the Tyndall Centre is to achieve carbon neutral status by 2040 and stay within a carbon budget of 8.2 million tonnes for the period 2020-2100 (see response to 5.0b below for further information).

(5.0b) Please provide details of your total fixed level target(s).

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

NA

Boundary of target relative to city boundary (reported in 0.1)

Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the assessment boundary differs from the city boundary

NA

Year target was set

2019

Absolute emissions in year target was set

1,186,000

Target year

2040

Projected population in target year

275,624

Target year absolute emissions (metric tonnes CO2e)

0

Percentage of target achieved so far

0

Is this target considered to be your cities most ambitious target?

Yes

Does this target align with the global 1.5 -2 °C pathway set out in the Paris agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy
Declaring Climate Emergency
Individual City Commitment

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

Our City-wide target is to achieve carbon neutral status by 2040 and stay within a carbon budget of 8.2 million tonnes for the period 2020-2100. Following the recommendation from the Tyndall Centre, this excludes emissions from Land Use, Land Use Change and Forestry (LULUCF) and non-CO2 emissions, as it is advised that these sources are considered separately. More information is available at https://carbonbudget.manchester.ac.uk/reports/E08000024/print/ .

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Boundary of target relative to city boundary (reported in 0.1)

Explanation of boundary choice where the assessment boundary differs from the city boundary

Year target was set

Absolute emissions in year target was set

Target year

Projected population in target year

Target year absolute emissions (metric tonnes CO2e)

Percentage of target achieved so far

Is this target considered to be your cities most ambitious target?

Does this target align with the global 1.5 -2 °C pathway set out in the Paris agreement?

Select the initiatives that this target contributes towards

Does this target align to a requirement from a higher level of government?

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

(5.1) Please describe how the target(s) reported above align with the global 1.5 - 2 °C pathway set out in the Paris agreement.

In 2019, the UK Government requested the Committee on Climate Change (CCC) to reassess the UK's long-term emissions targets. The CCC recommended that in order to align with the 1.5-2°C pathway set out in the 2015 Paris Agreement; the UK should aim to have net-zero greenhouse gas emissions by 2050.

Sunderland City Council declared a climate emergency in 2019, as a statement of intent to protect and improve the environment. The commitments outlined in the declaration were subsequently captured in supported Sunderland's intent to become carbon neutral by 2040 and working to achieve its long-term aim of creating a 'greener and cleaner' living environment for all its residents 10 years ahead of the UK National target. The target was established drawing on the recommendations provided by the Tyndall Centre, for the city to stay within a maximum cumulative carbon budget of 8.2 million tonnes for the period 2020-2100 and achieve carbon neutrality no later than 2040.

(5.2) Is your city-wide emissions reduction target(s) conditional on the success of an externality or component of policy outside of your control?

Yes

(5.2a) Please identify and describe the conditional components of your city-wide emissions reduction target(s).

Sunderland City Council and the 2030 Shadow Board can significantly reduce emissions within the city through the successful implementation of the citywide Low Carbon Framework, which sets out the vision, purpose, and direction of actions necessary to drive down citywide emissions. However, some factors are outside of our direct control and conditional on: Government regulation / policy in relation to new commercial or residential building and associated carbon neutral requirements, particularly given viability assessments for new development in markets such as Sunderland; availability of Government funding to incentivise and support large-scale retro-fitting of residential properties beyond current measures such as Eco-flex; Government policy to incentivise investment in renewables and energy efficiency improvements by large companies; continued access to finance to facilitate energy efficiency measures by SMEs; commitment of individual businesses and organisations across the city to reduce their emissions. Many issues are driven nationally, such as targets to phase out production of new diesel and petrol cars (internal combustion engines), increased resource to enable investment in sustainable transport infrastructure, and design standards in homes. In addition, the individual choices of residents living in the city also play a critical part in reducing emissions. Although this is not within our direct control, we can seek to influence individual

choices on issues such as levels of meat consumption, waste disposal and recycling, take-up of active and sustainable travel options through our communications and engagement strategy.

(5.3) Does your city-wide emissions reduction target(s) account for the use of transferable emissions units?

Do not know

Mitigation Actions

GCoM Common Reporting Framework Reporting Requirements for European Cities

(5.4) Describe the anticipated outcomes of the most impactful mitigation actions your city is currently undertaking; the total cost of the action and how much is being funded by the local government.

Mitigation action

Energy Supply > Smart grid

Action title

Renewables for Advanced Manufacturing (Micro-grid)

Means of implementation

Stakeholder engagement
Infrastructure development
Development and implementation of action plan

Implementation status

Pre-implementation

Start year of action

2020

End year of action

2025

Estimated emissions reduction (metric tonnes CO2e)

55,000

Energy savings (MWh)

Renewable energy production (MWh)

76,000

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Enhanced climate change adaptation
Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Greening the economy
Economic growth
Job creation
Shift to more sustainable behaviours
Improved access to data for informed decision-making

Action description and implementation progress

The proposed Microgrid at the International Advanced Manufacturing Park will bring together energy generation, consumption and storage to secure both cost reduction and decarbonisation benefits. Sunderland City Council is leading the project that aims to deliver this 100% renewable electricity 'Microgrid' that will save 55,000 tonnes of carbon annually, working closely with industry partners.

The Microgrid requires several key elements: a Direct Connection through National Grid, through a Bilateral Connection Agreement, to enable a move to Transmission rather than Distribution charges; co-creation of the financial / operational model to include a clear return on investment following the initial capital investment; risk mitigation in relation to resilience and tariff stability; clear policy direction in relation to renewables and decarbonization. The Direct Connection from National Grid effectively bypasses the local distribution supplier as it provides cheaper wholesale electricity which is then fed forward through a private network. This feed through to the multiple customers with directly managed demand within the microgrid network through renewable and battery storage.

Significant development work has been undertaken with National Grid already to establish a programme and contract to deliver a Direct Connection to IAMP to support this project. This direct connection will provide the backbone for a microgrid which will deliver an increase in supply and enable more cost competitive energy delivery, coupled with renewable energy to be generated on a phased basis and fed into the microgrid to meet the energy demand of companies at IAMP
The microgrid development represents a significant opportunity for private sector investment including in renewable energy to create an environment whereby electric vehicles are being manufactured at scale from green energy.

Finance status

Feasibility finalized, and finance partially secured

Total cost of the project

80,000,000

Total cost provided by the local government

Majority funding source

Total cost provided by the majority funding source (currency)

77,000,000

Web link to action website

https://www.sunderland.gov.uk/article/19177/Nissan-unveils-EV36Zero-a-1bn-Electric-Vehicle-EV-Hub-to-accelerate-the-journey-to-carbon-neutrality

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Mitigation action

Buildings > On-site renewable energy generation

Action title

Riverside Sunderland Phase 1

Means of implementation

Education
Capacity building and training activities
Awareness raising program or campaign
Stakeholder engagement
Infrastructure development
Assessment and evaluation activities
Monitor activities
Verification activities
Development and implementation of action plan
Policy and regulation

Implementation status

Implementation

Start year of action

2020

End year of action

2025

Estimated emissions reduction (metric tonnes CO2e)

227

Energy savings (MWh)

437

Renewable energy production (MWh)

110

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Enhanced climate change adaptation
Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Social community and labour improvements
Greening the economy
Economic growth

Action description and implementation progress

Phase 1 of the Riverside Sunderland project follows the development of the Beam and City Hall and includes Vaux housing, a new multi-storey carpark, two additional commercial buildings and the new Eye Infirmary as well as HICSA.

Planning approval has been granted for all of these projects. Planning will be brought forward for HICSA during this year. Delivery plans are in place for approved schemes.

The carbon savings, energy savings, and renewable energy generation figures refer specifically to Vaux housing. Further detailed figures will be developed for the remaining aspects of phase 1 at the appropriate time

Finance status

Feasibility finalized, and finance partially secured

Total cost of the project

41,436,325

Total cost provided by the local government

33,240,595

Majority funding source

Local

Total cost provided by the majority funding source (currency)

33,240,595

Web link to action website

https://sunderlandexpo.com/

Mitigation action

Buildings > On-site renewable energy generation

Action title

City Hall Air Source Heat Pumps

Means of implementation

Infrastructure development

Implementation status

Implementation

Start year of action

2021

End year of action

2022

Estimated emissions reduction (metric tonnes CO2e)

98.57

Energy savings (MWh)

461.21

Renewable energy production (MWh)

160.05

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Enhanced climate change adaptation
Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Social community and labour improvements
Greening the economy
Economic growth
Promote circular economy
Job creation
Improved resource quality (e.g. air, water)
Improved public health
Ecosystem preservation and biodiversity improvement
Improved access to data for informed decision-making

Action description and implementation progress

City Hall is the new location for the local authority, replacing the current Civic Centre building. It is an early stage of Riverside Sunderland Phase 1. City Hall will be home to a range of public sector partners and private tenants in addition to the local authority.

Salix funding has been secured for the installation of air source heat pumps to

supplement the original building specification, with procurement activity to commence shortly.

Finance status

Finance secured

Total cost of the project

698,000

Total cost provided by the local government

0

Majority funding source

(Sub)national

Total cost provided by the majority funding source (currency)

698,000

Web link to action website

https://sunderlandexpo.com/

Mitigation action

Community-Scale Development > Green space and/ or biodiversity preservation and expansion

Action title

North East Community Forest

Means of implementation

Stakeholder engagement
Infrastructure development
Development and implementation of action plan
Policy and regulation

Implementation status

Pre-implementation

Start year of action

2021

End year of action

2025

Estimated emissions reduction (metric tonnes CO2e)

471

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Enhanced resilience
Enhanced climate change adaptation
Reduced GHG emissions
Greening the economy
Job creation
Improved public health
Resource conservation (e.g. soil, water)
Ecosystem preservation and biodiversity improvement

Action description and implementation progress

Sunderland City Council and partners (the Woodland Trust, the Forestry Commission as well as the other 6 North Eastern Local Authorities), recently submitted a successful bid to England Community Forests and DEFRA to become a prospective community forest. The North East Community Forest partnership will plant 500 hectares deliverable by 2025.

The main funding source between 2021-25 is expected to be Trees for Climate DEFRA funding. If Sunderland delivers 45 hectares of woodland in this timeframe, then it is estimated that £765,000 funding will be unlocked. Further funding sources are expected to be unlocked and this is expected to become a multi-million-pound project over its lifetime. The £12,750 figure in the ‘total cost provided by local government’ box relates to Sunderland City Council’s annual contribution for the first year and is subject to change annually.

Finance status

Feasibility finalized, and finance partially secured

Total cost of the project

765,000

Total cost provided by the local government

12,570

Majority funding source

(Sub)national

Total cost provided by the majority funding source (currency)

Web link to action website

https://www.newcastle.gov.uk/northeastcommunityforest

Mitigation action

Buildings > On-site renewable energy generation

Action title

Riverside Sunderland City Centre Mine Water Heating Network

Means of implementation

Stakeholder engagement
Infrastructure development
Assessment and evaluation activities
Development and implementation of action plan

Implementation status

Start year of action

2021

End year of action

2024

Estimated emissions reduction (metric tonnes CO2e)

4,100

Energy savings (MWh)

Renewable energy production (MWh)

33,000

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Poverty reduction / eradication
Promote circular economy
Job creation
Improved public health

Action description and implementation progress

The Council is hoping to utilise renewable energy in the form of mine water in the city centre and potentially also citywide.

A high-level feasibility review of mine workings beneath the city centre, identifying the overlay of heat demand, potential abstraction points and envisaged temperatures has been completed. We have also outlined a business case for this project and stakeholder engagement is ongoing.

We are also looking to have a city-wide feasibility study completed by the end of 2021.

The figures for CO2 savings and renewable energy production are for the initial scheme, and there is capacity and scope for expansion beyond this.

Finance status

Feasibility undertaken

Total cost of the project

43,000,000

Total cost provided by the local government

20,000,000

Majority funding source

Local

Total cost provided by the majority funding source (currency)

20,000,000

Web link to action website

Not yet available.

Mitigation action

Buildings > Energy efficiency/ retrofit measures

Action title

Public Sector Decarbonisation Scheme

Means of implementation

Stakeholder engagement
Infrastructure development
Development and implementation of action plan
Policy and regulation
Financial mechanism

Implementation status

Implementation

Start year of action

2021

End year of action

2021

Estimated emissions reduction (metric tonnes CO2e)

375

Energy savings (MWh)

1,574

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Poverty reduction / eradication
Job creation
Improved public health
Improved resource security (e.g. food, water, energy)

Action description and implementation progress

Sunderland Council were recently approved funding through the Public Sector Decarbonisation Scheme (PSDS) for heat decarbonisation and energy efficiency measures to 8 Council operational buildings, to be completed by September 2021.

Finance status

Finance secured

Total cost of the project

2,219,000

Total cost provided by the local government

2,219,000

Majority funding source

(Sub)national

Total cost provided by the majority funding source (currency)

2,219,000

Web link to action website

https://www.gov.uk/government/publications/public-sector-decarbonisation-scheme-psds

Mitigation action

Waste > Recycling or composting collections and/or facilities

Action title

Pallion Household Waste Recycling Centre

Means of implementation

Stakeholder engagement
Infrastructure development
Development and implementation of action plan
Sustainable public procurement

Implementation status

Implementation

Start year of action

2021

End year of action

2021

Estimated emissions reduction (metric tonnes CO2e)

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Social community and labour improvements
Greening the economy
Promote circular economy
Job creation
Improved resource security (e.g. food, water, energy)
Resource conservation (e.g. soil, water)
Shift to more sustainable behaviours

Action description and implementation progress

The new proposed Household Waste Recycling Centre at Pallion Industrial Estate will be larger than the existing facility at Beach Street. The split-level design will make it easier for householders to use the waste containers, with no steps to climb, and operationally it will be possible to change over the waste containers without having to temporarily close the site.

The new facility will be more efficient, with better facilities and opportunities to recycle and re-use more waste materials. It is anticipated that the new site will help increase the amount of household waste recycled, reduce congestion and be more user friendly for residents.

The site will also include a purpose-built recycling/re-use shop. The shop, which will be situated on site will have its own car park and pedestrian access. Any re-usable items such as furniture, working electrical items, clothing, bikes, toys, books, CDs, bric-a-brac and other household items can be donated directly to the re-use shop, where donations can be sold at low prices and enjoyed by somebody else.

Analysis of the impact including increasing recycling rates and reduced waste will be established once the centre is operational and routinely monitored.

Finance status

Finance secured

Total cost of the project

5,000,000

Total cost provided by the local government

5,000,000

Majority funding source

Local

Total cost provided by the majority funding source (currency)

5,000,000

Web link to action website

https://www.sunderland.gov.uk/article/17179/New-Household-Waste-Recycling-Centre

Mitigation action

Buildings > Energy efficiency/ retrofit measures

Action title

Green Homes Grant Local Authority Delivery 2 (LAD2) Scheme

Means of implementation

Stakeholder engagement

Infrastructure development
Development and implementation of action plan
Policy and regulation
Financial mechanism

Implementation status

Implementation

Start year of action

2021

End year of action

2021

Estimated emissions reduction (metric tonnes CO2e)

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Poverty reduction / eradication
Job creation
Improved public health
Improved resource security (e.g. food, water, energy)

Action description and implementation progress

Sunderland's allocation for the Green Homes Grant LAD Delivery Phase 2 is £1.7 million, with c. £1.6 million allocated for capital works. It is expected that 270 properties will be retrofitted with 495 total measures to improve energy efficiency and reduce carbon emissions.

The eligible interventions are external walls, double glazing, heat pumps, cavity walls, room in roof, loft insulation, solar and other.

The LAD scheme aims to raise the energy efficiency of low-income and low EPC rated homes including those living in the worst quality off-grid gas homes, delivering progress towards reducing fuel poverty, phasing out the installation of high carbon fossil fuel heating and the UK's commitment to net zero by 2050.

Estimated figures for carbon and energy savings are not yet available.

Finance status

Finance secured

Total cost of the project

1,750,000

Total cost provided by the local government

1,750,000

Majority funding source

(Sub)national

Total cost provided by the majority funding source (currency)

1,750,000

Web link to action website

https://www.gov.uk/guidance/apply-for-the-green-homes-grant-scheme

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Mitigation action

Outdoor Lighting > LED / CFL / other luminaire technologies

Action title

Citywide rollout of LED streetlights

Means of implementation

Stakeholder engagement
Infrastructure development
Development and implementation of action plan

Implementation status

Implementation

Start year of action

2016

End year of action

2022

Estimated emissions reduction (metric tonnes CO2e)

557

Energy savings (MWh)

2,200

Renewable energy production (MWh)

0

Timescale of reduction / savings / energy production

Other, please specify

Streetlighting improvements are funded through Salix loans, and the specified figures for energy and CO2 savings are the expected figures for this year. See 'Action description and implementation progress' for more detail.

Co-benefit area

Reduced GHG emissions

Improved resource efficiency (e.g. food, water, energy)

Action description and implementation progress

Over the last 4 years, the Council has replaced over 48,000 streetlights across the city with LED lighting. From the start of the project until now, this has reduced annual energy consumption from streetlighting by over 20,000MWh, and annual carbon savings of 5,370 tonnes.

In addition to the street lighting replacement scheme, the Council is now delivering LED lighting to parks and associated buildings, Traffic Signals and Lit Signs, which will deliver additional carbon and energy savings.

Finance status

Finance secured

Total cost of the project

1,850,000

Total cost provided by the local government

1,850,000

Majority funding source

Local

Total cost provided by the majority funding source (currency)

1,850,000

Web link to action website

https://www.salixfinance.co.uk/news/press-release-sunderland-city-council-begin-phase-two-their-%C2%A314m-street-lighting-programme

Mitigation action

Buildings > Energy efficiency/ retrofit measures

Action title

Business Energy Saving Team (BEST) and Business Renewables Energy Efficiency Sunderland (BREEZ) schemes

Means of implementation

Infrastructure development
Assessment and evaluation activities
Development and implementation of action plan
Financial mechanism

Implementation status

Operation

Start year of action

2021

End year of action

Estimated emissions reduction (metric tonnes CO2e)

84

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Other, please specify

Co-benefit area

Enhanced climate change adaptation
Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Greening the economy
Economic growth
Improved resource security (e.g. food, water, energy)
Shift to more sustainable behaviours
Improved access to data for informed decision-making

Action description and implementation progress

Sunderland City Council delivers the Business Renewables Energy Efficiency Sunderland (BREEZ) project for Small and Medium-Sized Enterprises (SMEs). This involves installing cost-effective energy-efficiency improvements into business premises, with the main objective of enabling significant reductions in carbon emissions and energy consumption. This is done firstly by completing an initial BREEZ energy audit. This is then followed by upgrading old, inefficient systems with new, energy-efficiency

measures that have been recommended in the audit. This includes micro-generation including, for example, solar photovoltaics. As a result of the BREEZ energy audit, SMEs may also qualify for 50% grant funding towards the cost of installing energy-efficiency upgrades. The average grant is usually between £2000-£8000, although the maximum grant is £25,000 for projects that meet significant, pre-agreed carbon reduction requirements. As of July 2021, 67 SMEs were actively engaged with BREEZ.

In addition to the BREEZ project, Sunderland is also part of the Business Energy Saving Team (BEST). BEST is a project funded by the European Regional Development Fund (ERDF) and delivered by local authorities in North East England. The BEST team provide businesses with a full energy audit, designed to help identify ways to save energy, money, and carbon emissions. If businesses meet certain criteria the BEST team can also provide a grant to help cover costs. As of July 2021, 36 SMEs were actively engaged with BEST.

The carbon tonnes saved figure relates to estimates at the end of March 2021, although this figure has since risen. The figure for total cost of the project reflects the estimated sum of grants required as of July 2021. This £328,500 is broken down into £149,500 from BEST and £179,000 from BREEZ.

Finance status

Finance secured

Total cost of the project

328,500

Total cost provided by the local government

Majority funding source

Other, please specify

European Union European Regional Development Fund

Total cost provided by the majority funding source (currency)

Web link to action website

https://www.sunderland.gov.uk/article/16604/BREEZ-Business-Renewables-Energy-Efficiency-Sunderland ; https://www.best-ne.co.uk/how-best-works/

Mitigation action

Buildings > On-site renewable energy generation

Action title

Renewables in Commercial Property Portfolio (Hillthorn)

Means of implementation

Infrastructure development

Implementation status

Pre-implementation

Start year of action

2022

End year of action

2025

Estimated emissions reduction (metric tonnes CO2e)

154.49

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Enhanced climate change adaptation
Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Social community and labour improvements
Greening the economy
Economic growth
Promote circular economy
Job creation
Improved resource quality (e.g. air, water)
Improved public health
Ecosystem preservation and biodiversity improvement
Improved access to and quality of mobility services and infrastructure
Shift to more sustainable behaviours
Improved access to data for informed decision-making

Action description and implementation progress

Feasibility work is currently underway to determine ability to achieve a system which is net zero carbon in operation system, on new speculative commercial property at Hillthorn.

Finance status

Pre-feasibility study status

Total cost of the project

2,000,000

Total cost provided by the local government

2,000,000

Majority funding source

Local

Total cost provided by the majority funding source (currency)

0

Web link to action website

Mitigation Planning

GCoM Common Reporting Framework Reporting Requirements for European Cities

(5.5) Does your city have a climate change mitigation or energy access plan for reducing city-wide GHG emissions?

Yes

GCoM Additional Information

(5.5a) Please attach your city's climate change mitigation plan below. If your city has both mitigation and energy access plans, please make sure to attach all relevant documents below.

Publication title and attach document

Sunderland Low Carbon Framework

Sunderland_Low_Carbon_Framework.pdf

Web link

https://www.sunderland.gov.uk/media/22959/Sunderland-Low-Carbon-Framework/pdf/Sunderland_Low_Carbon_Framework1.pdf?m=637461416504170000

Focus area of plan

Climate change mitigation plan

Year of adoption of plan by local government

2020

Areas covered by action plan

Energy

Transport (Mobility)
Building and Infrastructure
Industry
Waste
Business and Financial Service

Boundary of plan relative to city boundary (reported in 0.1)

Same – covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why and any areas/other cities excluded or included

Stage of implementation

Plan in implementation

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?

Yes

Describe the synergies, trade-offs, and co-benefits of this interaction

Co-benefits / synergies:

• Reducing fuel poverty by supporting residents to improve the energy performance of their homes and to reduce heating costs;

• Providing cleaner air by supporting a shift to more sustainable transport modes in the city;

• Creating safer streets by providing improved walking and cycling conditions and reducing the use of motor vehicles;

• Developing a green and successful economy - by supporting the city's green economy to grow, all businesses to become more sustainable, as well as adding to the city's inward investment offer through the city's special landscape mixture of seaside, river estuary, industrial heritage, wildlife and geology;

• Encouraging active travel and sustainable behaviour will benefit physical and mental health, which in turn will reduce the impact on healthcare services;

• Helping to eliminate food poverty by expanding local food networks and increasing the availability of fresh and seasonal food;

• Reducing social isolation by enabling residents to have increased opportunities to be involved in community projects, which can raise civic pride, increase community wealth-building and encourage active and healthier lifestyles;

• Reducing waste benefitting the environment and saving money for residents by reducing the volume of food thrown away. Using our waste in smarter ways could also support the growth of green business;

• Developing green infrastructure helping to reduce the potential for flash flooding, help to cool our city in the summer, support wildlife diversity, tourism and provide quality greenspaces for local people to enjoy;

• Developing varied local sources of energy which will help to ensure that the city has energy security.

Trade-offs:

• There is a demand for road transport to be upgraded, to accommodate population growth, and the current increase in the popularity of the private car linked partly to the impact of COVID-19.

• There is a need for economic growth in Sunderland, to improve the quality of life for our residents, including attracting more businesses and creating more jobs. For the city to achieve carbon neutrality, all new and existing businesses need to support this ambition and be able to make their contribution. Some businesses may have conflicting priorities, particularly during post-COVID economic recovery which may delay environmental sustainability.

Description of stakeholder engagement process

Tackling Climate Change is too great a task for any one body/organisation. Partners need to come together to address the challenges in Sunderland. On this basis, a partnership board, known as the 2030 Shadow Board, has been set up which brings together representatives from across the city such as the NHS, University of Sunderland, Sunderland College, NE Chamber of Commerce as well with Elected Member representation from each Group on the Council. The Shadow Board is chaired by the Leader of the Council and its purpose is to work collectively to drive forward Sunderland's ambitions and commitment to tackling climate change, and the Shadow Board has shaped the development of the Sunderland Low Carbon Framework.
Since the Low Carbon Framework was adopted were approved in December 2020, work has been undertaken to increase stakeholder engagement, and the Shadow Board aim to increase Stakeholder Engagement in the future. The Shadow Board identified three key stakeholders to engage with on low carbon and climate change issues – businesses, residents and young people.

Sunderland City Council, Together for Children, Sunderland College, the University of Sunderland and Sunderland Youth Council are currently in the process of establishing a Young People's Advisory Group for low carbon and climate change. This will help ensure that the city's low carbon ambitions and delivery objectives reflect the vision of young people within the city.

Initial research has recently been undertaken to help us understand the challenges businesses face, and we hope to liaise and support businesses, to help them capitalise on opportunities associated with low carbon.

Initial research has also recently been undertaken for residents in Sunderland to gain insight into their understanding of climate change. We hope to create a sense of ownership and empowerment among our residents, so that they feel a personal responsibility and an integral part of the city's carbon neutrality journey.

Primary author of plan

Dedicated city team

Comment

The Low Carbon Framework sets out the vision, purpose and directions of actions necessary to enable the city to deliver on Sunderland's carbon neutrality goals.
The Low Carbon Framework was adopted in December 2020 by the City partnership Board, on the recommendation of the 2030 Shadow Board, and subsequently endorsed by Sunderland City Council's Cabinet in 2021.

6. Opportunities

Opportunities

(6.0) Please indicate the opportunities your city has identified as a result of addressing climate change and describe how the city is positioning itself to take advantage of these opportunities.

Opportunity	Describe how the city is maximizing this opportunity
Development of clean technology businesses	Attracting green economy investment and supporting growth of green economy businesses is key to the city's economic development, and is a significant opportunity with the potential for it to continue to grow and expand. This is included as one of the strategic priorities in the Low Carbon Framework and reflects the City Plan 'More and Better Jobs' goal. Nissan is currently the largest employer in Sunderland, and roughly 200,000 Nissan LEAFs have been produced within the city. To date, Nissan has invested a total of £246 million in EV production and the battery plant has seen a total of £227 million of investment creating vital jobs in the green economy. The City Council has worked closely with Nissan and Envision AESC and central government to secure creation of Nissan 360Zero Electric Vehicle Hub (which was announced on 1 July 2021) and reinforce Sunderland's position as the leading location for the electrification of advanced manufacturing within the UK. The EV Hub will see a new all electric vehicle produced in Sunderland by Nissan and investment by Envision AESC in Sunderland a new gigaplant on the International Advanced Manufacturing Plant. The gigaplant represents initial investment of £450m, will have the capacity to supply 100,000 vehicles with production of up to 9GWh, together with creation of 700 jobs and safeguarding of the existing 300 jobs and the potential for further jobs and investment to follow.
Development of clean	The city's green economy includes businesses such as Hyperdrive Innovation, Advanced Electric Machines, and Curtis Instruments which are all active in electrification of advanced manufacturing which is key to decarbonisation of

technology businesses	transport as well as companies such as Green Marine. Further examples of green businesses in Sunderland include Haskel, who manufacture Hydrogen refuelling systems, significantly contributing to the adoption of a decarbonised future through creating renewable energy sources and reducing CO2 emissions. DLAW are also based in Sunderland and manufacture industrial stainless-steel Geothermal and Biomass systems. The University of Sunderland's Institute for Automotive and Manufacturing Advanced Practice (AMAP) is leading international research in the sector, and the city's Low Carbon Vehicles Enterprise Zone has already attracted £122 million in investment to create new technologies and jobs. Newcastle University leads the UK's Driving the Electric Revolution (DER) programme and the DER Centre NE is based in Sunderland adjacent to Nissan and the surrounding advanced manufacturing cluster in a building recently acquired by Sunderland City Council for this purpose. Sunderland Council has been an active partner in the development of DER since it was first discussed. Several 2030 Shadow Board partners across the city are carrying out energy saving measures across their respective estates, including the introduction of LED lighting, automatic metering, improved insulation and green power use. Sunderland's largest social housing provider, Gentoo, has installed ground source heat pumps, thermal batteries, smart controls, and thermostats to 7 high rise blocks of flats, and has also provided solar panels on over 5,500 properties in Sunderland. Finally, the Council are also encouraging investment in and adoption of clean energy technologies across all business sectors as part of wider business engagement.
Development of energy efficiency measures and technologies	Within Sunderland's Low Carbon Framework and the City Council's Low Carbon Action Plan, strategic priority 3 is to 'create an energy efficient built environment', with the main objective of improving energy efficiency of existing homes and buildings and working towards zero carbon for new homes and buildings. Through the Low Carbon Framework, Sunderland have identified several other opportunities which arise from achieving this strategic priority, in addition to reducing emissions. Improving the energy performance of homes and saving heating costs will help to eliminate fuel poverty; improving energy efficiency of commercial premises will reduce running costs for businesses and make commercial buildings easier to lease; and cleaner and greener energy for housing will improve air quality and provide purity of supply and cost. Within Sunderland's Core Strategy and Development Plan, several policies aim to increase energy efficiency. Policy BH1 requires development to achieve a high-quality standard of design, maximise the opportunities to create sustainable mixed-use developments and to maximise the opportunities for buildings and spaces to gain benefit from sunlight and passive solar energy. Policy BH2 requires the incorporation of sustainable design and construction methods where possible, maximising energy efficiency and integrating the use of renewable and low carbon

	energy. Policy D1 within the IAMP AAP encourages the use of solar gain on buildings. The Low Carbon Framework and City Council's Low Carbon Action Plan also aim to develop energy efficiency in new build houses, with the ambition to strive towards zero-carbon new homes. Finally, Sunderland City Council have responded to Government consultation on national planning policy to seek to increase low carbon design standards.
Development of energy efficiency measures and technologies	Sunderland is working to improve the energy efficiency of existing homes and buildings through retrofitting. Through the BEIS Local Authority Delivery Round 2 Fund, Sunderland City Council recently secured £1.6 million to retrofit 200-300 existing homes with energy efficiency measures by the end of 2021. Independent of this, Sunderland City Council also received £20,000 to have retrofitting specifications drawn up with BDA, in addition to a further £30,000 for a pilot property energy efficiency retrofit demonstration. The Energy Company Obligation ECO Flex scheme also operates in Sunderland, which is in line with strategic priority 5 (Green Economy) of the city's Low Carbon Framework. This scheme involves the replacement of new boilers and home insulation measures, and is aimed at households living in fuel poverty, on low incomes, and that either face high fuel costs or are vulnerable to the effects of living in a cold home. ECO flex measures include cavity wall, underfloor, party wall and solid wall insulation, as well as central heating or gas boiler replacements and heating upgrades. As of July 2021, the ECO flex scheme has supported 93 properties in the city, achieving total lifetime savings of £500,000. Sunderland City Council also works with local businesses on energy and cost savings initiatives, providing advice, guidance, and support funding through EU funded BREEZ and BEST projects. More information on this is provided in question 6.2.
Development of energy efficiency measures and technologies	Sunderland City Council are continuing the rollout of energy efficient LED lighting across the city. Over the last 4 years, the council has replaced over 48,000 streetlights across the city with LED lighting. From the start of the project until now, this has reduced annual energy consumption from streetlighting by over 20,000MWh, annual carbon savings of 5370 tonnes, and annual energy costs by over £3 million. In addition to the street lighting replacement scheme, the Council is now delivering LED lighting to parks and associated buildings, Traffic Signals and Lit Signs, which will deliver additional energy, carbon and financial savings.
Development of energy efficiency measures and technologies	Sunderland Council has recently begun a £10,000 Innovation Challenge with the Digital Catapult to identify an SME to develop and pilot a digital product or service which can improve energy efficiency within Council buildings. The proposal will begin with a test site / sites and the solution is required to be scalable. The challenge launched in summer 2021. This is also discussed in 'Increased opportunities for trade (nationally or internationally)'.
Development of waste management-sector	Key opportunities which arise from the waste management sector are set out in the Low Carbon Framework and include: 1. Developing a green and successful economy through increasing local and low-carbon food production, reducing food waste, and developing smarter ways of

	recycling. 2. Reducing environmental impact. 3. Saving residents money by reducing the volume of food thrown away. 4. Eliminating food poverty by growing food locally and communally and increasing the availability of fresh and seasonal food, encouraging more low carbon cooking and meals. 5. Encouraging healthier eating and active lifestyles, which will help people in Sunderland gain better physical and mental health, which in turn will save money on healthcare services. 6. Reducing social isolation by encouraging active lifestyles and increasing the number of community projects. 7. Reducing carbon emissions of city events.
Development of waste management-sector	Sunderland, along with the neighbouring authorities of South Tyneside and Gateshead, form the South Tyne and Wear Waste Management Partnership (STWWMP). The main aims of STWWMP are to manage waste more sustainably and reduce the amount of waste sent to landfill in the region. This is ensured through reducing the amount of waste generated, reusing waste, recycling and/or composting waste as far as reasonably practical within economic and environmental constraints, recovering energy from the remaining waste and finally disposing of any residual waste safely. The STWWMP Joint Municipal Waste Strategy 2021-2025 has also recently been published to provide a strategic and coordinated approach to achieving these targets and maximise opportunities arising from the waste management sector.
Development of waste management-sector	Current and recent activities to help develop Sunderland's waste management sector include: • Sunderland City Council continues to extend the range of materials that residents can recycle in the household kerbside service through the introduction of additional materials, such as drinks cartons and plastic pots, tubs & trays. Communal recycling facilities for high-rise flats etc. are now in place that replicate the kerbside recycling service. This means all households across Sunderland can easily recycle the same materials. • No Council contract waste has required disposal by landfill during the period April 2015 to June 2021. All household waste that has not been presented at the kerbside for recycling is sent to an energy-from-waste facility, where it is incinerated to power a turbine that generates electricity for the National Grid. • The Sunderland Household Waste Reuse and Recycling Centre (HWRRC) management contract is now incentive based, where the contractor is rewarded for exceeding pre-agreed targets for recycling materials disposed by residents. This has enabled new, recycling outlets to be secured for some traditionally difficult to-recycle materials, such as carpets and mattresses. • Businesses are supporting the introduction and development of community food networks. • Sunderland City Council trialled the city's first Refuse Collection Vehicle (RCV) in June 2021 to help lower CO2 emissions from the transportation of waste.

	• A new modernised household waste recycling centre at Pallion will increase recycling rates within the city. The centre will also have a purpose-built recycling/reuse facility, for the donation and reuse of reusable items.
Development of circular economy models and businesses	Sunderland has a Community Wealth Building Strategy (which was adopted by the Council's Cabinet in March 2020), recognising the importance of developing assets of all kinds in such a way that the wealth stays local. Within this context Sunderland Council became accredited Real Living Way Employer in August 2020. The Sunderland Partnership Board committed to development of a Community Wealth Building Charter to which anchor organisations in the city will sign up to and work towards. This focuses on five key priorities, with two directly relevant in this context: reduce carbon emissions – commit to becoming a net zero carbon organisation; procurement – committing to using all spend to support a diverse local business base. In-line with Strategic Priority 2 of the Low Carbon Framework - 'Adapt Our Policies and Procedures' – and of the City Council's Low Carbon Action Plan, Sunderland Council is currently working to re-evaluate procurement procedures and policy to increase the emphasis on sustainability and low carbon, in line with the development of a circular economy. Sunderland has also monitored the level of spend within the local and regional economy since 2012 to ensure a focus on local expenditure. As at end March 2021, 37% of the Council's third party spend is local, with 65% being regional (including local).
Development of circular economy models and businesses	Sunderland is designated as a Social Enterprise City and the North East Business Innovation Centre (NE BIC), which is based in Sunderland and is itself a social enterprise, has a strong focus on developing and supporting the growth of social enterprises. Sunderland Council is a Co-operative Council and is currently identifying the most appropriate approach to seek to increase the number of cooperative businesses in the city.
Development of circular economy models and businesses	Riverside Sunderland has been designed using the principles of a circular and sharing economy to create opportunities for local people and supply chains, using and building on local skills and resources to create an innovative place with low embodied impacts and a culture of re-use and zero waste. The Vaux site, which is part of the Riverside Sunderland project, embraces the circular economy model to retain materials at their highest value and minimise the amount of waste generated. Several circular economy principles will be demonstrated at the Vaux site, including: designing buildings for their whole life cycle so that they are adaptable to residents' changing needs and fit for lifelong occupation; designing for easy replacement of shorter life products using the building in layers approach; designing for future reuse based on the concept of Buildings as Materials Banks (BAMB); recovering materials for reuse or high value recycling in construction; and building a local supply chain for the provision of circular economy technologies, solutions and services.

Development of tourism and eco-tourism sector	As part of the city's Low Carbon Framework and the City Council's Low Carbon Action Plan, Sunderland are aiming to develop sustainable events and tourism in the future through reviewing best practice elsewhere in the UK. In addition to the above, and in response to the negative impact of COVID-19 on tourism in Sunderland, Sunderland's Tourism Recovery Plan 2021-2023 looks at how we can support the tourism sector in the city in the next two years, through a mix of short term campaigns and longer term measures. The recovery plan also recognises the vital role that the Low Carbon Framework has to support its delivery and in turn be supported by its outcomes. Consequently, the Tourism Recovery Plan 2012-2023 aims to increase visitor footfall in a sustainable and carbon conscious manner. An example of a listed action to aid this is to support the Go Smarter Go Active campaign to provide sustainable and active routes into the city recognising the contribution this can make to our carbon reduction goals as well as to addressing health inequalities.
Development of sustainable transport sector	Sunderland, along with 6 other local authorities and 2 combined authorities, make up the North East Joint Transport Committee (NEJTC). NEJTC have recently developed the North East Transport Plan 2021-2035, setting out the transport priorities for our region up to 2035. Delivering this plan will support a shift towards sustainability through lowered emissions, better air quality and travel choices. One of the main objectives of the North East Transport Plan is to make transport in the North East carbon-neutral by 2035.
Development of sustainable transport sector	Sunderland was an early adopter of infrastructure to support use of electric vehicles. As part of the North East Plugged-In Places programme (2010-2012), charging stations were introduced across the city. Further EV infrastructure is being rolled out across Sunderland, including new facilities in town and city centres, at municipal car parks and at key destinations. There are currently approaching 100 charging points, some of which are double bays. In 2019 it was announced that Sunderland had the highest number of EV charging points per vehicle licence holder in the whole of the UK (1 for every 1460 drivers). The city also boasts the country's first rapid charging electric vehicle station which offers four 50 kW fast chargers and two 175kW fast chargers that are enabled for 350 kW charging (the fastest available nationally). Encouraging greater use of low emission vehicles is part of Sunderland's strategy to become the UK's national hub for the low carbon economy. Sunderland-based advanced manufacturing businesses are playing a key role in the decarbonisation of transport (as set out earlier in question 6.0). Sunderland is also currently trialling E-Scooters in the city in collaboration with Neuron. and the Council is also working to introduce a new one-stop 'mobility hub' in the city, encouraging use of sustainable transport. Sunderland have recently been awarded £300,000 revenue grant funding from the UK Government's Capability Fund to promote sustainable transport options through

	2021.
Development of sustainable transport sector	Sunderland have ambitions to increase walking and cycling mode share in the city, and consequently, are currently developing a Local Cycling and Walking Infrastructure Plan (LCWIP) for the city, which will be presented to cabinet shortly for adoption. In addition, through the Department for Transport's Active Travel Fund, Sunderland has been awarded just over £1 million to upgrade the National Cycle Network along the coast of Roker, subject to the outcome of successful consultation. It is hoped this development will later be rolled out further into the city. Furthermore, we are also developing plans for a new pedestrian and cycle bridge at Riverside Sunderland, connecting the city centre to the northern side of the city. This will encourage active transport.
Development of sustainable transport sector	All businesses and developers in the city are required to have a sustainable travel plan linked to planning applications.
Development of sustainable construction/real estate sector	Sunderland has a Sustainable Design and Construction Policy (BH2) as part of the Core Strategy and Development Plan for the city. This ensures that sustainable construction is integral to development and, where possible, major development should: 1. Maximise energy efficiency and integrate the use of renewable and low carbon energy. 2. Reduce waste and promote recycling during construction and in operation. 3. Conserve water resources and minimise vulnerability to flooding. 4. Provide details of the type of materials to be used at the appropriate stage of development. 5. Provide flexibility and adaptability, where appropriate, allowing future modification of use or layout, facilitating future refurbishment and retrofitting. 6. Include opportunities to incorporate measures which enhance the biodiversity value of development, such as green roofs. 7. Include a sustainability statement setting out how the development incorporates sustainable resource management and high environmental standards. 8. Maintain an appropriate buffer between sensitive development and existing wastewater treatment works to ensure amenity and operational continuity, in accordance with Government Code of Practice guidance.
Development of sustainable construction/real estate sector	The Riverside Sunderland project aims to regenerate vacant, derelict and under-utilised industrial land to deliver a new residential community, a thriving business district and a focal point for civic, commercial and community life within a highly sustainable location. The Riverside Sunderland SPD was developed by the Council in 2020, linking closely to the City's emerging Low Carbon Framework. The SPD seeks to guide development on Riverside to achieve carbon neutrality and climate change resilience by: creating energy-efficient offices and public buildings; delivering energy-efficient homes built using modern methods of construction;

	encouraging active travel and use of public transport; reducing car dependency; providing charging points for electric vehicles; promoting renewable energy and energy storage; introducing green roofs and green walls wherever practicable; and implementing sustainable urban drainage solutions. Planning approvals for developments within Riverside Sunderland have addressed the SPD requirements and incorporated low carbon solutions, for example a multi-storey car park featuring green walls. Planning permission has also been granted for 132 residential units with cafes, retail and a community allotment on the Vaux site and a Future Living Expo will be held in 2023 to showcase the low carbon credentials of the site.
Development of sustainable construction/real estate sector	Vaux Housing will be a sustainable new residential community delivering exemplar carbon reduction, renewable energy, SUDS and biodiversity standards. A fabric first approach to materials and components will ensure high levels of natural light and ventilation, insulation and airtightness reducing overall energy demand. A smart energy network comprising photovoltaics, air source heat pumps, battery storage will maximise energy from renewable resources and ensure distribution and consumption is carefully coordinated with supply and demand to minimise waste. Materials and components will be locally sourced and will be selected on the basis of their carbon performance in manufacture, construction and operation, and the ability for future recycling and re-use. The development will prioritise sustainable transport solutions to maximise active travel and air quality standards. The development is targeting a number of accreditations including Future Homes Standard 2025, Passivhaus for one of the residential blocks, RIBA 2025 Embodied Carbon target, Home Quality Mark 4 Star rating and Building Nature 'Excellent' standard.
Development of sustainable construction/real estate sector	Riverside Sunderland will be a demonstrator site for research and innovation work being led by Sunderland College and Northumbria University in the fields of modern methods of construction (MMC) and advanced manufacturing. Whilst there are many pilot projects using MMC across the region and the wider UK, there are limited examples of it being undertaken at scale. Riverside Sunderland provides a unique opportunity to deliver MMC at scale; there are few opportunities to deliver 1,000 units, and none known to be within city centre environments. Riverside Sunderland therefore also supports growth of the regional supply chain in the MMC sector. In addition, the scheme will provide education and training opportunities through the proposed Housing Innovation Construction Skills Academy (HICSA), linking to Research & Development and ensuring the skills of the region meet the future needs of industry.
Development of local/sustainable food businesses	Sunderland Partnership operate the Connect Communities Project, which supports the cohesion of communities through community engagement and especially looks to support vulnerable people. As part of Connect Communities in Sunderland, the Common Ground Project is also being implemented, which brings together people through gardening and healthy eating. Through Common Ground, the number of

	allotments in the city will be increased and food miles will be reduced, saving CO2 emissions. Several partners are involved in the Common Ground Project, one of which is Forage. This non-profit charity collects surplus food through the Common Ground project from the likes of supermarkets, restaurants and other food businesses and donates this food to vulnerable residents. This saves food waste from going to landfill and increases health and wellbeing. Finally, Sunderland's five neighbourhood investment plans include the aim to increase healthy, sustainable food consumption.
Increased opportunities for investment in infrastructure projects	Sunderland has an Infrastructure Development Plan (available at https://www.sunderland.gov.uk/media/20388/Publication-Draft-Infrastructure-Delivery-Plan-2017-/pdf/66_Publication_Draft_Infrastructure_Delivery_Plan_2018.pdf?m=636644851765170000) which aims to significantly develop physical, social and environmental infrastructure across the city. The Infrastructure Development Plan is informed by Policy SP1 (Spatial Strategy) within Sunderland's Core Strategy and Development Plan, which aims to support sustainable economic growth, working with communities, partners, and stakeholders to: 1. Deliver 13,410 new homes and create sustainable mixed communities supported by adequate infrastructure. 2. Create 7,200 new jobs, particularly in key growth sectors 3. Develop 95ha of employment land 4. Deliver 45,000m2 new comparison retail development 5. Ensure that sufficient physical, social and environmental infrastructure is delivered to meet the needs of the city. The Spatial Strategy and Infrastructure Development Plan seeks to deliver this growth and sustainable patterns of development by: 1. Supporting the sustainability of existing communities through the growth and regeneration of Sunderland's sub areas. 2. Delivering the majority of development in existing urban area. 3. Emphasising the need to develop in sustainable locations in close proximity to transport hubs. 4. Delivering the right homes in the right locations through the allocation of homes in the Allocations and Designations Plan and amending the Green Belt boundary to allocate Housing Growth Areas. 5. Protecting Sunderland's character and environmental assets including settlement breaks, greenspaces, open countryside and Green Belt 6. Minimising and mitigating the likely effects of climate change. Sunderland Council is currently taking forward investment in infrastructure projects linked to active travel including the new pedestrian and cycle bridge planned for

	Riverside Sunderland and enhancements to the National Cycle Network as well as the new Household Waste and Recycling Centre at Pallion all referenced earlier.
Increase opportunities for trade (nationally or internationally)	Workcast is one of three businesses in Sunderland that hold the Queen's Award for Enterprise in Innovation. Workcast provides a software platform enabling clients to host online events. As Covid-19 has accelerated digital adoption within the business community, it is expected that opportunities for the city's digital businesses such as Workcast to trade – and enable businesses in other sectors to trade - nationally and internationally with a reduced requirement to travel will continue to grow. Software and digital is one of the city's three key sectors (alongside automotive & advanced manufacturing, and financial & customer services) so this represents a significant opportunity. 31,200 Nissan all-electric Leaf units were produced at the Sunderland plant for the European market (including UK) in 2020 and it is estimated that approximately 70% of the plant's output of all models from Sunderland go overseas. Decarbonisation of transport is a well-recognised priority nationally and beyond to support carbon reduction, so this is expected to remain an opportunity for the city in terms of trading nationally and internationally. Electrification of advanced manufacturing more broadly will also create opportunities for city businesses such as Hyperdrive Innovation which serves customers elsewhere in the UK and overseas. As mentioned in question 6.0 'Development of energy efficiency measures and technologies', Sunderland City Council is also collaborating with the national Digital Catapult to launch a £10,000 Carbon Neutral Challenge and reduce CO2 emissions across the city. The challenge invites innovative SMEs from across the UK to develop solutions to reduce energy consumption and carbon emissions across the locality through real-time data analysis. The Port of Sunderland sees many vessels heading for countries around the North and Baltic seas, and has played a key role in keeping Sunderland internationally connected during the pandemic and sustaining several of the UK's key sectors and supply chains including offshore survey, construction and agriculture.
Additional funding opportunities	Sunderland City Council looks to scan the horizon for future funding opportunities at a local, regional, national, and international level, and has a pipeline priority list for projects. The idea behind this pipeline is that it is clear across the council for each of our emerging priorities, how we can maximise these future funding opportunities. Over the last five years, a range of opportunities have become available under the low carbon agenda, particularly within the European Structural Investment Fund Programme (ESIF), which runs between 2014-2023 and has a dedicated low carbon priority. A range of low carbon projects have been successful in securing funding through ESIF, including a sustainable energy storage and efficiency project, a project to build up EV charging infrastructure, and development of a housing smart

	energy grid at the Vaux site in Sunderland. This is in addition to the BREEZ and BEST projects covered elsewhere which are funded through ESIF to support businesses with energy efficiency. The Government is currently developing a replacement for ESIF by 2023, and the UK Shared Prosperity Fund will likely come on stream in April 2022, with the new framework set to be launched later in 2021. It is expected that this funding stream will also have a low carbon priority. In addition to ESIF, Sunderland City Council have also accessed other funding sources with relation to climate change mitigation and adaptation. Most recently this includes announcement of the NE Community Forest which includes Sunderland alongside five other NE local authority area. As part of its horizon scanning Sunderland City Council has identified several funding programmes which it is monitoring closely to enable low carbon projects to be taken forward. These include: • Carbon emissions Reduction / Energy Redress Scheme • Tyne & Wear Queen's Green Canopy Project • Woodland Creation Planning Grants • England Woodland Creation Offer • Woodland Management Grants • Tree Production Innovation Fund • Sustainable Warmth Competition • Social Housing Decarbonisation Fund • Local Authority Delivery Fund 3 • Home Upgrade Grant Phase 1
Increase opportunities for partnerships	Sunderland has a partnership board known as the '2030 Shadow Board' with representatives from key organisations across the city. It is chaired by the Council's leader and includes the local NHS Foundation Trust, the University of Sunderland, Sunderland College (Education Partnership North East) and the North East England Chambers of Commerce as well as cross-party Elected Member representation from each Group on the City Council. Shadow Board partners work collectively to drive Sunderland's commitment to tackling climate change. Sunderland's Low Carbon Framework is a collective partnership framework prepared by the 2030 Shadow Board, to facilitate effective collaboration to achieve our collective vision and objectives, and demonstrate the city's commitment to reducing its carbon impact. The partnership meets quarterly to ensure that best practice is shared, that duplication is avoided, and that resource efficiency, joint working and impact are maximised. As well as taking collective actions each partner is developing their own Low Carbon action plan and carrying out initiatives to enable the city to reach its low carbon goals. The Low Carbon Framework is underpinned by these individual partner

	Action Plans. Earlier this year, proposals were approved by partners across the city to set up Sunderland's Young People's Advisory Group (YPAG) which will bring together children and young people from all areas of the city from primary school age up to university postgraduates. Climate Change was voted the most important issue by Sunderland's young people at the Young People's State of the City debate (November 2019 - over 10,000 votes) and it is vital that the youth voice is part of the conversations in planning sustainable futures in the city. The YPAG will bring together young people from primary, special and secondary schools alongside reps from Sunderland Youth Council, young people's minority forums, detached youth work settings, Sunderland College, and the University of Sunderland to provide a forum where young people's opinions on this pressing matter can be heard. The group will be developed by young people and be inclusive and members will be supported to meet and discuss the city's plans and to feed into these. They will feed into the 2030 Shadow Board.
Increase opportunities for partnerships	The city has benefitted from engagement in international partnerships for many years. Sunderland has formal partnerships with several other cities internationally and has added strands of activity which focus on climate change mitigation to these relationships. Sunderland's partnership with Essen, for example, has included good practice sharing through visits and virtual communication with their European Green Capital team (they held the title in 2017 and continue to work on this priority) and newly created opportunities to learn from Essen's French twin town (Grenoble) who has been announced as a future EGC recipient. Sunderland also partnered with Essen to successfully seek funding from North Rhine Westphalia to work on the 'CLIMATE' (Citizens' Low-carbon Innovations for Mutual Action in Twin-cities) project around tackling climate change with two lines of activity – one for policy makers in the two cities and one for young people from Sunderland College and Sunderland Youth Council to work with German counterparts (the visits this year have been deferred to 2022 due to COVID-19). Sunderland's partnership with Saint-Nazaire in France has enabled conversations between renewable/non-Carbon economic development agencies and energy business clusters and seen groups of young people collaborate on projects on themes including Sustainable Transport and Biodiversity and ecology. We also learnt from our sister city Washington D.C. while drafting our citywide Low Carbon Framework and the City Council's Action Plan, learning from their Sustainability 2.0 strategy. In addition to the above, Sunderland benefits from being a member of the EUROCITIES network and in particular, through participating in its Environment Forum (and Working Groups including on Climate Change and Energy Efficiency; Air Quality; Green Areas and Biodiversity among others). Sunderland has recently been selected to participate in the EU-funded Covenant of Mayors Peer Learning programme and matched as an 'expert' with two other authorities (in Italy and Spain) which should involve visits of international cities to Sunderland to share good

	practice on tackling climate change through partnership approaches.
Improved flood risk mitigation	A Strategic Flood Risk Assessment (SFRA) is undertaken regularly for Sunderland, to identify current and future flood risks in the city. In addition to this, a Local Flood Risk Management Strategy (LFRMS) was first published in 2016 and is updated every 5-6 years. Strategic Priority 9 of Sunderland's Core Strategy and Development Plan 2015-2033 has the goal of adapting to and minimising the impact of climate change by reducing carbon emissions, maximising the use of low carbon energy solutions, and seeking to reduce the risk/impact of flooding. Policies WWE2 (Flood risk and coastal management) and WWE3 (Water management) aim to reduce flood risk and implement sustainable coastal management. As part of adapting to climate change, development is also required to achieve a high quality of design (Policy BH1 – Design Quality); and where possible integrate sustainable design and construction (Policy BH2 – Sustainable Design and Construction). Policy NE1 (Green and Blue Infrastructure) also states development should apply climate change mitigation and adaptation measures, including flood risk and watercourse management. The SFRA, LFRMS, and the policies existing in the Core Strategy and Development Plan will help to reduce the vulnerability of people in the city, as well as reduce economic costs.
Increased water security	The Northumbrian Water Resources Management Plan 2021-2025 aims to reduce leakage by 15% between 2020 and 2025, and a further 10% over each subsequent 5-year periods through to 2045. In addition, the WRMP aims to annually reduce per capita water consumption by 0.12l/head/day (0.33 Ml/day) by delivering water efficiency activities. This will not only improve water resource efficiency and security but will also save both the company and residents money. Northumbrian Water recently received a four-star rating (highest possible) on an Environmental Performance Assessment for 2020 by the Environment Agency. Building on this, Northumbrian Water aim to build on this achievement and have more than £700 million of investment planned in their current Business Plan period 2020-2025. Northumbrian Water launched their 'Improving the Water Environment' scheme, where Northumbrian Water will help to deliver improvements to water quality among other areas. These targets include but are not specific to Sunderland; they relate to the wider region aligned to the geographic remit of Northumbrian Water.
Increased energy security	In-line with Strategic Priority 5 'Renewable Energy Generation and Storage' of Sunderland's Low Carbon Framework and the City Council's. Low Carbon Action Plan, Sunderland City Council are aiming to develop a strategic heat network within the City Centre. In addition to this, Sunderland City Council are also exploring the

	concept of creating local micro-grid energy networks and generation at Riverside Sunderland and North East Washington. Finally, in-line with Policy SP12 (Allocations and Designations Development Strategy) within Sunderland's Allocation and Designations Plan (available at https://www.sunderland.gov.uk/media/22878/AD-01-Allocations-and-Designations-Plan-2020/pdf/AD.01_Allocations_and_Designations_Plan_20201.pdf?m=637435558267800000) Sunderland City Council has identified suitable sites for wind energy development to support a move to a low carbon future. Initial consultation will inform a proposal to allocate sites in the next stage of development of the Allocations and Designations Plan. This will reduce reliance on the central grid, improve local energy security, and contribute to the improvement of national energy security.
Development of climate change resiliency projects	Climate change is a growing threat to business continuity in Sunderland and across the globe. The Council must build its resilience to severe weather impacts and prepare for climate change in order to minimise disruption or costs associated with damage to properties, declining productivity, illness and accidents, changes to prices or availability of raw materials, changes in the availability and cost of insurance and impact on global supply chains. This commitment is outlined within the council's Business Continuity and Strategic Framework which is aligned to the City Plan. The city is in the process of implementing new projects through the Flood and Coastal Erosion Risk Management funding. Some of these projects are required to include consideration for climate change. This is improving the resilience of our infrastructure to climate change. Strategic priority 2 ''Policies and Operational Practices'' of Sunderland's Low Carbon Framework and the City Council's Low Carbon Action Plan aims to adapt the policies and operational practices of the city's organisations to embrace and support carbon initiatives, including climate resilience. As mentioned in section 1, Sunderland's Green Infrastructure Strategy and Green Infrastructure Action Plan aim to protect a range of district and inter-green Infrastructure Corridors and assets which provide multiple benefits to people and wildlife throughout the city. Finally, several policies within Sunderland's Core Strategy and Development Plan 2015-2033 aim to protect and enhance ecology. In collaboration with Durham Wildlife Trust and other neighbouring authorities, Sunderland are involved in the Durham Healing Nature Project. As part of this project, ten project sites which are Local Wildlife Sites within the Sunderland area focus on habitat improvement for wildlife and encouraging connections between people and nature.
Increased food security	Sunderland City Council has recently become the first local authority caterer to achieve the Soil Association's Green Kitchen Standard. This award recognises the city council's commitment to sustainability and good environmental practice in

	schools. This certification also follows a 'Food for Life Served Here' Bronze Award, also awarded by the soil association. Together for Children, which delivers services for children on behalf of Sunderland City Council and which is one of the partners on the 2030 Shadow Board, has worked through its change council to develop a programme of starter hampers, with a cookbook with simple recipes to support care experienced young people to make healthy and cost-effective meals and live independently. Recent developments envisaged through the Riverside Sunderland Masterplan aim to promote a zero waste and sharing economy through growing more food and composting organic food waste on site. These developments will be brought forward as Riverside Sunderland is developed. Since the beginning of the COVID-19 pandemic, food banks across Sunderland have provided an essential service to those most vulnerable. Recently, Sunderland City Council and Sunderland Clinical Commissioning Group have also launched the 'Creating Resilience within Sunderland Communities' appeal, which aims to raise a total of £30,000, with half of this total provided through match-funding. This money will not only be used to deliver food and supplies in the short term but will also help to provide wrap around services to bring the most vulnerable residents out of crisis in the longer term. The Council utilised the Covid-19 grant to fund supermarket vouchers for free school meal (FSM) families during the school holiday periods (increasing from £15 to £20) up to and including the May 21 half-term holidays. On an ongoing basis since September 20 the school meals service has provided food parcels for FSM families self-isolating due to Covid-19. As part of the Holiday Activity and Food programme piloted at targeted FSM families over Easter 21, the Council's school meals service packaged non-perishable food parcels. This was supplemented by recipe cards cooking sessions delivered on Freeview and You Tube to build knowledge and skills. By using the voucher scheme to buy fresh goods, the parcels enabled a family of 4 to have 4 meals.
Reduced risk to natural capital	Within Sunderland's Core Strategy and Development Plan 2015-2033, Policy NE4 (Greenspace) requires the council to protect, conserve and enhance the quality, community value, function and accessibility of greenspace and wider green infrastructure, especially in areas of deficiency identified in the council's Greenspace Audit and Report by: • Designating greenspaces in the Allocations & Designations Plan. • Requiring development to contribute towards the provision of new and/or enhanced greenspace where there is an evidenced requirement. • Requiring all major residential development to provide a minimum of 0.9ha per

	1000 bedspaces of useable greenspace on site, unless a financial contribution for the maintenance/upgrading to neighbouring existing greenspace is more appropriate. • Refusing development on greenspaces which would have an adverse effect on its amenity, recreational or nature conservation value. In addition to the above, Sunderland City Council is currently going through a consultation process to increase the number of local wildlife sites within the city, both extending boundaries and increasing the number of new sites. Sunderland has also recently been involved in several bids relating to natural capital. Sunderland submitted a joint bid with 5 other local authorities to DEFRA Nature for Climate Fund – Trees for Climate Programme for the creation of a North East Community Forest (NECF) which was announced as having been successful by the Government on 21 July. In addition, Sunderland submitted another joint bid with NECF partners to the Local Authority Treescapes Fund (LATF) – which is expected to focus on urban hardstanding tree planting.
Reduced risk to human health	Sunderland City Council and partners are working towards Sunderland becoming a carbon neutral city by 2040. Reducing our carbon emissions helps mitigate against potentially severe adverse effects of climate change, such as the increasing frequency and intensity of extreme weather events, and increased air pollution. Increasing the energy efficiency of housing across the city is also expected to reduce the cost of heating homes and therefore reduce levels of fuel poverty. This links to the earlier reference to Eco-flex in question 6.0 – 'Development of energy efficiency measures and technolgoies'. Climate action across Sunderland will also help to improve the physical and mental health of our residents and improve the environment. The implementation of our proposed 'North East Community Forest', as well as increasing other green infrastructure and nature-based solutions will reduce exposure to environmental toxins and improve physical and mental wellbeing, due to increased green space usage. Similarly, improving cycle infrastructure through the preparation of our Walking and Cycling Investment Plan will improve air quality, reducing the risk of diseases associated with air pollution and provide further health co-benefits such as reducing the risks obesity, diabetes, respiratory and cardiovascular disease.
Development of resource conservation and management	Detailed information has been provided in relation to energy, water, and food resource management elsewhere.
Improved efficiency of	Sunderland City Council are working to improve the efficiency of their municipal operations. It is expected that this will reduce carbon emissions, as well as energy consumption and associated costs.

municipal operations	Sunderland City Council was awarded £2.219 million through the Public Sector Decarbonisation Scheme (PSDS) for heat decarbonisation and energy efficiency measures to 8 Council operational buildings, to be completed by September 2021. This is expected to save 1,754MWh of energy and 375 tonnes of carbon annually. Sunderland City Council will be moving into a more energy efficient City Hall in October 2021. A more energy efficient workspace will deliver carbon, energy, and financial savings. In addition to the City Hall move, the Council is implementing agile working which will require staff to spend less time in the office and continue with increased working from home. This will reduce travel costs as well as greenhouse gas emissions associated with the travel. In the last few years, Sunderland City Council has increased the number of vehicles in the fleet which are EVs. In addition, the Council is working to create a new one-stop 'mobility hub', which promotes sustainable travel. This will initially be for council staff, although it is hoped this will be rolled out on a larger scale in the future.

Collaboration

(6.2) Does your city collaborate in partnership with businesses and/or industries in your city on sustainability projects?

Yes

(6.2a) Please provide some key examples of how your city collaborates with business and/or industries in the table below.

Collaboration area	Type of collaboration	Description of collaboration
Energy	Funding (grants)	Sunderland City Council delivers the Business Renewables Energy Efficiency Sunderland (BREEZ) project for Small and Medium-Sized Enterprises (SMEs). This involves installing cost-effective energy-efficiency improvements into business premises, with the main objective of enabling significant reductions in carbon emissions and energy consumption. This is done firstly by completing an initial BREEZ energy audit. This is then followed by upgrading old, inefficient systems with new, energy-efficiency measures that have been recommended in the audit. This includes micro-generation including, for example, solar photovoltaics. As a result of the BREEZ energy audit, SMEs may also qualify for 50% grant funding towards the cost of installing energy-efficiency upgrades. The average grant is usually between £2000-£8000, although the maximum grant is £25,000 for projects that meet significant, pre-agreed carbon reduction requirements. As of July 2021, 67 SMEs were actively engaged with BREEZ.

		In addition to the BREEZ project, Sunderland is also part of the Business Energy Saving Team (BEST). BEST is a project funded by the European Regional Development Fund (ERDF) and delivered by local authorities in North East England. The BEST team provide businesses with a full energy audit, designed to help identify ways to save energy, money, and carbon emissions. If businesses meet certain criteria the BEST team can also provide a grant to help cover costs. As of July 2021, 36 SMEs were actively engaged with BEST. Both BREEZ and BEST involve close cooperation between project staff from the Council and the wider Business Investment Team and businesses.
Transport (Mobility)	Capacity development	Sunderland City Council is working with Nexus and bus operators to improve bus service infrastructure, and bus services by low/zero carbon bus vehicles, real time information and integrated ticketing. Sunderland City Council is also working with neighbouring local authorities to enable cross boundary ticketing and Wi-Fi improvements, making the bus a more attractive choice. Sunderland City Council is also doing ongoing work in conjunction with North East Freight Network to develop and deliver a comprehensive clean freight strategy for road and rail for Sunderland. Policy ST4 within Sunderland's Draft Allocation and Designations Plan (available at https://www.sunderland.gov.uk/media/22878/AD-01-Allocations-and-Designations-Plan-2020/pdf/AD.01_Allocations_and_Designations_Plan_20201.pdf?m=637435558267800000) safeguards land at Washington North, Washington East, Ryhope and Doxford Park to support the future expansion of the Tyne & Wear Metro and rail network in the city.
Education	Collaborative initiative	Sunderland City Council has set up the 2030 Shadow Board with representatives from key organisations across the city, including the local NHS Foundation Trust, the University of Sunderland, Sunderland College (Education Partnership NE), North East England Chambers of Commerce (an independent business membership organisation representing over 3000 businesses in North East England), Sunderland Youth Council as well as cross-party Elected Member representation from each Group on the City Council. The 2030 Shadow Board's purpose is to work collectively to drive forward Sunderland's ambitions and commitment to tackling climate change. Each partner is now developing its own action plan and is actively carrying

		out low-carbon initiatives to help enable the city to reach its low carbon goals. The partnership meets on a quarterly basis and ensures that best practice is shared, and joint working is maximised. While the Young People's Advisory Group (YPAG) referred to earlier will initially be developed with significant input from Together for Children, the College and University, all partners on the 2030 Shadow Board committed to support its work and identify opportunities to engage young people through their own activity. This includes the NE England Chamber of Commerce. The city's Sunderland Business Partnership has also discussed the Low Carbon Framework and continues to consider on an ongoing basis ways in which it can help achieve the city-wide target of Sunderland being carbon neutral by 2040.
Education	Knowledge or data sharing	Within Sunderland's Low Carbon Framework, Strategic Priority 1 (Our Behaviour) seeks to engage with residents and organisations within Sunderland to encourage positive behaviour change and reduce individual carbon footprints. In-line with this, to improve engagement with businesses, Sunderland City Council has drawn up an engagement strategy as a working document to shape this activity and this includes a strand focused on engagement with businesses. This aims to understand awareness of climate change among city businesses, share reliable information and support available, understand barriers, signpost, facilitate connections between groups of businesses and stimulate the growth of a green economy. A wide variety of approaches will be used to achieve these aims with close integration with the day to day work of the Council's Business Investment Team and economic development partners across the city. Initial stages of this have included a business survey which was carried out to build understanding of levels of knowledge and awareness, existing activity, challenges and opportunities as well as to inform future engagement campaigns.
Energy	Economic development	Sunderland is seeking to facilitate investment in innovation and production linked to electrification of advanced manufacturing, reflecting the city's key role in EV production and battery manufacturing, as well as its role to date working with businesses as well as partners in the region including Newcastle University and the North East Automotive Alliance which has resulted in the Driving the Electric Revolution (DER) NE Centre being located in Sunderland adjacent to Nissan and the International Advanced Manufacturing Park. The 'Driving the Electric Revolution North East' Centre in Sunderland is one of four across the UK, which are part of a large-scale Government-backed programme run by a consortium led by Newcastle University. It is specifically intended to facilitate projects in the field of Power Electronics, Machines & Drives and enable the UK to capture part of the significant

		global market opportunity which electrification represents The DER centre (NE) is intended to provide open access facilities, combining state-of-the-art equipment with expertise in innovation and production, enabling activities such as prototyping and scale-up. The International Advanced Manufacturing Park (IAMP) is designated as a nationally significant infrastructure project which creates significant scope for large-scale production of new environmental technologies that are being developed in the area. IAMP is being brought forward by Sunderland City Council and South Tyneside Council, with developer Henry Boot. On 1 July 2021 Envision AESC announced that they will be building their second gigaplant on IAMP with 9GWh of production capability which will create 700 jobs and safeguard a further 300 jobs. This was part of a wider announcement by Nissan regarding the creation of Nissan 36Zero in Sunderland. This inward investment announcement which will increase the city and region's green economy and support decarbonisation of transport followed significant co-operation between the local authority and both Nissan and Envision AESC as well as central government.
Building and Infrastructure	Project delivery - Public Private Partnership	Sunderland Council and College (Education Partnership North East) are working closely with industry to develop the Housing Innovation Construction Skills Academy (HICSA) at Riverside Sunderland which will provide education and training opportunities, linking to Research & Development to ensure the skills of the region meet the future needs of industry. The partnership includes close cooperation with Sunderland-born architect George Clarke's Ministry of Building Innovation and Education (MOBIE). This will support the goal of Sunderland becoming carbon neutral as a city by 2040, training local people to deliver decarbonisation programmes for the city's existing homes and neighbourhoods that will improve energy efficiency, reduce carbon footprint and keep residents warm in winter months, and lead the way with training in Modern Methods of Construction (MMC).
Water	Knowledge or data sharing	With relation to water, and in particular flood risk management, Sunderland City Council collaborate on engineering and consulting procurement, project implementation and management, funding (grants), as well as policy and regulation consultation. For example: • Sunderland City Council procure specialist consultants through NEPO and other frameworks. • Sunderland City Council work with Northumbrian Water as part of the Northumbrian Integrated Drainage Partnership (NIDP) to identify key improvements and schemes.

		• Northumbrian Regional Flood and Coastal Committee (RFCC) includes the Environment Agency and 7 North Eastern Local Authorities. • Sunderland City Council forms part of the Association of Sustainable Drainage Authorities

Finance and Economic Opportunities

(6.5) List any mitigation, adaptation, water related or resilience projects you have planned within your city for which you hope to attract financing and provide details on the estimated costs and status of the project. If your city does not have any relevant projects, please select 'No relevant projects' under 'Project Area'.

Project area
Renewable energy

Project title
Mine water Heating Network

Stage of project development
Project structuring

Status of financing
Project partially funded and seeking additional funding

Financing model identified
Yes

Identified financing model description
A pre-application bid has been submitted to the BEIS Heat Network Investment Project (HNIP) – which supports the commercialisation and construction of heat networks.

There is also the potential to bid for the Green Network Fund Transition Scheme which supports the commercialisation of low-carbon heat network projects so that they are construction-ready in time to apply to the GHNF full scheme when it opens for applications in the next financial year (April 2022 – March 2023).

Project description and attach project proposal
Sunderland City Council are looking to utilise mine water Heating opportunities for the city centre.

CabinetReportJul21-SunderlandHeatNetwork.pdf

Total cost of project
43,000,000

Total investment cost needed

23,000,000

Project area

Water management

Project title

Flood and Coastal Erosion Risk Management

Stage of project development

Pre-feasibility/impact assessment

Status of financing

Project not funded and seeking full funding

Financing model identified

Yes

Identified financing model description

Environment Agency Flood and Coastal Erosion Risk Management funding in addition to local level funding.

Project description and attach project proposal

Sunderland City Council have proposed schemes for flood reduction to be funded by the Regional Medium-Term Plan. It is predicted that £2-3 million will be spent on flood defence schemes from 2021-2022. It is hoped, subject to funding, that schemes will go ahead at Jack Crawford House and Pallion among others. A project proposal is not available, as this project consists of numerous individual projects.

Total cost of project

2,500,000

Total investment cost needed

2,500,000

Project area

Other, please specify

Green Infrastructure

Project title

North East Community Forest

Stage of project development

Project structuring

Status of financing

Project partially funded and seeking additional funding

Financing model identified

Yes

Identified financing model description

As referred to in section 5, Sunderland City Council and partners (the Woodland Trust, the Forestry Commission as well as the other 6 North Eastern Local Authorities), recently submitted a successful bid to England Community Forests and DEFRA to become a prospective community forest. The North East Community Forest partnership will plant 500 hectares deliverable by 2025.

The main funding source between 2021-25 is expected to be Trees for Climate DEFRA funding. If Sunderland delivers 45 hectares of woodland in this time frame, then it is estimated that £765,000 funding will be unlocked. Further funding sources are expected to be unlocked and this is expected to become a multi-million-pound project over its lifetime.

Partners are committed to developing a sustainable long-term funding model that can deliver the 30-year NECF vision, including a review of the ongoing commitment to core funding from the six involved local authorities. This should ensure a steady income stream of revenue funding, which will allow the Forest Team to secure funding from a wide range of other sources.

Project description and attach project proposal

Successful joint bid by 6 North-East England Local Authorities for the creation of a North East Community Forest (NECF). Further funding will be required.

North East Community Forest Bid EOI Submission 26.02.pdf

Total cost of project

765,000

Total investment cost needed

Project area

Other, please specify

Green Infrastructure

Project title

Local Authority Treescapes Fund

Stage of project development

Project structuring

Status of financing

Project not funded and seeking full funding

Financing model identified

Yes

Identified financing model description

Local Authority Treescapes Fund

Project description and attach project proposal

A joint £270,000 bid was submitted by the NECF partners (Sunderland would receive £45,000), focussing on highway tree planting.

LATF_Application_form_2122_FINAL_FOR_PDF.pdf

Total cost of project

270,000

Total investment cost needed

270,000

Project area

Buildings

Project title

Local Infrastructure Development

Stage of project development

Project structuring

Status of financing

Project partially funded and seeking additional funding

Financing model identified

Yes

Identified financing model description

Government Funding: UK Levelling Up Fund Round 1.

Project description and attach project proposal

Fund will invest in infrastructure to support town centre and high street regeneration, local transport projects and cultural and heritage assets. Sunderland City Council has

submitted a ‘package bid’ on the 18th June to develop the city centres housing ecosystem. Three projects form part of the package, as follows:
1. Housing innovation and construction skills academy (Hicsa) – New skills and education facility developed in partnership with Sunderland College and MOBIE with an emphasis on low carbon and modern methods of construction (MMC).
2. Vaux Housing Infrastructure and Site Preparation to support the delivery of the first 132 housing units on the Vaux site. Exemplar housing development.
3. Sunniside Community Led Housing Scheme – seeking support to redevelop the brownfield site into an exemplar community housing scheme with shared gardens, community space and an arts hub.

LUF Overview Document.pdf

Total cost of project

82,000,000

Total investment cost needed

20,000,000

8. Energy

(8.0) Does your city have a renewable energy target?

Yes

(8.0a) Please provide details of your renewable energy target(s) and how the city plans to meet those targets.

Scale

Local government operations

Energy sector

All energy sectors

Target type

Renewable energy consumed (percentage)

Base year

2018

Total renewable energy covered by target in base year (based on target type specified in column 3)

Percentage renewable energy of total energy in base year

Target year

2050

Total renewable energy covered by target in target year (based on target type specified in column 3)

Percentage renewable energy of total energy in target year

100

Percentage of target achieved

100

Comment

Sunderland City Council recognises the importance of renewable energy supply to reducing carbon emissions and the consequent threat of climate change. Due to this, we have signed the UK100 Pledge, committing us to 100% clean energy by 2050. We hope to have an estimate of percentage achieved in the future.

(8.1) Please indicate the source mix of electricity consumed in your city.

Electricity source

Coal

2

Gas

41

Oil

0

Nuclear

17

Hydro

2

Bioenergy (Biomass and Biofuels)

10

Wind

20

Geothermal

0

Solar (Photovoltaic and Thermal)

4

Waste to energy (excluding biomass component)

0

Other sources

4

Total - please ensure this equals 100%

100

Total electricity consumption (MWh)

325,000,000

Year data applies to

2019

What scale is the electricity mix data

National mix reported

Comment

We do not yet have this data available at a local-authority level. National data based on DUKES 2020 report.

DUKES_2020_dataset.xls

(8.1a) Please indicate the source mix of thermal energy (heating and cooling) consumed in your city.

Thermal energy consumption

Coal

6

Gas

75

Oil

1

Bioenergy (Biomass and Biofuel)

14

Geothermal

3

Solar (Thermal)

0

Waste to energy (excluding biomass component)

1

Other sources

0

Total (auto-calculated)

100

Total consumption (MWh)

361,161,110

Year data applies to

2019

What scale is the thermal energy mix data

National mix reported

Comment

We do not yet have this data available at a local-authority level. National data based on DUKES 2020 report.

DUKES_2020_dataset.xls

(8.2) For each type of renewable energy within the city boundary, please report the installed capacity (MW) and annual generation (MWh).

	Installed capacity (MW)	Annual generation (MWh)	Year data applies to	Comment
Solar PV	28.8	28,197	2019	Source: Department for Business, Energy, and Industrial Strategy Dataset: Renewable Electricity by Local Authority 2014 to 2019
Solar thermal				We do not have this data at a Local Authority level.
Hydro power				We do not have this data at a Local Authority level.
Wind	14.8	31,433	2019	Onshore only Source: Department for Business, Energy, and Industrial Strategy Dataset: Renewable Electricity by Local Authority 2014 to 2019
Bioenergy (Biomass and Biofuels)				We do not have this data at a Local Authority level.
Geothermal				We do not have this data at a Local Authority level.

Other, please specify	2	7,369	2019	Landfill Gas Source: Department for Business, Energy, and Industrial Strategy Dataset: Renewable Electricity by Local Authority 2014 to 2019

(8.3) Does your city have a target to increase energy efficiency?

Intending to undertake in the next 2 years

(8.4) Please report the following energy access related information for your city.

Energy access

Electrification ratio of the city

Average electricity consumption per commercial establishment (MWh/annum)

3.089

Average electricity consumption per residential household (MWh/annum)

Average unit price of electricity (Currency unit as specified in 0.4/MWh)

0.14

Percentage of electricity distributed, but not billed

Percentage of city population with access to clean cooking

Comment

(8.5) How many households within the municipal boundary face energy poverty? Please select the threshold used for energy poverty in your city.

Energy Poverty

Number of households within the city boundary that face energy poverty

19,290

Threshold used for energy poverty

Other, please specify

Comment

Fuel poverty in England is now measured using the Low Income Low Energy Efficiency (LILEE) indicator rather than the old Low Income High Costs (LIHC) indicator.
Under the LILEE indicator, a household is considered fuel poor if:
- They are living in a property with a fuel poverty energy efficiency rating of band D or below; and
- When they spend the required amount to heat their home, they are left with a residual income below the official poverty line.

10. Transport

(10.0) Do you have mode share information available to report for the following transport types?

Freight transport
Passenger transport

(10.1) What is the mode share of each transport mode in your city for passenger transport?

Please complete

Private motorized transport
68.2

Rail/Metro/Tram
2.1

Buses (including BRT)
12

Ferries/ River boats

Walking
8.8

Cycling
1.3

Taxis or shared vehicles (i.e. for hire vehicles)

Micro-Mobility

Other
6.1

Comment

Based on 2011 census data.

(10.2) What is the mode share of each transport mode in your city for freight transport?

	Mode share	Comment
Motorcycle/Two-wheeler		Unknown
Light Goods vehicles (LGV)	91.8	Based on 10,138 licensed vehicles in Sunderland (Department for Transport)
Medium Goods vehicles (MGV)		Unknown
Heavy Goods vehicles (HGV)	8.2	Based on 904 licensed vehicles in Sunderland (Department for Transport)
Rail		Unknown
In-land waterways		Unknown

(10.3) Please provide the total fleet size and number of vehicle types for the following modes of transport.

	Number of private cars	Number of buses	Number of municipal fleet (excluding buses)	Number of freight vehicles	Number of taxis	Transport Network Companies (e.g. Uber, Lyft) fleet size	Customer-drive carshares (e.g. Car2Go, Drivenow) fleet size	Comment
Total fleet size	114,749	1,238	376	11,042	659			Source – Department for Transport Not all requested data is reported at a Local Authority level.
Electric	309		22					Source – Department for Transport Not all requested data is

								reported at a Local Authority level.
Hybrid								Not all requested data is reported at a Local Authority level.
Plug in hybrid	174							Source – Department for Transport Not all requested data is reported at a Local Authority level.
Hydrogen								Not all requested data is reported at a Local Authority level.

(10.5) Does your city have a low or zero-emission zone or restrictions on high polluting vehicles that cover a significant part of the city? (i.e. that disincentivises fossil fuel vehicles through a charge, a ban or access restriction)

No

12. Food

Food Consumption

(12.0) Report the total number of meals that are annually served and/or sold through programs managed by your city (this includes schools, hospitals, shelters, public canteens, etc.).

Total meals served or sold through programs managed by your city

Number of meals

5,308,073

Cities facilities

Schools
Hospitals
Shelters
Public Canteens (City Hall, Parks, etc.)

Comment

The number of meals is an annual figure.
Schools = 2,090,000 meals per year / 709 tonnes (11,000 meals served per day equates to circa 2,090,000 meals / annum).
Public Canteens = 109,044 meals per year / 37 tonnes (Sunderland's new City Hall will open in October. This figure is an estimate on the basis that there will be 2,796 customers per week x 52 weeks = 145,392 customers / annum. It is assumed that 75% of customers are buying food, equating to 109,044 meals and 37 tonnes / annum).
Shelters = 2,190,000 meals / 743 tonnes (Based on roughly 2000 people in residential care).
Hospitals = 919,029 meals / 482.5 tonnes (For the period 1.04.2020 – 31.03.2021 there were 750,593 total patient meals and 168,436 staff/visitor meals. Based on an average of 525 grams per portion, across 3 meals per day, this equals 482.5 tonnes. These numbers are reduced due to COVID-19 with reduced hospital admissions due to the pausing of elective services for a period of time. The number of patient meals in 2019/20 were 1,043,196).
There are no prisons in Sunderland.

(12.1) What is the per capita meat and dairy consumption (kg/yr) in your city?

Meat consumption per capita (kg/year)

Kg/Year/Capita

Year data applies to

Is your city calculating emissions associated with this consumption?

No

Comment

Unknown.

Dairy consumption per capita (kg/year)

Kg/Year/Capita

Year data applies to

Is your city calculating emissions associated with this consumption?

No

Comment

Unknown.

Sustainable Food Policies and Actions

(12.3) Does your city have any policies relating to food consumption within your city? If so, please describe the expected outcome of the policy.

	Response	Please describe the expected outcome of the policy
Please complete	Yes	Sunderland's Low Carbon Framework and the City Council's Low Carbon Action Plan aim to expand local food networks and increase the availability of fresh and seasonal food, to reduce food poverty. The framework also aims to reduce food waste - saving money and reducing emissions. Strategic Priority 1 (Our Behaviour) aims to adapt the behaviour of residents to make sustainable food choices, reduce food waste, increase locally sourced foods, and avoid processed foods. Also, Strategic Priority 7 (Consumption and Waste) aims to reduce food miles, increase access to affordable healthy food and reduce packaging waste. As referenced in 1.0, Policy VC5 within the Council's Core Strategy and Development Plan aims to restrict the development of hot food takeaways. This policy aims to cause positive effects on resident's health and well being, as well as reducing noise complaints, disturbance, odours and litter. It is expected that the Healthy Weight strategic priority within the Healthy City Implementation Plan will help to reduce childhood obesity rates, improve health and well being, and increase healthy life expectancy. Plans are in place to implement a smart catering pre-order system for primary schools. The system will ensure children get their meal of choice and in doing so reduces food waste (other authorities where the system has been in use indicated a 6% reduction food waste). The Council's school meals service achieved the Green Kitchen Standard in July. This national certification developed by the Soil Association and Carbon Trust recognises caterers that undertake best practice to sustainably manage energy, water and waste. This includes several measures to reduce food waste: • Appropriate ordering, storage and stocktaking • Monitoring and measurement of all food waste • Analysis of pupil choices to ensure correct production of food • Meal portions not sold recorded on the Food Production Planner • Customer plate waste collected daily

		• All food waste weighed each day and recorded in Food Production Planners. The total weight of food waste across all sites is calculated every month so that progress towards food waste targets can be monitored • Separating of food waste from general waste in each school and placed in specific bins for collection and recycling • Analysis of food waste at individual sites helps to inform the menu development process

(12.4) How does your city increase access to sustainable foods?

Do you subsidise fresh fruits and vegetables?

Action implemented

No

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you tax/ban higher carbon foods (meat, dairy, ultra-processed)?

Action implemented

No

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you use regulatory mechanisms that limit advertising of higher carbon foods (meat, dairy, ultra-processed)?

Action implemented

No

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you use regulatory mechanisms that limit the sale of higher carbon foods (meat, dairy, ultra-processed)?

Action implemented

No

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you incentivise fresh fruit/vegetables vendor locations?

Action implemented

Yes

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Charities such as Forage, who have a base in Sunderland, redistribute food which would have otherwise gone to waste to vulnerable people.

Do you have programs/policies/regulations on food surplus - either food surplus recovery and redistribution, or food waste avoidance programs (i.e. Love Food/Hate Waste)?

Action implemented

Yes

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

13. Waste

(13.0) What is the annual solid waste generation in your city?

	Amount of solid waste generated (tonnes/year)	Year data applies to	Please describe the methodology used to calculate the annual solid waste generation in your city
Please complete	126,303	2019	This figure of 126,303 represents all local authority collected waste for the 2019-20 financial year. Of these 126,303 tonnes, 89% is domestic, and 11% non-domestic. Approximately 35,000 tonnes (28%) is sent for recycling, composting or reuse. These figures are taken from a national BEIS dataset for Local Authority Collected and Household Waste. The dataset is derived from WasteDataFlow, a web-based system for quarterly reporting on Local Authority collected waste data by local authorities to central Government.

14. Water Security

Water Supply

(14.0) What are the sources of your city's water supply?

Surface water, from sources located fully or partially within city boundary
Surface water, from sources outside the city boundary (by water transfer schemes)
Ground water

(14.1) What percentage of your city's population has access to potable water supply service?

100

(14.2) Are you aware of any substantive current or future risks to your city's water security?

No, please specify why

As part of their Water Resources Management Plan 2020-2025, Northumbrian Water forecast water availability in relation to demand, concluding that the Kielder Water Resource Zone (which includes Sunderland) has sufficient supply for the next 60 years.

Water Supply Management

(14.4) Does your city have a publicly available Water Resource Management strategy?

Yes

(14.4a) Please provide more information on your city's public Water Resource Management strategy.

Publication title and attach document

Northumbrian Water Final Water Resources Management Plan 2019

NW Final Water Resources Management Plan 2019.pdf

Year of adoption from local government

2019

Web link

https://www.nwg.co.uk/responsibility/environment/wrmp/current-wrmp-2015-2020/

Does this strategy include sanitation services?

Yes

Stage of implementation

Strategy in implementation

Submit your response

What language are you submitting your response in?

English

Please read and accept our Terms and Conditions

I have read and accept the Terms and Conditions

Please confirm how your response should be handled by CDP.

	Public or non-public submission
I am submitting my response	Publicly (recommended)