



Decarbonisation Routemap 2023-25

Executive Summary



Foreword



Cllr Tom Hunt, Leader of the council

Tackling the climate emergency is the biggest challenge of our lifetimes, and it's vital that we all take action here and now, to protect our future.

We initially published this plan around summer 2023, a time when many countries in the world are faced record breaking heat, and the unfathomable impacts this has on people's livelihoods.

We are all facing the challenges of the lingering impacts of the COVID-19 pandemic and the acute effect of the cost of living crisis, but the importance of the climate emergency, and its consequences for Sheffield, cannot be under-estimated.

We owe it to our children and grandchildren to take action today to reduce the impact of the climate emergency and ensure that all of us are able to thrive in a changing climate and global economy.

To achieve this, the council has an ambition for the city to be net zero by 2030. It is right to have this scale of ambition, but it is important not to underestimate the difficulty of the task.

Achieving net zero ahead of the government's 2050 target will require strategic, coordinated and consistent local action, and it will need also need an early step-change in ambition from government to act decisively at a national level so cities such as Sheffield can lead the charge to a more prosperous, net zero future for our country.



Cllr Ben Miskell, Chair of the Transport, Regeneration and Climate Policy Committee

In March 2022, Sheffield City Council committed in our 10 Point Plan for Climate Action to decarbonise the city, focusing on seven areas. This set of plans, or routemaps, is our response to that commitment.

This set of routemaps begins with the Our Council chapter. We want to lead by example to tackle the climate emergency, and we are working hard as a council to reduce our emissions at the same time.

The routemaps will include actions from a range of partners, and there will be much more that people and organisations are already doing that aren't included.

The chapters include sections on what we can all do as individuals that can not only help reduce emissions but can also improve our health and wellbeing and save us money. Our climate emergency webpages and newsletter also signpost people and organisations to local funding and opportunities.

In a time that can feel overwhelming, taking action on areas within our reach gives us hope. Through our routemaps, the council aims to map out how it will work with the city to decarbonise Sheffield and to achieve a thriving, greener, healthier future for all who live, work and study in Sheffield.

Introduction

Why are we taking action on net zero?

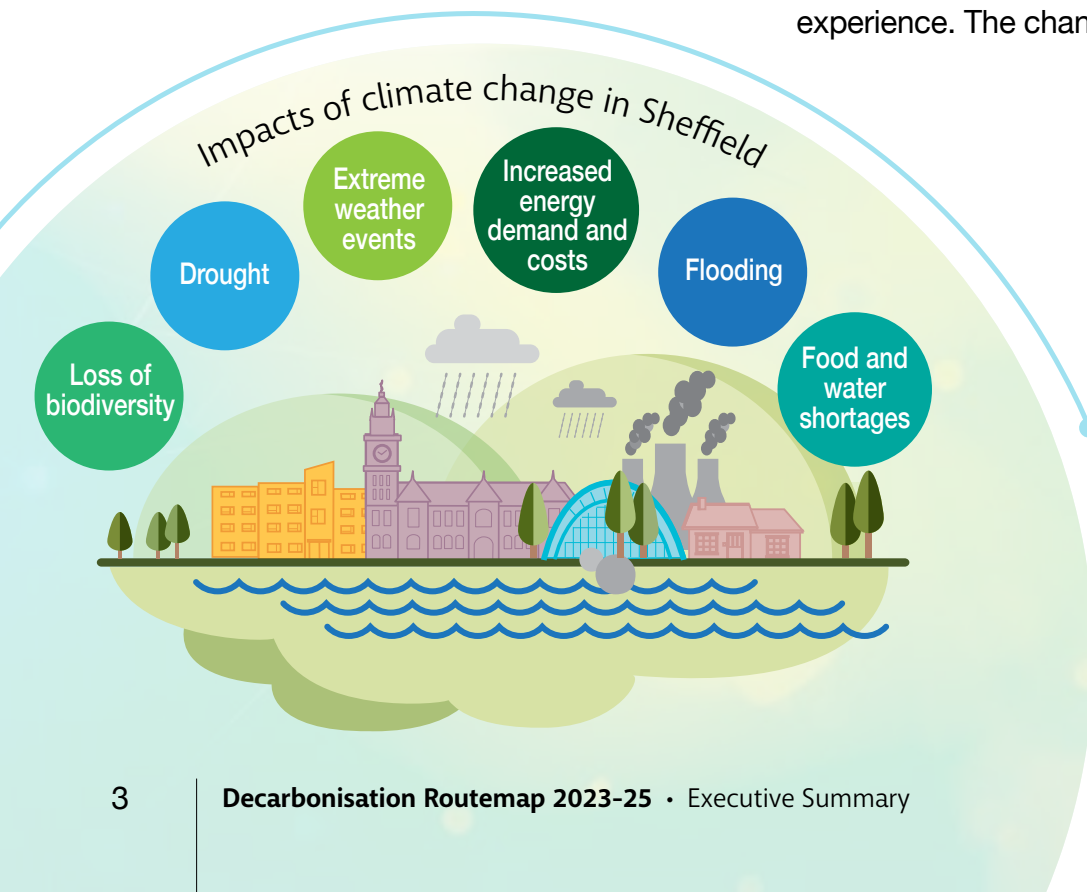
Over the past 50 years, the average global temperature has increased at the fastest rate in recorded history and the trend is accelerating. Human activity is producing greenhouse gas emissions at a record high, with no signs of slowing down.

If not addressed, climate change causes severe negative impacts that will threaten profound changes to our ways of life, from an increase in extreme weather events and environmental degradation to food and water insecurity and economic disruption.

This sounds worrying, but every fraction of a degree of global warming that can be avoided makes a difference to the effects that we will experience. The changes that are needed to

reduce our emissions to net zero are coming to Sheffield in time, our choice is whether we lead the way, or whether we lag behind other cities.

We owe it to our children and grandchildren to take action today, to reduce the impact of the climate emergency and ensure that Sheffield can thrive in a changing climate and the net zero economy of the future.



Achieving a fair and inclusive transition

It is vital that, in tackling the climate emergency, we are fair and inclusive. People who already experience disadvantage, both in the UK and internationally, are generally least responsible for emissions. They will also often be most impacted by climate change, and least able to adapt to it. This includes older people, young people, people from ethnic minorities, women, disabled people and people with health issues, and people living in poverty.

Many of the actions that minimise changes in the climate will also benefit people who are currently most disadvantaged. It is important that we understand both the short and long term impacts and make fair, creative decisions that maximise the long term benefits, but protect those who genuinely have fewer choices in the short term.

Achieving net zero together

We have all experienced the impact of COVID-19, a global crisis that demonstrated how we can act swiftly to make previously unimaginable changes, work differently and build new relationships, as a city. These lessons will help us act on the climate emergency and the changes needed to improve our city and wellbeing.

Sheffield City Council declared a climate emergency in 2019 and set an ambitious target to become a net zero carbon city by 2030. The council has a significant role to play in acting through reducing its own emissions, and through its leadership and regulatory role in the city.

However, the council cannot decarbonise the city alone. The transformation also requires national changes, and greater action globally to address systemic failings. Locally, businesses, other public sector organisations and voluntary, community and faith sector organisations and individuals will also need to make changes to the way they live their lives.



Our principles for acting

The decarbonisation routemaps

The council's [10 Point Plan for Climate Action](#) was adopted in 2022 and set out the council's framework for responding to the climate emergency.

Within the plan, the council committed to developing routemaps across seven key areas of actions:

- Our council
- The way we travel
- Our homes
- Energy generation and storage
- Our businesses and economy
- The way we use our land
- What we buy, eat and throw away

[Read the full routemaps document](#)



A phased approach

Funding is uncertain, and technology is changing fast. For us to commit now to deliver a specific number of retrofits or transport infrastructure projects in the coming years would be unrealistic. Our approach for the routemaps is to:



Improve the way we work together as an organisation and with partners.



Lay out actions we can achieve during the period up to 2025.



Detail the work that we will carry out to increase the rate that we reduce emissions in the future.

The Routemaps focus on actions delivered by the council, actions carried out in partnership with other organisations, and actions delivered by other organisations in the city independently of the council responding to the climate emergency is something that we all need to do together.

Work is already underway on the Our Council, and The Way We Travel routemaps, with the remaining routemaps being developed.

1 Chapter 1 Our council

Goal

Sheffield City Council is working towards reducing its emissions by 95 per cent by 2030, to lead by example as a net zero

Our domestic buildings are decarbonised by improving the building fabric, reducing consumption and transitioning to renewable energy.

Our non-domestic and commercial buildings are decarbonised by improving building fabric, reducing consumption, and transitioning to renewable energy.

Our fleet is decarbonised by reducing mileage and replacing our fleet with decarbonised vehicles.

Key objectives

Our employees are carbon literate and fully engaged in the council's journey to net zero.

Our procurement, governance and decision making will support the council's and city-wide journey to net zero.

Our land management supports the council's and city-wide net zero target.

Our street lighting is decarbonised by reducing energy consumption.

Where we are now...



162,699tCO₂e

The council's emissions in 2019 across four main sectors



5%

Non-domestic buildings, such as schools and libraries



89%

Domestic buildings (homes) owned by the council



3%

Council and key contractor fleet vehicles



3%

Street lighting

These figures are subject to change which will be reported in ongoing annual greenhouse gas emissions reporting.

What needs to change?

The key changes that need to be made to reduce the impact of the council's estate and operations on the climate include:

- Replacing fossil fuel boilers, reducing vehicle mileage and decarbonising vehicles helps improve air quality in the city.
- Decarbonisation projects help create a local low carbon economy and new jobs.
- Generating our own energy, and using less of it, helps reduce our energy costs, allowing us to do more with less.

Benefits of decarbonising our council

The actions that will help to reduce council emissions will also deliver wider benefits, such as:

- Inspiring others to act and to stimulate demand.
- Reducing energy and maintenance costs.
- Reducing fuel poverty and increase social justice.
- Improving work environments for better employee health, wellbeing and productivity.

What carbon reduction will this achieve?

Our analysis shows that the very best we could achieve by 2030 is reducing the councils emissions to 31,498tCO₂e (tonnes of carbon equivalent), an 80 per cent reduction against the 2019 baseline.

To achieve net zero, we would have to invest in offsetting measures outside the Sheffield city boundary. To achieve this we will need a step change in government support and policy, but there is a lot we can do to make progress.

Our vision for a net zero council

Our council homes

- Our tenants have healthy homes that are energy efficient and more affordable to heat and cool.
- Our council homes are powered by renewable energy.
- Our new build council homes are designed to operationally achieve net zero.



Our fleet and the way we travel

- Our business travel and commuting is more efficient due to increased car-sharing and improved route-planning.
- Our employees are encouraged to walk, wheel and cycle to, during and from work.
- Our drivers receive eco-driver training, and are supported by better vehicle maintenance.
- Our fleet is fully powered by electric and alternative fuel.



Our street lighting

- Our street lighting hours of operation and lighting levels are optimised, taking into consideration design factors, ecology and public safety.
- Our lighting infrastructure is maximised to support additional low carbon technology where feasible.



Our workforce

- Our employees understand what the changing climate means for the council and the city.
- Our employees feel engaged with and able to contribute to the council's net zero target.
- Our working environments have improved thermal comfort and lighting.



Our council buildings

- Our non-domestic estate is reduced, prioritising energy efficiency, state of repair and operational suitability.
- Our retained estate continues to be retrofitted to reduce emissions to net zero.
- Our employees are upskilled to carry out energy audits and feasibility studies, and to install, repair and maintain low carbon technology in our buildings.
- Our projects are funded through a range of funding and finance arrangements.



How we use our land

- Our land captures carbon from the atmosphere through our trees, plants and soil.
- Our land supports the recovery of nature.
- Our land supports the wellbeing of our people and protects us from extreme weather events.
- Our land use maximises opportunities for renewable energy generation and storage, providing renewable energy to local consumers or the national grid.



Our procurement, governance and decision-making

- Climate change is at the heart of our decision-making, to ensure all parts of the council are playing their part in achieving net zero.
- Our procured goods and services emissions are reduced.

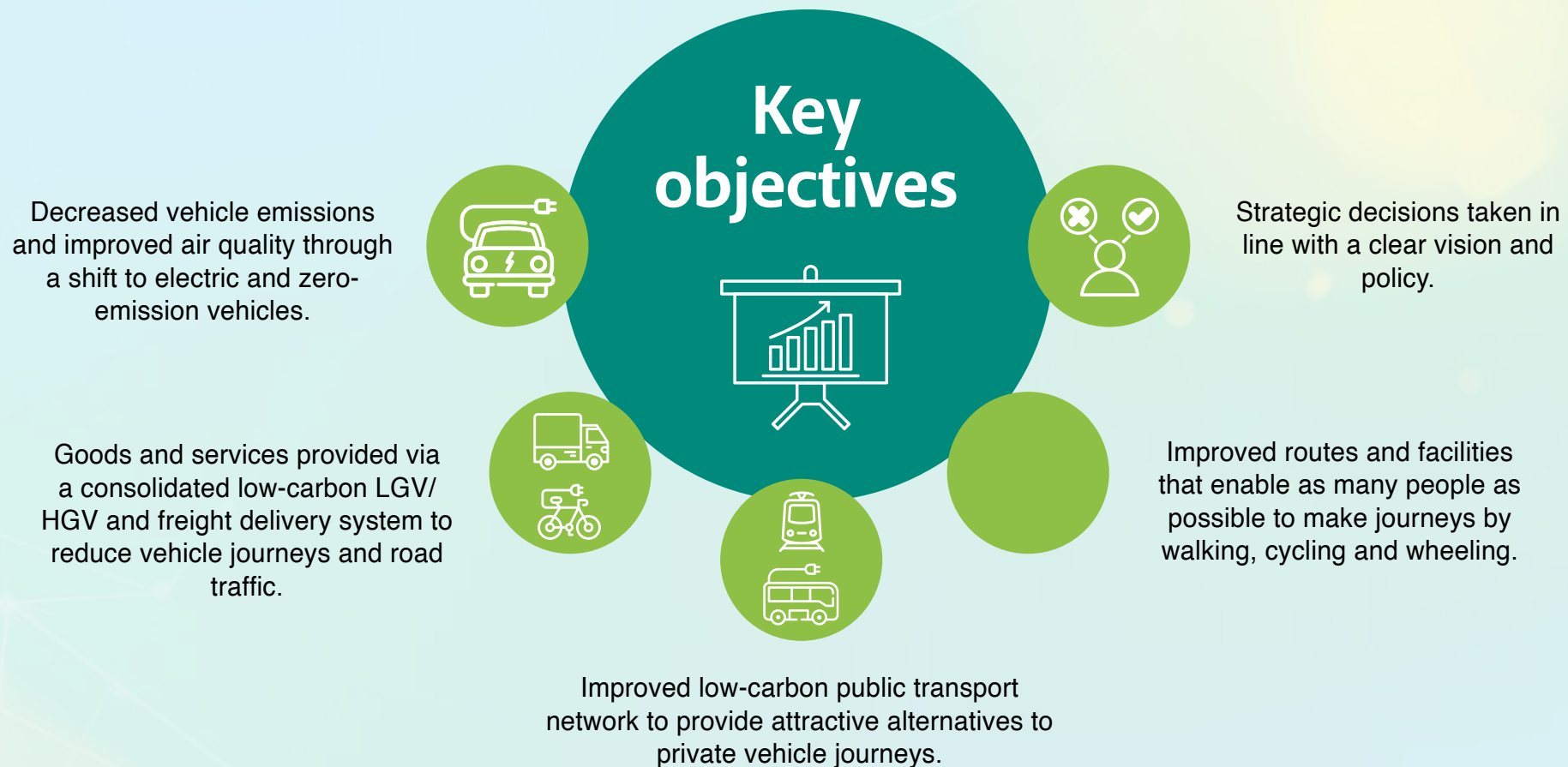


2 Chapter 2

The way we travel

Goal

By 2030, all our people and organisations will have access to ultra-low emission options for travel, and we will achieve a 419 ktCO₂e reduction in transport related carbon emissions.



Why do we need to change the way we travel in Sheffield?



2017, emissions from the transport sector contributed
642ktCO₂e
to our city's emissions
26%



That's the same as
1,070
SpaceX Falcon
flights to the
international
space centre



That's the same
as driving
1,442,234
lengths of
the UK



That's the same as
183,426
return flights from
London to
Hong Kong

Almost two-thirds of these emissions are from cars and over a quarter from light and heavy goods vehicles.

Around 98 per cent of the vehicles in the city are either diesel or petrol - only two percent of our vehicles are electric.

60 per cent of journeys are made by car, and around 40 per cent of these are less than 1km in distance (a 10–12 minute walk).

Air pollution contributes to around 1 in 20 deaths a year in Sheffield, causing strokes, lung cancer, and cardiovascular and respiratory disease.

Journey times currently predicted to increase by up to 35 per cent, along with increased city centre gridlock events and increased difficulties in parking.

Since 2016, Sheffield has had the highest rate of road traffic collisions involving children amongst the core English cities.

What needs to change?

Changing the way we travel to be more sustainable will need everyone in the city to act, and we all have different roles to play in creating a city where:

- More journeys are taken easily by public transport, walking, wheeling and cycling.
- Goods are delivered using fewer vehicles, and more deliveries are made by lower impact means like cargo bikes and electric van.
- We have electric or low carbon vehicles, powered by a commercially sustainable electric vehicle and alternative fuel network.
- Essential services and amenities are within easy reach of where people live.

Benefits of decarbonising how we travel

The actions that will help to reduce emissions from the way we travel have clear and compelling wider benefits:

- Increased social inclusion and travel choices.
- Reduced dependency on vehicles for people who can't afford to, are unable to or don't want to own a vehicle or drive.
- Reduced congestion, road traffic and journey times.
- Improved air quality.
- Quieter neighbourhoods where people feel safe to walk and cycle.
- Better health and wellbeing and increased life expectancy.
- Reduced employee absence and increased productivity.
- An increase in people visiting local businesses as they travel about their day.
- New economic and business opportunities created to deliver low carbon travel.

A fair transition

29 per cent of households in Sheffield do not own or have access to a car or van (compared with 23 per cent in the UK as a whole), and the proportion of households without access to a car or van varies from 8.6 per cent to over 60 per cent across the city.

Better public transport and easier and safer walking, wheeling and cycling options will improve access to travel for people who currently have fewer choices.

People with conditions restricting mobility, including older people, often experience severe barriers to travel, such as lower car ownership, higher reliance on public transport, inaccessible cycleways and paths, and a lack of storage for mobility aids and bikes. Motobility vehicles are transitioning to electric, and users will need charging infrastructure to be available early.

People on low incomes are less likely to have the resources to buy an electric car in the near future, but infrastructure needs to be ready for them, and it is important to minimise any negative financial impact on people who do not have the capacity to change the way they travel.

Businesses which are heavily dependent on transport face particular challenges and concerns as we decarbonise the way we travel. Affordable vehicles and available charging facilities will be crucial, whilst addressing the high level of concern about financial penalties.

People working in the motor trades will eventually be impacted by changes in the training and skills require for vehicle mechanic and maintenance jobs.

What carbon reduction will this achieve?

We are already working towards reducing our carbon emissions and we need to achieve a further 419 ktCO₂e (65 per cent) reduction in emissions.



Increase active travel

104

ktCO₂e reduction



Increase public transport

9

ktCO₂e reduction



Consolidate freight

16

ktCO₂e reduction



Decarbonise all vehicles

290

ktCO₂e reduction

Implementing these measures will leave a small portion of residual emissions, which will need to be addressed through decarbonisation of grid-supplied electricity, locally generated renewable energy and carbon capture.

A net zero transport system for Sheffield

Increased walking, wheeling and cycling

- Enhanced cycling networks and routes.
- Improved walking and wheeling crossings and public realm.
- Active travel hubs and cycling facilities.
- Safer neighbourhoods.
- Increased skills and knowledge.
- Incentives to walk, cycle and wheel.

Improved public transport

- Publicly-owned and optimised tram network.
- 'Tap and Cap' contactless Payments.
- Reliable and reduced journey times.
- Value for money.
- Seamless connectivity between travel modes.
- Improved public transport routes.

Consolidated and decarbonised freight

- Shared business distribution centres.
- Alternative vehicles for last-mile deliveries.
- Collection points and lockers.
- Increased use of other transport modes.

Decarbonised vehicles

- Public and private car park charging facilities.
- Destination charging for visitors.
- Publicly accessible rapid charging hubs.
- Publicly accessible on-street charging.
- Hydrogen and bio-fuel filling stations.





As an individual, you may be able to:

- **Reduce car journeys** (especially short journeys) by walking, wheeling, cycling or using public transport.
- **Support your local economy** by shopping locally.
- **Help reduce delivery journeys** by using parcel shops or lockers that you are already travelling to.
- **Lease, share or purchase an electric car and/or electric bike** – you could consider sharing with family, friends or colleagues.
- **Attend Local Area Committee meetings** and speak about improvements you want to see in your community.
- **Engage with the council on local travel schemes** to help us ensure they are designed for your needs.

As a business, you can:

- **Encourage flexible, remote working** and online meetings to reduce commuting and business travel.
- **Provide bike storage and lockers** and other incentives to encourage employees to travel actively to work.
- **Convert business fleets** to low and zero-emission vehicles.
- **Install electric vehicle chargers** on premises for staff and business use.
- Develop the provision of bike (including electric bike) and electric vehicle **salary sacrifice schemes**.
- **Engage with the council on local travel schemes** to help us ensure they are designed for your needs.
- **Apply for funding to support changes** to vehicles and infrastructure. For more details go to grant schemes for electric vehicle charging infrastructure - <https://www.gov.uk/guidance/electric-vehicle-chargepoint-and-infrastructure-grant-guidance-for-installers>

Climate action beyond the way you travel

There are lots of changes you can make to save your money as well as make a difference beyond just travel. You can find more information about action you can take to address the climate emergency on our website: www.sheffield.gov.uk/your-city-council/climate-emergency-response/climate-change-and-what-you-can-do

Collaborative Partners



Developed by Sheffield City Council in collaboration with:

A Different Gear • Better Buses for South Yorkshire • Meadowhall • Sheffield Chamber of Commerce • Sheffield Hallam University
Sheffield Teaching Hospitals • South Yorkshire Climate Alliance • South Yorkshire Mayoral Combined Authority
The Sheffield College • The Flow • Cycling UK

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