



Annual Climate Action Report 2023 - 2024

Building a Sustainable Future



Contents and scope

Page	
2	Contents and scope
3	Council emissions
4	Our council
6	City emissions
7	Our homes
8	Our businesses and economy
9	The way we travel
11	Energy generation and storage
12	What we buy, eat and throw away
13	How we use our land
14	Adapting to a changing climate
15	Next steps
16	Methodological notes
17	Appendix

Report scope

This 2nd Annual Climate Action Report for Sheffield City Council reports on the greenhouse gas emissions for Sheffield City Council for 2023 and for the Sheffield local authority area for 2022 (the most recent data available from Department for Energy Security and Net Zero). Comparisons are made with the UK Core Cities – this is an alliance of 11 of the UK’s largest cities (excluding London) who work together to maximise the potential of cities to achieve change for the UK on a variety of issues, including climate.

The report also provides highlight information about some of the activity and key achievements of the council and its partners and contractors across the main areas of work between September 2023 and December 2024. In the interests of brevity and prioritising action, the report is not comprehensive.

News and information about council achievements and opportunities, as well as opportunities and events from other Sheffield organisations, is available on the [council’s climate emergency webpages](#) and in the regular [Sustainability and Climate Change Newsletters](#).

Council emissions

Our progress to date

The latest council CO₂e emissions data shows that, excluding domestic, Sheffield City Council:

- produced 18,889 tCO₂e in 2023
- reduced annual emissions by 0.5% since 2022
- reduced emissions by 20.7% since 2019 baseline.

If we aimed to reduce emissions by approximately the same amount each year, we would need to achieve the following annual reductions to be net zero by 2030:

- Non-domestic 9.7%
- Fleet 12.6%
- Grey fleet 14.6%
- Streetlighting 9.9%

We are unable to report council domestic emissions as the council does not have access to tenants' bills to gather data.

Outcomes Measure SCC 0646

Target 95% reduction in council GHG emissions by 2030. Expected to be 80% reduction through direct council action, with remaining 15% accounted for through off-setting measures and LULUCF sequestration, potentially outside the city boundary.

Metric Carbon dioxide equivalent (CO₂e)

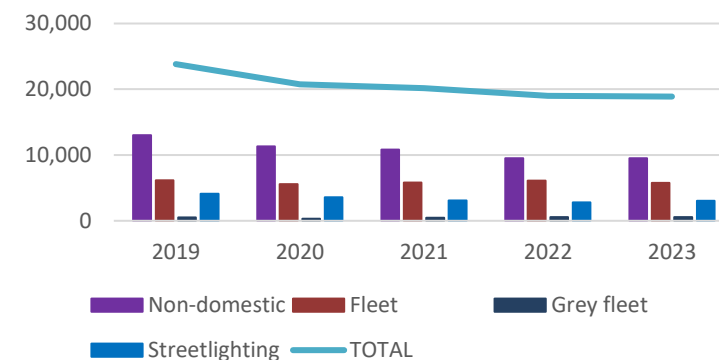
Baseline year 2019

Baseline emissions 23,826 tCO₂e

Current reporting period 2023

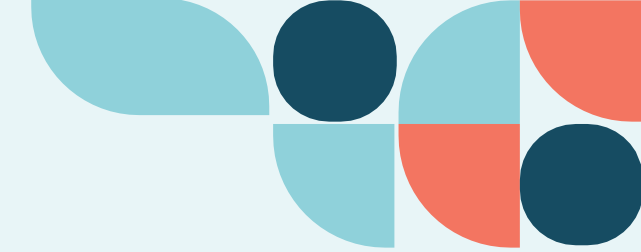
Data sources Utility consumption data
Fuel consumption data
Employee mileage claims

Sheffield City Council tCO₂e emissions



Year	Total (tCO ₂ e)	Annual change %	Baseline change %
2019	23,826	-	-
2020	20,765	-12.9%	-12.9%
2021	20,173	-2.9%	-15.3%
2022	18,981	-5.9%	-20.3%
2023	18,889	-0.5%	-20.7%

Our council – summary of progress



Facilities Management are continuing to pilot energy saving technologies, such as infrared heating panels, which will be monitored and rolled out to other areas if successful.

Feasibility and design work continues on 9 community buildings for LED lighting and solar PV installations with delivery commencing in early 2025, with a further 19 buildings identified for second tranche of projects.

LED lighting installation in Town Hall has completed, with estimated annual saving of 38 t/CO₂e, saving around £60,000 a year and resulting in improved working conditions for employees.

Procurement of green space services for the council now include carbon and environmental quality benefits, such as phasing out combustion engine ice-cream vans.

Since the 2019 baseline, the council's own greenhouse gas emissions have changed as follows:

- **Non-domestic emissions have decreased by 26.8%**
- **Fleet emissions have decreased by 6.8%**
- **Grey fleet emissions have increased by 7%**
- **Streetlighting and ancillary infrastructure emissions have decreased by 25.8%**

Non-domestic

There was a 0.07% increase in emissions from the non-domestic estate since 2022. Electricity consumption reduced by 15.6% during that time, but there was a 6.6% increase in the carbon intensity of grid supplied electricity in 2023.



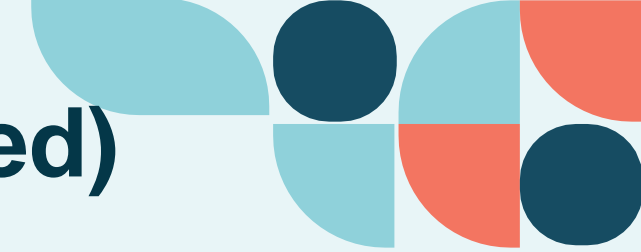
Lack of access to revenue finance to develop projects to a point that capital grant funding can be applied for or to attract private investment remains a barrier to progressing decarbonisation schemes across the council's non-domestic estate. Whilst there were welcome changes to this year's Round 4 of Public Sector Decarbonisation Scheme, projects still had to be designed and costed, which prohibited the submission of applications to connect some of our buildings to the heat network for some of the premises where boilers are nearing their end of life.

We're working on the upgrade and further rollout of Building Energy Management Systems to improve energy management across our estate.

Through the Local Renewable Energy Fund, nearly 30 of our community buildings have been identified for renewable energy generation and energy efficiency projects. These buildings mainly include schools and libraries whilst we await the outcome of the Accommodation Review to ensure we invest in our long-term accommodation needs. This funding is also being used to commission feasibility of renewable energy generation on council land, for which site selection is currently underway.



Our council (progress summary continued)



Fleet Services are developing their revised Fleet Strategy that will set out activity to move towards a decarbonised fleet by 2030.

Continuing to trial electric vehicles as they become available and trialling 15 vehicles on Hydrotreated Vegetable Oil (HVO).

We're currently developing our Ethical Procurement Policy, which sets out a clear commitment to address sustainability objectives through our procurement and supply chain activities. This is due to be adopted in Spring 2025.

An online training package has been developed and completed by at least 2122 officers and elected members across the council. This has resulted in positive action, including the development of climate learning resources for schools.

Fleet

Council fleet (council owned vehicles) emissions reduced by 5.7% during 2023 from the previous year, with Veolia's fleet emissions reducing by 16% during this time.

The emerging Fleet Strategy will set out a clear direction for fleet decarbonisation going forward. Currently, insufficient electricity capacity for charging infrastructure at depots is a barrier to replacement of fleet with electric vehicles. While a decision is still outstanding on the future depot accommodation, there are delays in securing investment for large-scale infrastructure requirements to upgrade the electricity supply. In the meantime, there have been trials in home charging for employees to take their electric fleet vehicle home to charge.



Four employees are now taking vehicles home to charge, with a further six planned to do so by the end of 2025.

Grey fleet (employee-owned vehicles used for council work) emissions have increased by 0.6% during the last year, though the data are not robust, as vehicle type and engine size aren't captured for all journeys. This means average emissions conversion factors are used for reporting, which may not reflect an increase in more efficient grey fleet vehicles.

Streetlight and ancillary infrastructure

Emissions from streetlighting and ancillary infrastructure increased by 8.7% over the past year. This is due to the increased carbon intensity of grid supplied electricity in 2023 plus installing new electric vehicle charging infrastructure. Most electricity savings resulted from dimming and part-night lighting in appropriate areas, plus installing LED lighting have now been delivered. Future savings will come from further decarbonisation of the grid.



City emissions

Our progress to date

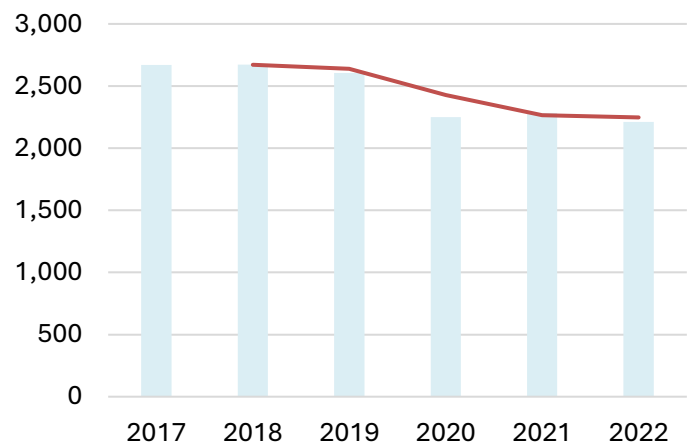
The latest greenhouse gas (CO₂e) emissions data from the Department of Energy Security and Net Zero (DESNZ) shows that Sheffield:

- produced 2,211 ktCO₂e in 2022
- reduced annual emissions by 3.2% since 2021 and 17.2% since 2017 baseline
- needs to reduce emissions by a further 62.8% to achieve an 85% reduction from baseline.

If we aimed reduce emissions by approximately the same amount each year, we would need to reduce emissions by approximately 276 ktCO₂e annually (10.4% per year against the 2017 baseline) in order to achieve net zero by 2030.

Sheffield has used 114% of its allocated carbon budget for the period 2018-2022, and 54% of the total budget to 2100. Further information is provided in the Appendix on page 17.

Sheffield Annual GHG Emissions
2017 – 2022 (ktCO₂e)



Year	Total (ktCO ₂ e)	Annual change %	Cumulative change %
2017	2,669.74	-	-
2018	2,672.78	0.1%	0.1%
2019	2,605.70	-2.5%	-2.4%
2020	2,248.68	-13.7%	-15.8%
2021	2,283.50	1.5%	-14.5%
2022	2,211.31	-3.2%	-17.2%

How Sheffield is performing compared with other places

Comparisons between places need to be considered with caution (in particular the geography and economy of a place have huge impacts on total emissions and on the pace and scale of change), but the total decrease for all local authority area emissions in 2022, was 5%. This is largely due to a reduction in fuel use to heat buildings. The reduction for all local authority areas since our 2017 baseline is 16% .

Sheffield has achieved the 3rd highest percentage emissions reduction of the 11 UK Core Cities between 2017 and 2022 (core city range -1.2% to -18.8%), and the 5th highest reduction since 2005 with a reduction of 49.3% (range -47.8% to -54.2%) but the third smallest percentage reduction between 2021 and 2022 (range -1.0% to -8.6%).

At 3.9 ktCO₂e emissions per capita, Sheffield has the 5th lowest emissions per capita of the UK Core Cities (other cities range from 3.3 to 4.7). This is unchanged since our 2017 baseline.

Our homes

Domestic emissions (2022)	Change vs baseline	Change vs 2021
653.17ktCO ₂ e	-18.7%	-14.8%

Percentage of homes with EPC rating C or better by tenure: Council 83.6%, Rented (social) 64.9%, Rented (private) 37.8%, Owner occupied 26.7%

Under Social Housing Decarbonisation Fund (SHDF) wave 3, aiming to fund 210 home retrofits from the £2.092m grant. With the Homes Upgrade Grant (HUG 2) aiming to fund 85 home retrofits at a value of £1.82m

455 signed ECO4 Flex declarations issued. Works completed on 236 properties, encompassing 589 measures, valued at £2.4m. The annual bills savings for completed homes is estimated to be £18.6m or £789.38 per property.

Emissions summary

Greenhouse gas emissions from Sheffield homes reduced by 14.8% between 2021 and 2022. This is a very high reduction compared with previous years and is third largest of the 11 UK Core Cities. However, the scale of the reduction in Sheffield (and nationally) largely reflects reduced energy consumption due to high fuel prices and cost of living challenges, as well as a slightly warmer winter, rather than improved energy efficiency at a comparable scale. Without further action, lower energy prices may well increase this number in the future.

Summary of progress

Expansion of the Housing Energy Efficiency Team and new partnerships is allowing for increased activity. We have successfully delivered a range of retrofit initiatives contributing toward energy efficiency and low carbon heating. This includes the continuing development of



the Warm Homes Sheffield offer, including the first in-person event providing energy advice and support from a range of organisations. A collaboration with National Energy Action (NEA) has established a retrofit hub in Sharrow. This supports residents through their 'retrofit journey' by providing advice and support, focusing on residents on low incomes and experiencing fuel poverty to prioritise support for those in greatest need.

Forthcoming opportunities and challenges

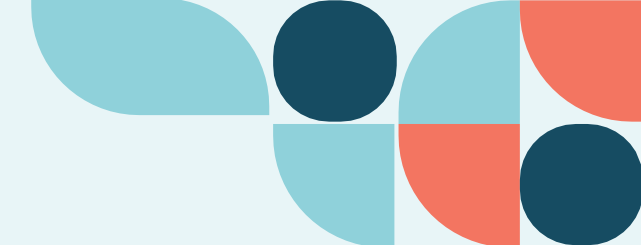
The council submitted two ambitious bids to the Department of Net Zero & Energy Security (DESNZ) under the Warm Homes schemes:

- £12.9m Local Grant for approximately 880 private sector homes
- £8.6m grant contribution toward a £14.2m project under the Social Housing Fund, targeting 1.899 homes for energy efficiency measures

Notification of successful bids is due early 2025.

Further planned work includes the development of a solar PV strategy for council homes and demonstrator projects for low-carbon technologies, including installing air-source and ground-source heat pumps, and exploring technologies such as infrared heating.

Business and economy



Industrial & Commercial (2022)	Change vs baseline	Change vs 2021
569.22 ktCO2e	-28.8%	-5.0%

The Low Carbon Project has provided support to 290 businesses in South Yorkshire, reducing emissions by around 1,535 tonnes of carbon and saving businesses almost £900,000 over the next year. The project has exceeded its targets for energy surveys and carbon reduction and is on track to achieve the target number of grants.

The Low Carbon Community and Culture Project has supported 91 community organisations in Sheffield, saving an estimated 275 tonnes of carbon and almost £400,000 over the next year.

In the top 1% of office buildings in the UK for energy efficiency, Elshaw House opened in the Heart of the City in January 2024.

Emissions summary

Emissions from the Industrial and Commercial sectors, covering all businesses except agriculture, reduced by 5% between 2021 and 2022. Sheffield is middle of the pack of 11 UK Core Cities for 2022 industrial and commercial emissions reductions, though emissions have reduced since 2017 more than any other UK core city. This is likely to be due to a combination of factors, such as converting to electric blast furnaces and a shift towards a more knowledge-based economy, but also potentially influenced by Sheffield’s economic performance in comparison to other core cities over the same period.

Sheffield City Council has a very limited role to play in reducing emissions from business and industry and the main drivers (and barriers) for most businesses are financial and national policy.

Progress summary

In addition to the low carbon projects, work is taking place to increase green skills with Opportunity Sheffield working closely with Sheffield College to develop green skills provision, to include locally delivered retrofit and sustainability courses and delivering a Building a Green Skills Workforce event during the summer of 2024.

Forthcoming opportunities and challenges

The business and economy decarbonisation routemap will be developed with the business sector during 2025. Some local businesses leading the way are keen to act as exemplars and support others, and there is the potential for challenge projects to support acceleration

The Shared Prosperity Fund (SPF, which funded the Low Carbon Project and Low Carbon Community and Culture Project amongst a number of other programmes) has come to an end. Replacement funding has been reduced for 2025 and the total SPF funding for South Yorkshire has reduced by 40%. We are exploring the potential for funding future short and longer term projects to support businesses.

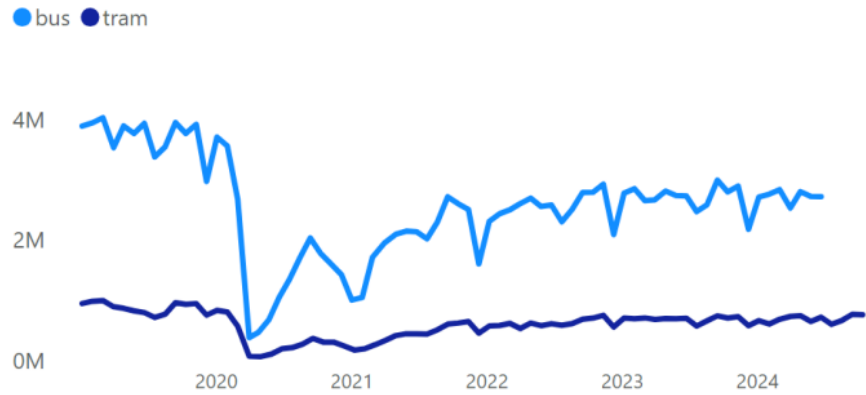
The South Yorkshire Investment Zone continues to provide future opportunities for very substantially growing the local green economy including renewable energy technologies as well as several other emerging low carbon activities such as reduced emissions from within the transport and construction sectors, nuclear energy, hydrogen energy, energy management, carbon capture and storage, carbon finance. We will continue to work to encourage proposals which support our ambitions to transition to a net zero economy.



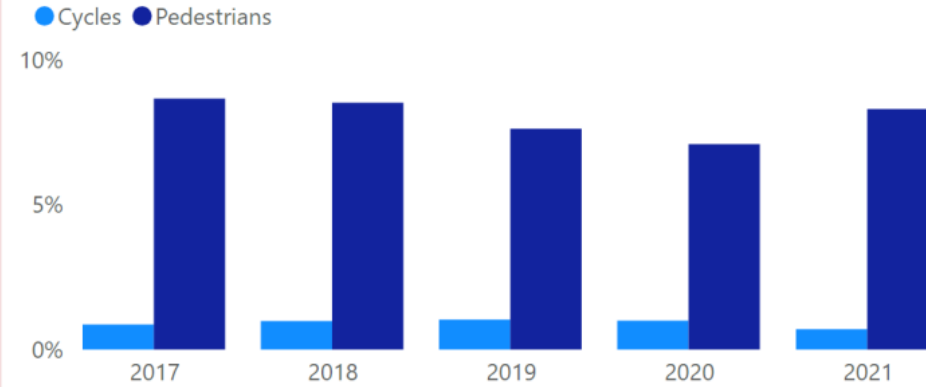
The way we travel



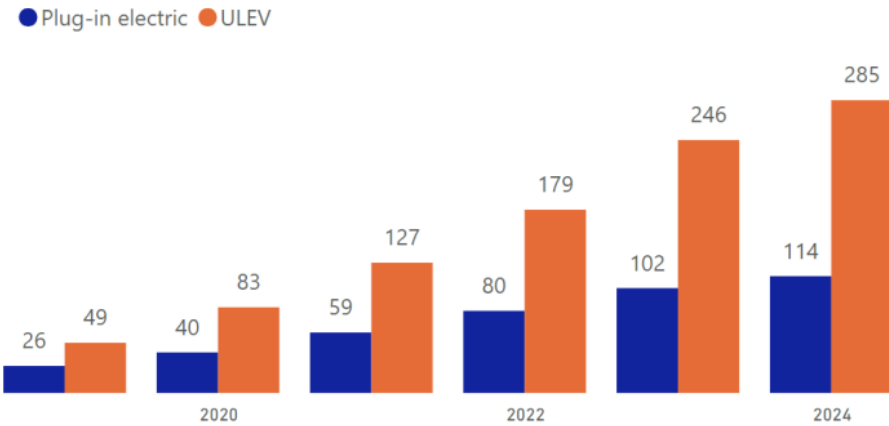
Public transport patronage - bus and tram
Higher is better



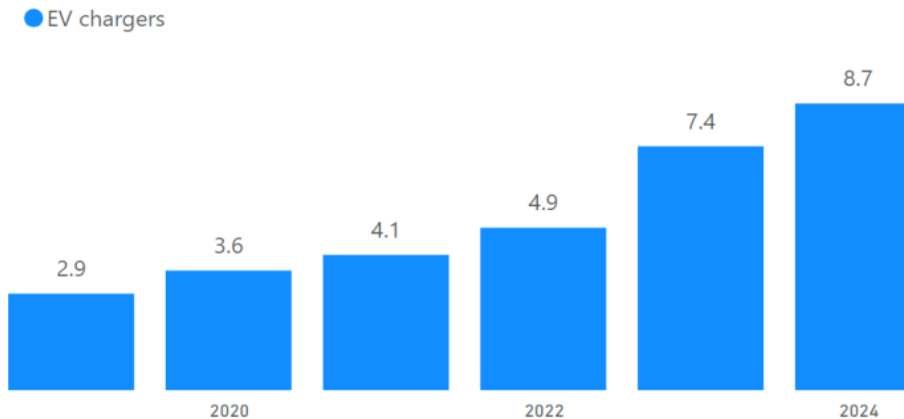
Proportion of journeys made on foot or by bicycle (modal share survey)
Higher is better



Rate of plug-in electric vehicles and Ultra Low Emission Vehicles per 100,000 people



Rate of electric vehicle chargers per 100,000 people



The way we travel

Transport emissions (2022)	Change vs baseline	Change vs 2021
661.39 ktCO2e	-16.78%	-0.2%

Sheffield Connect is a free city centre bus service operating two routes via four zero-emission electric buses, making travel around the city centre more accessible and less polluting.

We have completed Phase 1 of the City to Kelham/Neepsend active travel route, including introducing two new types of junctions to Sheffield giving priority to people cycling, walking and wheeling.

We have improved cycle storage with a new cycle hub at Charter Square in the city centre and cycle hangars for 48 bikes in residential areas. Funding is secured for further residential storage for 84 additional bikes, which will be delivered in 2025.

Emissions summary

Sheffield’s transport emissions reduced by 0.2% between 2021 and 2022. This is the third highest reduction in emissions of the UK Core Cities. Whilst there is some positive progress in transport improvements, as below, and this is consistent with the council’s ranking since 2017, it is likely that this year’s emissions levels may still be affected by post-COVID impacts.

Summary of progress

2024 has seen a wide range of progress across different areas.

The Sheffield Transport Vision sets out our transport priorities and delivery plans to 2035 and beyond, with the transport network to be safe, reliable, inclusive and low-carbon. A consultation has taken place on the developing City Centre Access and a Movement Plan. The South Yorkshire Mayoral Combined Authority (SYMCA) has brought the Supertram back into public ownership and launched a consultation on bus franchising.

As well as ongoing work to deliver a wide range of highway network improvement programmes, work continues to support more sustainable travel.

We have 12 permanent School Streets in place across Sheffield, and four schools are running long-term trials. 57 Sheffield schools are ModeshiftSTARS accredited, delivering a mix of active travel initiatives to reduce the number of cars on the school run. Our reward programme, BetterPoints, incentivises people to shift to more active and sustainable modes of transport, which now has over 16,000 registered users, with walking being the main mode recorded.

Looking ahead

The government has committed to continuing active travel funding, and the council and SYMCA will continue to work together to bring additional funding into the city, as well as to develop feasibility work, deliver on further programmes and develop our wayfinding strategy to improve signing.



Energy generation and storage

*2023 installed renewable capacity = 125MW
(14% increase from 2017)*

In November 2024, Sheffield was selected as one of DESNZ's first Advanced Zoning Programme cities. This will support Sheffield to construct zonal scale heat networks as quickly as possible.

In March 2024, the Council approved its Energy Generation and Storage Routemap, which sets out how the Council will deliver decarbonisation across the energy systems.

City centre heat network connections techno-economic feasibility for council buildings complete and funding secured to commence design work.

Progress summary

In March 2024, the Council approved its Energy Generation and Storage Routemap, setting out the strategic framework for actions to decarbonise the city's energy during 2023-2025. This includes how Sheffield will transition to a smart and decentralised clean energy system with the capacity to meet changing energy demands in the future by 2030.

Commissioning of providers to develop a Local Area Energy Plan (LAEP) for Sheffield is underway. LAEPs are proposed to be the leading method for translating Net Zero targets into local energy system action, creating plans that are collaborative, data-driven and cost-effective. The specification has been co-designed with National Wealth Fund and with city stakeholders and



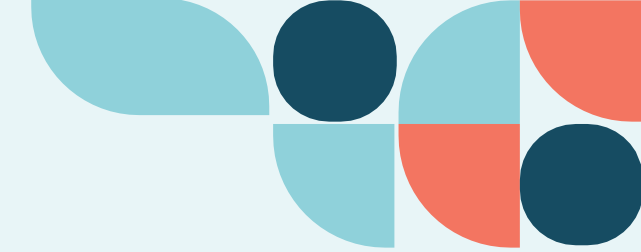
work will take place over the next 12 months.

Work has started to identify council-owned land for renewable energy and storage feasibility, and activity is also happening to support Sheffield's communities, including support provided to the Sheffield Community Energy launch event in March 2024.

Looking forward

Significant changes to energy policy have been made that support local and community-owned energy, and whilst the much detail is still unknown, the council will be seeking opportunities to develop and deliver energy schemes through Great British Energy, which has £8.3bn to invest across the country over 5 years to increase renewable energy generation and reduce costs. In addition, the Government have allocated £1bn annually for community and local energy projects, which - along with efforts to speed up grid connection processes - will help to remove some of the financial and technological barriers to delivering low-carbon energy projects in the city.

What we eat, buy and throw away



Waste emissions (2022)	Change vs baseline	Change vs 2021
221.79 ktCO2e	36.8%	44.4%

Percentage of waste recycled: 27.5%
 Percentage of waste composted: 5.9%
 Percentage of waste sent for recovery: 66.6%
 Percentage of waste sent to landfill: 0.01%

Improvements to the chargeable garden waste collection service mean that customers now receive a year-round collection service, increasing opportunities to recycle garden waste.

The glasshouses at Norton Nurseries have been brought back into use to support producing locally grown food and a space for research into climate-resilient crops.

Emissions summary

Emissions from waste have increased by 36.8% since the baseline, primarily due to a 44.4% increase since 2021. This is largely down to an increase in reported emissions from landfill. The council is only responsible for household waste, of which just 0.01% was sent to landfill. The council does not have access to data on commercial waste that may be sent to landfill, so the cause for this increase is unclear (most other core city emissions have also changed significantly in the last year).

We will continue to monitor these emissions and consider whether and what actions should be taken, potentially as part of the forthcoming Business and Economy Decarbonisation Routemap.

Progress summary: Waste

The council is working with its partner Veolia to develop plans to increase recycling opportunities from homes, in line with the Government's Simpler Recycling requirements. The current services for paper, card, plastic bottles, cans and glass bottles will be expanded to include plastic pots, tubs and trays, cartons and aluminium foil by 31 March 2026, and plastic films (e.g. carrier bags) by 31 March 2027.

Progress summary and looking forward:

Food

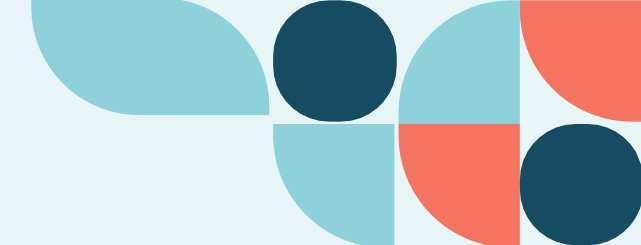
The council has partnered with Food Works to bring the glasshouses at Norton Nurseries back into use to support the production of locally-grown, climate appropriate food. Foodworks will collaborate with research organisations, aiming to develop new varieties of fruit and vegetables that have higher nutritional profiles, improved yields and show more resilience to climate change. The project also aligns with wider work to identify more land for food growing within the city.

The council and SYMCA have funds to support pop-up pantries in the city that are diverting surplus food from the waste stream whilst providing access to affordable food for people in Sheffield.

The new contract for Sheffield's sport and leisure facilities includes a requirement to adhere to the Government's Buying Standard for food and catering services. This will ensure increased provision of food produced to higher environmental standards, waste relating to food and packaging is minimised, and catering operations are more energy efficient.



How we use our land



LULUCF (2022)	Change vs 2017	Change vs 2021
-7.04 ktCO ₂ e	10.1%	6.1%
Agriculture (2022)		
37.4 ktCO ₂ e	-11.5%	-0.3%

*Trees Planted by Sheffield City Council, Sep 2023- Dec 2024:
13027 (113 standards, 16 fruit trees, 12,898 whips)*

Trees planted by South Yorkshire Woodland Partnership and Green Estate: 1,450

The Land Climate Routemap was approved in October 2024, setting the framework for action to both reduce emissions from the city's land and to enable it to support city's adaptation to the changing climate.

Emissions summary

The methodology for estimating emissions from Land Use, Land Use Change and Forestry (LULUCF) has changed since the last data release, with estimates for all years changing significantly. as emissions from peat have been calculated differently. This means that the total amount of carbon sequestered by Sheffield's land is smaller (and so worse) than previously estimated. The worsening performance is largely due to a worsening in emissions from forestry and from the amount of land converted to settlements.

Forestry operates in approximately 40-year cycles and plantation tree felling may have influenced this figure for 2022 if there was also little tree planting earlier in the cycle. Sustainable forestry practices used by Sheffield City Council are beneficial for climate as the carbon remains locked up in the timber or furniture created as a result.

Progress summary

During 2023/24, progress has been made with partners who manage land on the council's behalf to consider practices that increase carbon sequestration. This includes sustainable grazing, creating 'wetter' greenspaces and sphagnum planting on the moorlands, with the Eastern Moors Partnership

Working on 60 hectares of land at Burbage Edge, planting over 20,000 sphagnum moss plugs a year to improve conditions of the Peak.

The Draft Sheffield Plan was submitted to the Government for Examination in September 2023. It includes policies that will require new dwellings and non-residential buildings to reduce their regulated carbon emissions by at least 64% from 1 January 2025 and be Net Zero carbon (for both operational carbon and embodied carbon) from 1 January 2030. However, due to the ongoing public examination, it is now unlikely that the new policies will be able to be applied before December 2025 at the earliest.



Adapting to a changing climate



Manor Fields sustainable drainage (SuDs) – New 1,200m³ SuDS storage basin installed to reduce surface water load on the sewer network and provide wider environmental benefits.

£500k identified to support at least ten schools to develop climate adaptation plans and support the health and wellbeing of children by reducing climate change impacts such as heat or flooding.

A training package and template has been developed and delivered to support council services to plan and adapt to demands and opportunities created by the changing climate.



Climatic challenges summary

2024 was provisionally the fourth warmest year on record for the UK, according to mean temperature, as well as relatively wet (8th wettest on record, following 2023 which was 4th wettest). Flood alerts were issued for Sheffield on four occasions, with the Lower Don Valley Gates closed on three occasions. There was no recorded property flooding.

Progress summary

Adaptation principles are now mainstreamed within services including Parks and Countryside and Flood and Water Management. This means that, in addition to key adaptation interventions such as new storage basins at Richmond Park and Manor Fields, Green Space improvement projects now have climate and ecological approaches front and centre. The General Cemetery heritage restoration, completed in 2024, included ecological protection and enhancement, wildflower planting and materials reuse. Play and recreational projects have embraced approaches such as natural flood management and by integrating natural areas.

Continued expansion of the Grey to Green approach across the city centre during 2024, includes the

development of Pounds Park, Fargate and opening up the River Sheaf at Castlegate, creating a more pleasant and climate resilient centre with biodiversity improvements, play, cycling and walking space.

The Local Nature Recovery Strategy (LNRS) is being developed by SYMCA using the South Yorkshire Natural Capital Mapping to guide habitat protection, improvement, growth and connectivity. This will be published by the end of 2025 and will then be delivered subsequently. We are also working to create Parks and Green Spaces which are better for nature by establishing baseline data of greenspace hectareage maintained to benefit nature and provide evidence base for expansion in line with emerging LNRS.

The council is also working with SYMCA and partners on Connected by Water to reduce impacts from flooding across the region.

We continue to follow research and best practice from the woodland and forestry sector on the species most suited to our woodlands including commercial plantations. The Sheffield Street Tree Palette is being designed to offer the most resilient choices for our street trees and is also developed with internal and external experts.



Next steps

Whilst there is a good deal of activity taking place across the city, and this is increasing, the pace of emissions reductions has slowed in some sectors. Whilst much of what is needed to increase the scale and pace of change remains outside the control of local government, Sheffield City Council will focus our efforts across three key areas:

Strategy and planning

Over the next year, we will finalise the remaining decarbonisation routemaps, with partners. We will also produce a Local Area Energy Plan.

Finance and funding

Increasing access to finance will be key. The lack of access to predictable funding and the requirement to compete for limited funding pots has been a significant challenge, so we are working closely with the South Yorkshire Mayoral Combined Authority to agree a favourable integrated settlement with a strong focus on decarbonisation, resilience and nature recovery from central government for 2026/7 and beyond.

The Strategy and Resources Policy Committee has committed to launching a local climate bond during 2025, which will enable local people and organisations

to invest in local climate action.

Our Local Area Energy Plan will include market-facing investment propositions to attract investment into the city, from both public and private sources

Increasing capacity and action on energy and infrastructure

Successful funding bids and Sheffield's place on the advanced zoning programme means that recruitment is taking place in early 2025 to expand capacity within the City Sustainability Service to deliver new projects, particularly to work to expand low-carbon and renewable energy and to prepare the city for the forthcoming heat network zoning legislation.

The development over 2025/6, alongside stakeholders, of a Local Area Energy Plan will put the city in a strong position to develop feasibility studies and progress energy projects.

We will investigate the potential for a strategic energy partnership which would unlock private sector investment and allow for the scaling up of activity.

Ongoing activity to decarbonise in current priority areas

We will continue and work to scale up current decarbonisation programmes, included in the existing routemaps, such as rolling out further active travel, public transport and electric vehicle options, and continue to retrofit social housing and support homeowners to improve the energy efficiency of their own homes.

Climate adaptation and resilience

Work will continue on the Connected by Water partnership, collaborating with other local authorities in the region, the South Yorkshire Mayoral Combined Authority, Yorkshire Water and the Environment Agency to reduce the increased risks of flooding due to climate change.

Methodological notes

This annual report includes updates on activity that took place between October 2023 and November 2024, and the most recent data which is available as at the end of November 2024.

Council emissions

Council emissions data are provided for the 2023 calendar year and is drawn from the usage data held by the council. Council housing emissions data are not available as the council does not have access to individual household billing data, but the proportion of council home EPCs meeting level C or above is monitored quarterly and published in the Our Homes section.

Data from Amey, who are contracted to undertake highways services, are unavailable and therefore baseline data are used for their emissions.

Energy consumption data from schools is incomplete for 2023 and therefore 2022 data has been used and will be updated once available.

Citywide emissions

Local authority area emissions estimates are obtained from the UK Government's Department of Energy Security and Net Zero (DESNZ). The most recent data available are for 2022.

Performance measure: carbon dioxide equivalent (CO₂e).

Carbon dioxide equivalent (CO₂e) is the measure of total greenhouse gases emitted, expressed in terms of the equivalent global warming impact of carbon dioxide. Using CO₂e provides a more accurate measure of all our emissions that contribute to climate change than carbon dioxide alone.

The 'Pathways to Zero Carbon in Sheffield' report sets Sheffield's city baseline year as 2017. DESNZ publishes local authority and regional area greenhouse gas emission data on an annual basis.

There is an 18-month lag between when the emissions occurred and when the data is released. Therefore, 2022 is the most recent year for which data are available.

Methodology changes means that the estimate published in one year does not always tally with estimate published in a subsequent year.

Metrics

Other metrics are drawn from the council's Outcomes Framework which is reported quarterly to Strategy and Resources Policy Committee. Data are taken from the December 2024 release.

Appendix: Sheffield Carbon Budget

What is a carbon budget?

Carbon budgets show a local area's share of the remaining CO₂ that can be released by human activities, while still meeting commitments set in the Paris Agreement in 2015 to keeping a global temperature rise this century well below 2°C above pre-industrial levels, and to pursue efforts to limit the temperature increase even further to 1.5°C.

The Tyndall Centre provides Local Authority area 'energy only' carbon budgets for the period 2018 to 2100. These are reviewed and updated on an annual basis, informed by the latest science on climate change, and defined by science-based carbon budget setting. The carbon budgets highlight the immediate as well as long-term action needed, support decision-making with science-based evidence, and enable everyone to play a fair and equitable part in addressing climate change. The Tyndall Centre also provides recommended carbon budgets for each 5-year period between 2018 and 2100, aligned to the budget periods set within the Climate Change Act 2008.

Sheffield's Carbon Budget

The Tyndall Centre currently suggest that to maintain Sheffield's fair contribution towards the Paris Climate Change Agreement target of staying well below 2°C and pursuing 1.5°C global temperature, Sheffield needs to use no more than 19.6MtCO₂ between 2018 to 2100.

To stay within the recommended carbon budget Sheffield would, from 2020 onwards, need to achieve average mitigation rates of CO₂ from energy of around -12.3% per year, reaching zero or near zero carbon (95% reduction) no later than 2043.

The most recent report for Sheffield can be found [here](#).

Carbon Budget Period	Recommended Carbon Budget (MtCO ₂)	Actual MtCO ₂	% used
2018 – 2022	9.3	10.6	114%
2023 – 2027	4.9		
2028 – 2032	2.6		
2033 – 2037	1.3		
2038 – 2042	0.7		
2043 – 2047	0.4		
2048 – 2100	0.4		
TOTAL BUDGET	19.6	10.6	54%