

Appendix 1

CDC Carbon Management Plan 2022-25

Introduction

Cherwell District Council committed to reach net-zero carbon emissions in our estate and operations by 2030 and to embed climate considerations into all our decision making. In 2020, we published our Climate Action Framework, setting out how we are going to reduce our emissions, transform into a climate active organization and play our part in Cherwell's transition to net zero.

The Carbon Management Plan 2022-25 sets out the approach to reducing the emissions from our buildings, leisure centres, fleet, and staff business travel in their own vehicles. These are the emissions that we committed to reduce to net zero this decade. The Plan is part of a wider Climate Action Programme that also includes our actions to embed climate action into the organizational DNA and to enable Cherwell's transition to net zero, with particular emphasis on our role as planning authority.

Putting our own house in order

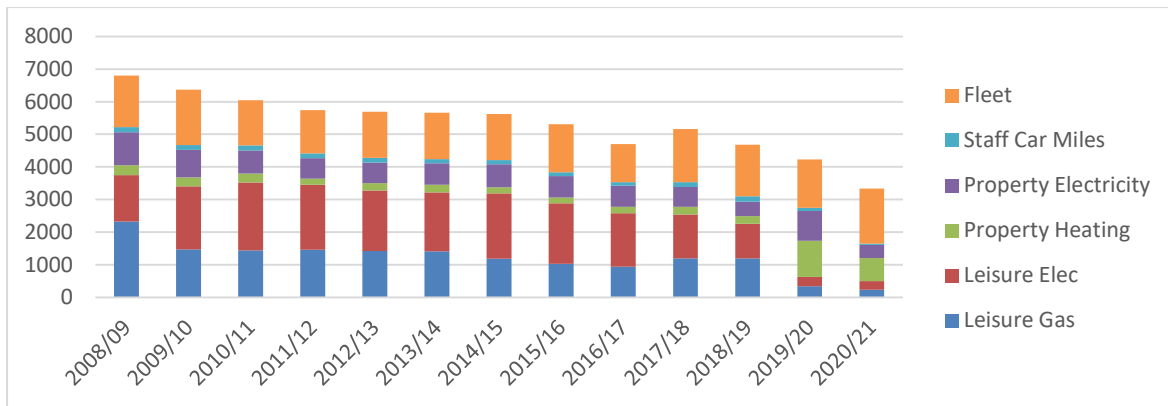
While our emissions represent only 0.27% of Cherwell's total¹, we are conscious that we all need to play our part in the transition to net zero, adopting more efficient ways of working, travelling, and consuming. By leading the way and seeking to become net zero significantly ahead of the national 2050 timeline, we hope to demonstrate what can be achieved and inspire residents and local businesses to join us on this rewarding journey.

The Carbon Management Plan 2022-25 outlines the decarbonisation approach taken for each area of our corporate emissions, as well as short-term and longer-term actions that add up to the council's emissions trajectory to 2024/25.

Progress so far

Since our baseline year of 2008/09 and 2020/21, our emissions have decreased 51% from 6,804t CO₂e to 3,334t CO₂e.

¹ Cherwell total 2018 emission as provided by SCATTER



Key past projects and initiatives to decarbonise our estate and operations:

- £6m for heat decarbonisation, energy efficiency and renewable generation in corporate buildings and leisure centres, funded by Public Sector Decarbonisation Scheme
- 8 electric vehicles and 10 charge points on council sites, including 2 Vehicle-to-Grid charge points at Thorpe Lane Depot
- Virtual meetings and agile working policies

Our emissions

Nearly half of our emissions come from the leisure centres, 35% from our fleet and 15% from our corporate buildings. Staff travel emissions represent about 2%.

In 2020/21, due to COVID restrictions and changes in work practices, staff travel, leisure centres and corporate buildings emissions dropped by 54%, 46% and 19% respectively, while fleet emissions increased by 14%. We expected that, in 2021/22, fleet emissions will have decreased slightly, returning to pre-Covid levels, while staff travel, leisure centres and corporate buildings emissions are likely to show a degree of bounce back as services resume, but remaining below pre-Covid levels.

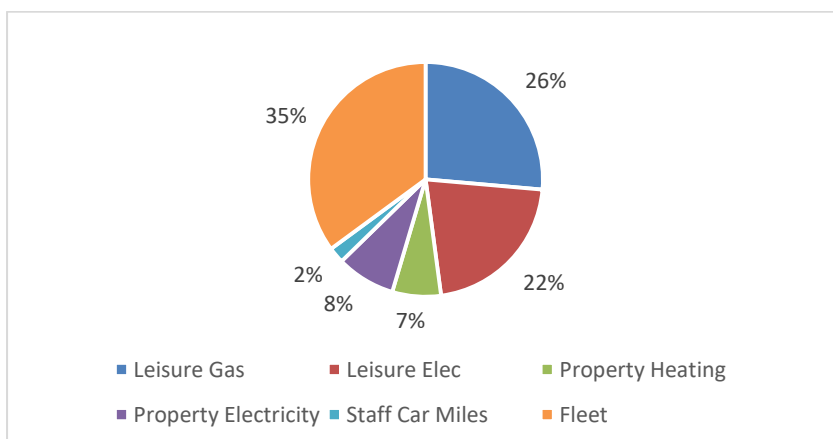


Figure 1: CDC emissions 2019/20 Source: 2019/20 Greenhouse Gas report

Scope 1, 2 and 3 emissions

This carbon management plan covers the following emissions, as described in our annual greenhouse gas report:

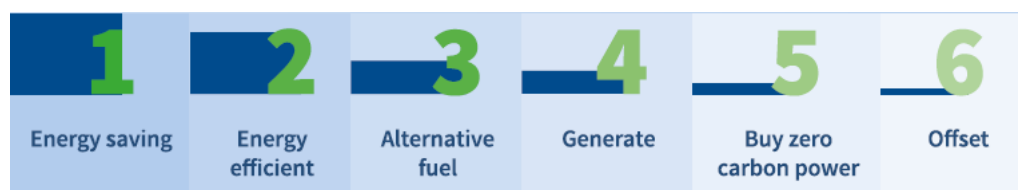
Scope 1	direct emissions from fuel use on council estate and fleet, as well as fuel used by landscaping contractor
Scope 2	indirect emissions from purchased electricity for corporate buildings
Scope 3	indirect emissions from leisure centres gas and electricity, staff travel, electricity distribution, and well-to-tank emissions (electricity, gas, fleet fuel and staff miles)

Our approach

Guiding principles

Our decarbonisation approach is guided by the following principles:

Demand reduction (avoid-shift-improve). Our actions embody the ‘energy hierarchy’ to reduce demand and ensure best value. We prioritise actions that avoid energy consumption, such as avoiding unnecessary journeys, and actions that save energy, such as replacing lighting with LEDs. Saving energy not only reduces the amount of carbon emitted but protects against price increases. Once energy demand has been minimized, fossil fuels are replaced with cleaner energy, ideally locally produced renewables. Offsets are only used as a last resort.



Inclusive transition. We consider the potential impacts of our decarbonisation measures on local communities. We take a participatory approach, ensuring communities are engaged and supported to take action, particularly those most vulnerable to the impacts of the climate and ecological emergency.

Innovation. Our estate is a ‘living lab’ to trial new ideas and accelerate innovation. We share our learning and are actively seeking new business models to make investment for zero-carbon viable.

Decarbonisation approach

Corporate buildings and leisure centres

Corporate buildings account for 15% of the council’s carbon emissions and include:

Corporate	Emissions in 2019/20 (tCO ₂ e)	% of corporate estate emissions
Bodicote House	356	57%
Banbury Museum	127	20%

Thorpe Lane Depot	65	10%
Franklin's House	19	3%
Highfield Depot	12	2%
Public conveniences	5	1%
Other facilities	43	7%

Leisure centres and sports pavilions account for 48% of the council's emissions and include:

Leisure	Emissions in 2019/20 (tCO2e)	% of leisure emissions
Spiceball Leisure Centre	884	44%
Bicester Leisure Centre	654	32%
Kidlington Leisure Centre	282	14 %
Woodgreen Leisure Centre	192	9%
Drayton Sports Pavilion	12	1%

The **renewable energy generated** by the solar panels installed on corporate buildings and leisure centres provides a negative emissions equivalent. In the case of Thorpe Lane Depot, the negative emissions from energy generated in 2019/20 exceeded the site's annual energy consumption emissions.

Solar generation	Negative emissions in 2019/20 (tCO2e)
Thorpe Lane Depot	-69
Woodgreen Leisure Centre	-38
Kidlington Leisure Centre	-29
Spiceball Leisure Centre	-9
Bodicote House	-5
Franklin's House	-4
Bicester Leisure Centre	-4

The **decarbonisation approach** for corporate estate and leisure centres aims to move away from any form of fossil fuel by electrifying the heating component of the buildings and using renewable electricity. This includes ensuring that future properties are built to a zero-carbon standard, moving away from gas heating.

The immediate action is to complete the projects funded under the Public Sector Decarbonisation Scheme (PSDS), which are expected to deliver a reduction of up to 1,000 t CO2e (25% of total CDC emissions). The £6m grant has allowed CDC to conduct energy efficiency, heat decarbonisation and

renewable energy improvements to leisure centres, Thorpe Lane Depot, Banbury Museum and Franklins House. The PSDS measures included LED lighting upgrades, insulation measures, replacement of hand dryers, heating system upgrades, upgrades to air handling units, chiller upgrades, air source heat pumps, solar PV, battery storage and solar thermal.

The next step will be to monitor the energy use for a year. Investment-grade energy audits will then be carried out in 2023/24 to identify actions to decarbonise the remaining emissions e.g., replacement of gas radiant heating and gas boilers.

Clarity on the future of Bodicote House and Highfield Depot is needed to determine the necessary actions for reducing the emissions associated with these two sites.

Finally, to address the remaining emissions from the electricity supply, the Council can then explore the possibility of entering into a power purchase agreement (PPA) with a local solar farm, or alternatively invest in a solar farm and transfer the electricity.

Fleet

The Council operates around 90 vehicles that account for 35% of the Council’s carbon emissions. The fleet has been increasing at the pace of one additional waste collection crew and refuse collection vehicle every two to three years due to the rapid housing growth in the district.

The current fleet includes refuse collection vehicles (RCV), mechanical sweepers, large goods vehicles (LGV), 3.5 tonne box vans, 3.5 tonne street cleansing vehicles, 4X4 vehicles and small vans. 90% of vehicles are diesel powered and 10% electric.

Type of vehicle	Total	EVs
Small vans	14	8
Medium vans	20	1
Small sweepers	2	-
Large goods vehicles (LGV)	18	-
Mechanical sweepers	2	-
Refuse collection vehicles (RCV)	23	-
Other vehicles	8	-

The approach to decarbonising CDC’s fleet is to move the current fleet from diesel to electric by 2030, starting with smaller vans. Four Nissan NV 200e vehicles were purchased in 2018 followed by an additional five small vans in subsequent years. The remaining six small diesel vans will be converted to electric by 2024.

For larger vehicles, other zero-carbon options (e.g., hydrogen) will be considered. However, there are a number of dependencies and current obstacles to decarbonising the larger vehicles in the fleet:

- Charging infrastructure and grid capacity at the depots.
- Vehicle technology – for larger vans (Ford Transit size), the number of available types is very low; there is currently nothing on market for a zero-carbon large goods vehicle. For refuse collection vehicles, due to the required charging infrastructure, the costs and the capability, it is likely to be 2024/25 before electrification of these vehicles can be considered.
- Procurement lead times due to competition for electric fleet vehicles - as an example, the earliest delivery dates for the new electric Transit van (launching in April 2022) will be in 2023.

An outline plan for fleet electrification is set out below. Timescales are currently notional due to the multiple dependencies. As the bulk of the fleet will be replaced on the second part of the decade as the technology becomes available and economically viable, the timeline extends past the period covered by this plan (2022-25).

Years	Vehicles to be replaced by electric	Dependencies
2022/23	Remaining 6 small diesel vans Vehicle maintenance breakdown vehicle	
2023/24	5 street cleansing vehicles	Charging infrastructure to be installed at Thorpe Lane depot
2024/25	5 street cleansing vehicles 5 electric refuse collection vehicles	Subject to electrical infrastructure being in place Subject to availability of budget and suitable vehicles
2025/26	3 electric refuse collection vehicles 5 street cleansing vehicles 2 small electric sweepers	
2026/27	3 electric refuse collection vehicles 5 street cleansing vehicles or box vans 2 large mechanical sweepers	Subject to new depot
2027/28	3 electric refuse collection vehicles	
2028/29	3 electric refuse collection vehicles	
2029/30	3 electric refuse collection vehicles 9 electric food waste vehicles	

CDC fleet emissions also includes emissions from the **outsourced landscaping fleet**. The contract will come up for renewal/retender in March 2024 and discussions have commenced with the incumbent supplier on the potential for decarbonisation.

Staff business travel (in staff's own vehicles)

The decarbonisation approach for staff business travel prioritises avoiding travel (e.g., by meeting online when possible), reducing miles (e.g., by optimising routes), and replacing travel in cars with walking and cycling when possible. In addition an electric car benefit scheme is being explored for staff to potentially gain the use of a new electric or plug in hybrid car, with payments deducted from gross salary and consequently savings in income tax and national insurance contributions. No final decision has been made on that potential approach.

The overall approach involves retaining some of the mileage-saving initiatives put in place due to Covid-19 restrictions and new ways of working. In 2020/21, staff business travel emissions decreased by almost 54% compared to 2019/20.

To maintain a low level of travel-related emissions while ensuring service provision, the following CO2e reduction targets were proposed (from 2019/20 baseline):

- Environment and Place: 10% reduction by 2022/23 and 25% by 2024/25
- Commercial Development, Assets & Investment: 15% reduction by 2022/23 and 30% by 2024/25
- Customer Service Centre: 50% reduction by 2022/23.

Overall staff business travel represents a relatively small proportion of the Council's overall emissions. However, it is still important to take actions to minimise emissions associated with staff travel.

The targets allow for post-Covid bounce back and are reductions in carbon emissions associated with business travel, not necessarily reductions in the number of miles. This way, services are not restricted in their ability to travel, but encouraged to use low-carbon modes of transport.

Staff business travel targets will be reviewed next year following analysis of the 2021/22 mileage data, which will provide a more realistic post-Covid picture of carbon emissions.

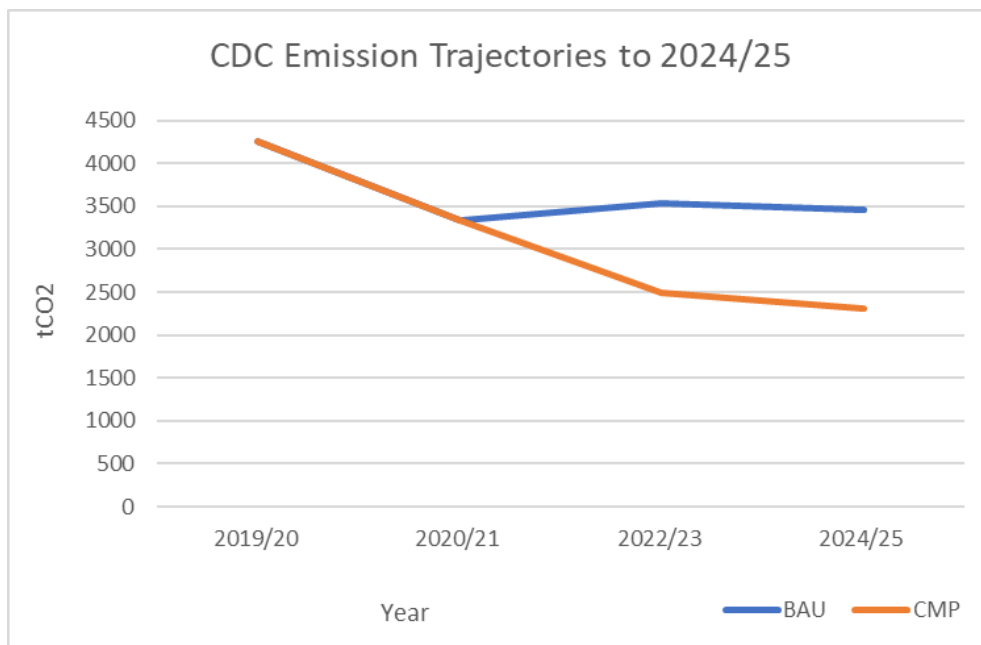
Implementation of the **staff business travel programme** will support services to meet their targets:

Year	Staff business travel programme activities
2022/23	<ul style="list-style-type: none">• Possible launch electric car benefit scheme• Increased digital training provision• Enforce the travel hierarchy and encourage active travel• Explore opportunities for service-specific electric pool cars and/or vans
2023/24	<ul style="list-style-type: none">• Encourage better route planning• Offer driver training
2024/25	<ul style="list-style-type: none">• Promote car sharing -

Estimated emissions reduction

The actions set out in this plan, combined with the decarbonisation of the electricity supply, are likely to put the council emissions on a trajectory to reduce emissions to about 2,320t CO₂e by 2024/25, which is equivalent to a 65% reduction from our 2008/09 baseline. An estimated 3,300 t CO₂e will be saved over this period, equivalent to about 1,330 return flights from London to New York or the amount of CO₂ absorbed by 800,000 trees over the 3-year period.

The annual carbon savings from each action will only be realised in full in the following year and reflected in that year's greenhouse gas report.



Financing the transition

The grant-funded projects being delivery across leisure centres and corporate estate will reduce CDC's emission by about a quarter. In the period covered by this plan, further audits will be carried out to assess remaining emissions and enable future business cases for investment and/or grant applications.

Continuing the decarbonisation of CDC's fleet will require investment on charging infrastructure at depots. Business cases will be put forward for funding for infrastructure and specialist vehicles, as these become available on the market.

Carbon Management Plan 2022-25

The carbon management plan includes **direct actions** that generate measurable emissions reductions – e.g., replacing lighting with LEDs – and **enabling actions** that create the conditions for future reductions – e.g., carrying out energy audits.

The Officer Leads (see table below) will be accountable for the delivery of the Carbon Management Plan. Progress on the actions will be reported to:

- Strategic Place Shaping Programme Board quarterly
- Overview & Scrutiny every 6 months
- CLT and Members quarterly via Corporate Performance report
- Executive annually

When possible, progress will be monitored using the council's Carbon Neutrality dashboard, which displays the latest data on energy and fuel consumption, carbon emissions, and progress on key projects, along with KPIs and targets agreed with services.

Planned actions for 2022/23

Action	Type	Estimated investment	Status and source of funding	KPI	Estimated annual CO2e savings ²	Officer Lead	Executive Lead
Corporate buildings							
Complete the delivery of PSDS projects – including air source heat pumps, solar PV, batteries at Thorpe Lane, LED lighting, Car Port PV	Direct	£1.1m	Approved funding - Public Sector Decarbonisation Scheme grant	% CO2e reduction	83 t CO2e	Director Resources	Lead Member for Regeneration & Economy
Upgrade lighting to LED in smaller sites (landlord areas, bus stations and public conveniences)	Direct	£54k	Reprofiled from 21/22 revenue budget	% CO2e reduction	12.4 t CO2e	Director Resources	Lead Member for Regeneration & Economy
Leisure Centres							
Complete the delivery of PSDS projects	Direct	£2.2m	Approved funding - Public Sector Decarbonisation Scheme grant	% CO2e reduction	955 t CO2e	Assistant Director Wellbeing	Lead Member for Healthy Communities
Ensure new pool design and operations compatible with carbon neutrality by 2030	Direct	TBD	TBD	% CO2e reduction	TBD	Assistant Director Wellbeing	Lead Member for Healthy Communities

² The full year carbon savings for actions implemented in 2022/23 will be realised in 2023/24 and reported in the 2023/24 Greenhouse Gases report

target							
Fleet							
Vehicle maintenance breakdown vehicle and remaining six small diesel vans to be replaced.	Direct	TBD	Capital vehicle replacement programme	% fleet electrified (target 16%)	10 t CO2e	Assistant Director Environmental Services	Lead Member for Cleaner Greener
Upgrade to incoming electricity connection at Thorpe Lane Depot	Enabling	£270k	Approved funding – capital programme	--	--	Assistant Director Corporate Property	Lead Member for Regeneration & Economy
Staff travel							
Implement staff business travel programme	Direct	--	Staff time only	% CO2e reduction	13.4 tCO2e ³	Assistant Director HR	Lead Member for Corporate Services

³ Assumed directorates agree to carbon reduction targets. Actions to support this reduction include a 'digital by default' approach to meetings, engagement with high-mileage users, enforcement of the travel hierarchy, take up of the electric car benefit scheme, explore opportunities for electric pool cars and vans, and encouraging better route planning.

Later actions for 2023-25

Action	Type	Estimated investment	Status and source of funding	Estimated annual CO2e savings ⁴	Officer Lead	Cabinet Lead
Corporate buildings						
Carry out energy audits to identify actions to reduce residual emissions	Enabling	£5-7k	Pending funding – Low Carbon Skills Fund application, revenue budget, capital bid	--	Assistant Director Corporate Property	Lead Member for Regeneration & Economy
Deliver funded measures to reduce residual emissions	Direct	TBD	Pending funding – PSDS, capital bid	TBD	Assistant Director Corporate Property	Lead Member for Regeneration & Economy
Investigate costs of meeting higher standards for new build including Highfield Depot	Enabling	TBD	To be covered by project budgets Ongoing	--	Assistant Director Corporate Property	Lead Member for Regeneration & Economy
Leisure Centres						
Carry out energy audits to identify actions to reduce residual emissions (e.g., replacement of gas boilers and gas radiant heating)	Enabling	£5-7k	Pending funding – Low Carbon Skills Fund application, revenue budget, capital bid	--	Assistant Director Wellbeing	Lead Member for Healthy Communities
Deliver funded measures to reduce residual emissions	Direct	TBD	Pending funding – PSDS, capital bid	TBD	Assistant Director Wellbeing	Lead Member for Healthy

⁴ The full year carbon savings for actions implemented between 2023-25 will be realised in either 2024/25 or 2025/26 & reported in the 2024/25 and 2025/26 GHG report.

						Communities
Fleet						
Charging infrastructure to be installed at Thorpe Lane depot	Enabling	TBD	Pending funding – capital bid	--	Assistant Director Corporate Property	Lead Member for Regeneration & Economy
10 street cleansing vehicles to be replaced	Direct	TBD	Capital vehicle replacement programme + capital bid for additional cost	30 t CO2e	Assistant Director Environmental Services	Lead Member for Cleaner & Greener
Encourage electrification of the landscaping fleet when renewing contract (March 2024)	Direct	--	Potential impact on contract cost TBD	TBD	Assistant Director Environmental Services	Lead Member for Cleaner & Greener
First electric refuse collection vehicle delivered.	Direct	TBD	Capital vehicle replacement programme + capital bid for additional cost	30 t CO2e	Assistant Director Environmental Services	Lead Member for Cleaner & Greener
Staff travel						
Implement further low carbon staff travel programme	Direct	--	Staff cost funded	21.2 tCO2e ⁵	Assistant Director HR	Lead Member for Corporate Services

⁵ Assumed directorates agree to carbon reduction targets. Actions to support this reduction include continuation of a digital by default approached to meetings, continued enforcement of the travel hierarchy, continued take up of the electric car benefit scheme, continued take up of electric pool cars and continued better route planning and from 2024/25 offer driver training and promote car sharing.