Shropshire Council Climate Strategy

Carbon Monitoring Report FY2025

PUBLIC **Strategy and Organisational Development, Business Intelligence and Insight.**

LOCAL PARTNERSHIPS

MIDLANDS NET ZERO HUB

Shropshire Climate Action for Shropshire, Telford & Wrekin

SECR

Department for Energy Security & Net Zero

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Contents

Executive summary

This report provides a comprehensive overview of the organization's carbon footprint, detailing emissions at both the corporate or directorate and County levels, as well as outlining negative or avoided emissions for offsetting. It includes a project register and annexes addressing reporting, data issues, budget methodologies, and technical terminology.

The Council has achieved a 35% reduction in its carbon footprint since 2019, with 2025 NET emissions amounting to 39,839 tCO_2e. It also provides guidance on accessing supporting data and demonstrates the Council's commitment to transparency and sustainability.

The analysis is supported by environmental disclosure and data analytics, with figures illustrating carbon reduction pathways, emission trends over a seven-year period, and charts and tables split by emissions scope and directorate for the fiscal year 2025. The report also highlights opportunities, risks, and the use of analytical tools and disclosure platforms to support ongoing sustainability efforts to make both financial and carbon savings.

For further information please see:-

- Carbon monitoring | Shropshire Council

Index of figures and tables

FINAL VERSION FOR PUBLIC RELEASE (amended 07/01/2026)
Prepared by the Climate Support Officer and circulated within Shropshire Council

Environmental disclosure and data analytics supported by:

1. Introduction

Shropshire Council began monitoring its carbon footprint in 2019. This report updates the Council's carbon footprint highlighting any changes against the baseline and previous year's monitoring. The report addresses the following initial questions:

1.1 What is Shropshire Council's latest corporate carbon footprint (2025)?

NET emissions (2025) ≈ 40 $ktCO_2e$. Where 1k = 1'000 tonnes CO_2 equivalent.

1.2 How has this changed from that the Council's baseline year (2019)?

NET emissions have reduced by over a third - 35% (-22 $ktCO_2e$) over seven years.

1.3 How have the Council's emissions changed from the previous the year (2024)?

NET emissions have reduced by around 20% (-10 $ktCO_2e$)

1.4 What initiatives have helped to achieve this? Projects reflect activities from all directorates across the whole organisation:

- Commissioning and procurement (all services).
- Council property, schools and social housing decarbonisation.
- Highways and transport decarbonisation.
- Biochar and Pyrolysis (carbon capture, storage).
- Staff engagement: Carbon Literacy, website and e-learning.
- Circular economy, reduce, reuse, recycle.

1.5 What other factors have had an influence? Recent changes in service delivery, assets, and working arrangements.

1.6 Is the Council 'on track' for NET-zero by 2030? It looks unlikely, due to the emission reduction gradient required (see p5, p6,9).

1.7 What are the economic benefits of NET-zero? Please see Annex C (p24).

1.8 How has Shropshire Council helped decarbonise the County as a whole? (p18)

The Councils regulatory role, policies and partnership work with Shropshire Climate Action, Marches Energy Agency, Affordable Warmth and the Marches Growth Hub.

1.9 What additional activities, policies, support for climate action, are planned?

A continuation of Carbon Literacy Training, partnerships inc. Marches Forward and Shropshire Climate Action. Robust Environmental and Social Governance policies.

1.10 The report outlines current and planned projects addressing the carbon gap, stressing the importance of focusing efforts where emissions are highest.

1.11 To reach NET-zero by 2030 requires an annual reduction of around 16% per year, decarbonisation needs to be continuous and progressive towards that goal.

1.12 Following COP30 hosted in Belém, Brazil, the UK has united with countries globally to re-affirm efforts to keep average global temperature increases to well below 2°C.

1.13 View the Climate Dashboard which shows the Council's carbon footprint and other environmental key performance indicators (KPI's). Further information about the Council's response to the Climate Emergency on Shropshire Climate Action.

2. Carbon pathway

2.1 The challenge of getting to NET-zero is best illustrated with a future projection. Shropshire Council has been on a bumpy journey so far (dark green dashed line). The pandemic year is evidential in the data. Three pathways are shown (NET emissions):

a) A gradual slope (-5% per year) to achieve NET-zero by 2040. (red).
b) A medium slope (-8% per year) to achieve NET-zero by 2035. (amber).
c) A rapid descent (-16% per year) to achieve NET-zero by 2030. (green).

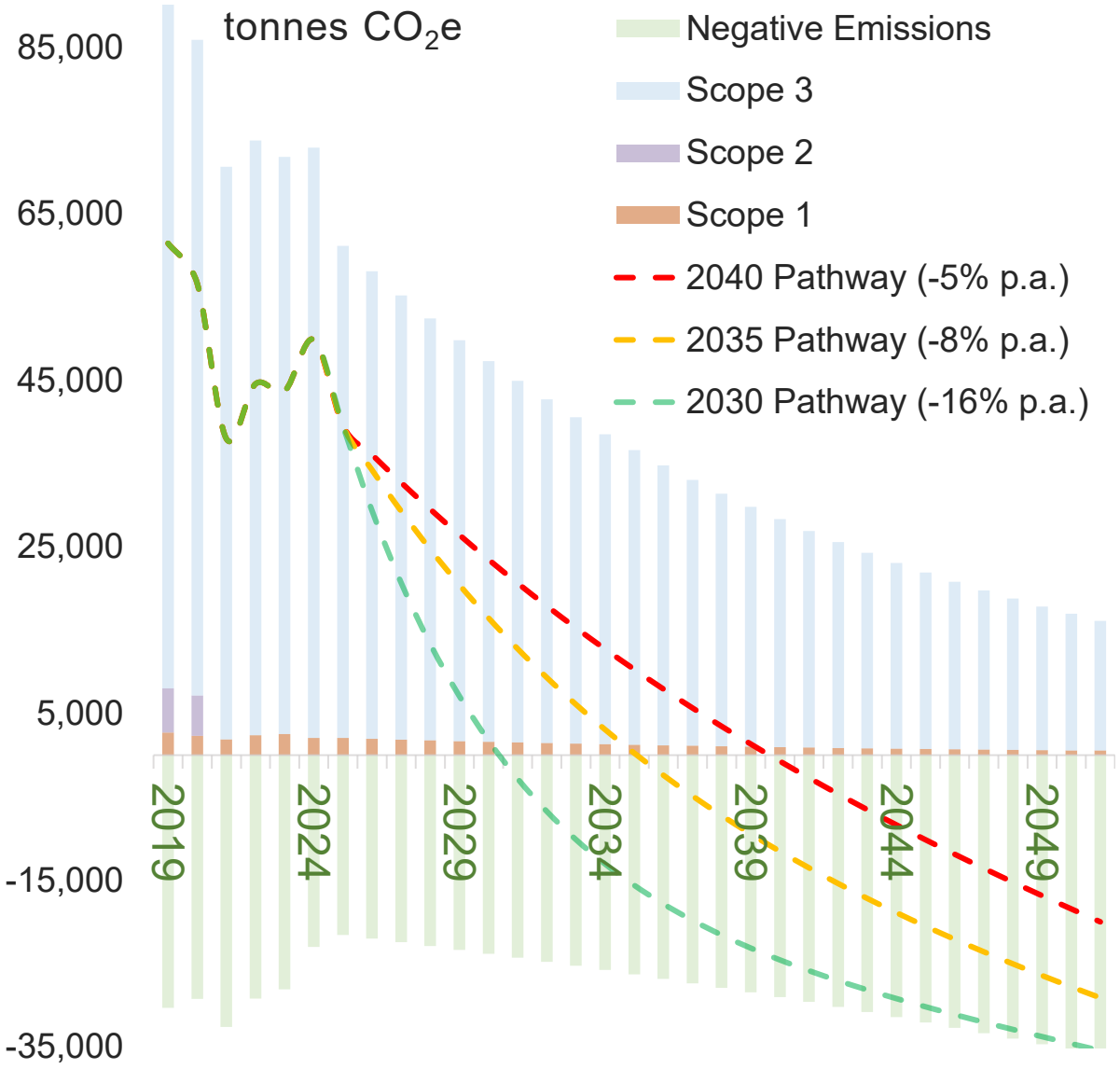


Figure 1 Carbon reduction pathway

2.2 The chart shows three projected carbon reduction scenarios for Shropshire Council to achieve NET-zero. Past performance indicates an average annual reduction of about 5%, matching the 2040 NET-zero pathway (- - -). Therefore, current progress suggests the 2040 target is the most likely outcome, ahead of the Governments 2050 target.

2.3 The illustration shows negative emissions as light-green shaded bars below the base of Scope 1 (brown). There is an assumed increased negative offset (2% year-on-year) via carbon capture and storage to help negate the remaining GROSS emissions.

3. Carbon monitoring method

3.1 Shropshire Council is reporting its performance for the financial year 2025 using the LGA Greenhouse Gas Accounting Tool. Scopes (1,2,3) data as outlined in the FAQs.

3.2 Scope boundaries as per the GHG Protocol (Corporate Standard) methodology and latest UK Government Guidelines. For the purposes of carbon reporting across the local authority corporate operations the following categories have been identified for each emissions scope and category:-

Table 1 All scopes (defined in LGA GHG accounting tool)

Emissions scope	*Emission source (ref. LGA)*	*Detail*
Scope 1	• Building's heating. • Authority's Fleet.	Corporate and public buildings. (kWh gas, oil *or* L of fuel).
Scope 2	• Electricity consumed - Buildings and streetlighting.	Green tariff (zero carbon) supported by efficiency measures.
Scope 3 **(internal)**	• Staff Business Travel. • Staff Commuting. • Home working. • Water use and disposal. • Waste from own operations.	Staff expense mileage and commuting estimate. Working from home (energy est.). Water consumption (m3). Commercial recycling (own operations) with Veolia.
Scope 3 **(outsourced)**	• Leisure facilities/centres. • PFI (ext. managed sites). • Schools (Council maintained). • Social housing - STAR. • Highways maintenance (Kier). • Health & social care – OF * • Legal & financial – OF * • ICT & BPO – OF * • Civil Defence – OF *	Leisure operators' utility data. PFI = Private finance initiative, (externally managed buildings). STAR housing and Schools are estimated based on their energy certificates & local averages. Highways data from Kier Ltd. *Outsourced suppliers and service providers are estimated using Oxygen Finance (Insights Carbon).
Negative or avoided emissions	• Carbon capture & storage. • Domestic recycling**	Council land: trees & vegetation. Domestic waste data supplied by Veolia (2025 WRATE Report).

* OF = Insights Carbon - Oxygen Finance (online procurement analytical dashboard).

** Material Recovery Facility (MRF) and Energy from Waste (EfW).

4. Corporate emissions trend

4.1 To date, a total of seven years' emissions has been compiled using the same methodology to make a fair comparison against the baseline (FY2019).

Table 2 Corporate emissions (five years shown)

Scope	FY2021	FY2022	FY2023	FY2024	*FY2025	Last yr. Change	7-Year Change
Scope 1	1,894	2,392	2,539	2,080	2,072	0%	-24%
Scope 2	0	0	0	0	0	0%	0%
Scope 3	68,734	71,383	69,289	70,842	59,075	-16%	-29%
GROSS	70,629	73,775	78,517	72,922	61,147	-15%	-33%
Negative emissions	-32,643	-29,208	-28,102	-23,018	-21,808	5%	28%
NET	**37,985**	**44,567**	**50,415**	**49,904**	**39,839**	-20%	-35%

4.2 *The reporting year FY2025 refers to the Fiscal Year 2025, covering April 1st, 2024, to March 31st, 2025. For simplicity, "FY" is omitted from tables and text later in this report.

Annual change in performance (FY2024 to FY2025)

4.3 The overall decrease in NET emissions is due to the following:

- GROSS: (15% decrease compared to FY2024).
- Decrease in spend across service areas (estimate based on spend; notably Health & social care adults and children's).
- Rationalisation of schools (LA maintained) – due to academisation.
- Improvements in STAR housing stock and social housing.
- Some corrections and improvements in methodology and data.

4.4 Like all local authorities, the Council's carbon performance monitoring has been influenced by the Covid pandemic, which is evident in the data. The FY2025 Carbon Monitoring Report shows that NET emissions (40 $ktCO_2e$) have decreased by 20% compared to the previous year and a 33% reduction in GROSS corporate emissions since FY2019; demonstrating the Council's commitment to carbon reductions.

4.5 During the Covid pandemic, carbon emissions dropped for several reasons:

- Reduced building and vehicle use.
- Decreased service delivery and spending.
- Changes in public behavior.
- Temporary shutdowns and rationalization.

These factors combined to produce the notable reduction in the Council's corporate NET emissions observed in the FY2021 Carbon Monitoring Report data.

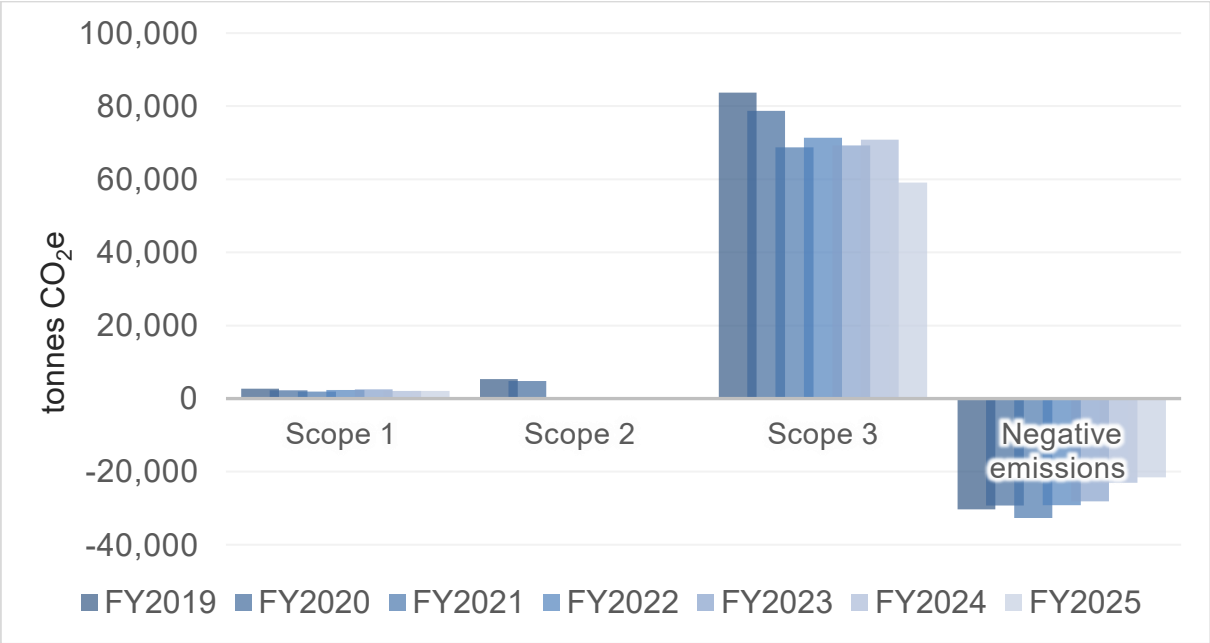


Figure 2 All emissions (seven-year dataset)

4.6 Scope 1 emissions have reduced by 24% over seven years. Shropshire Council's buildings and vehicles are being used less compared to the previous years, in addition to efficiency improvements and rationalisation.

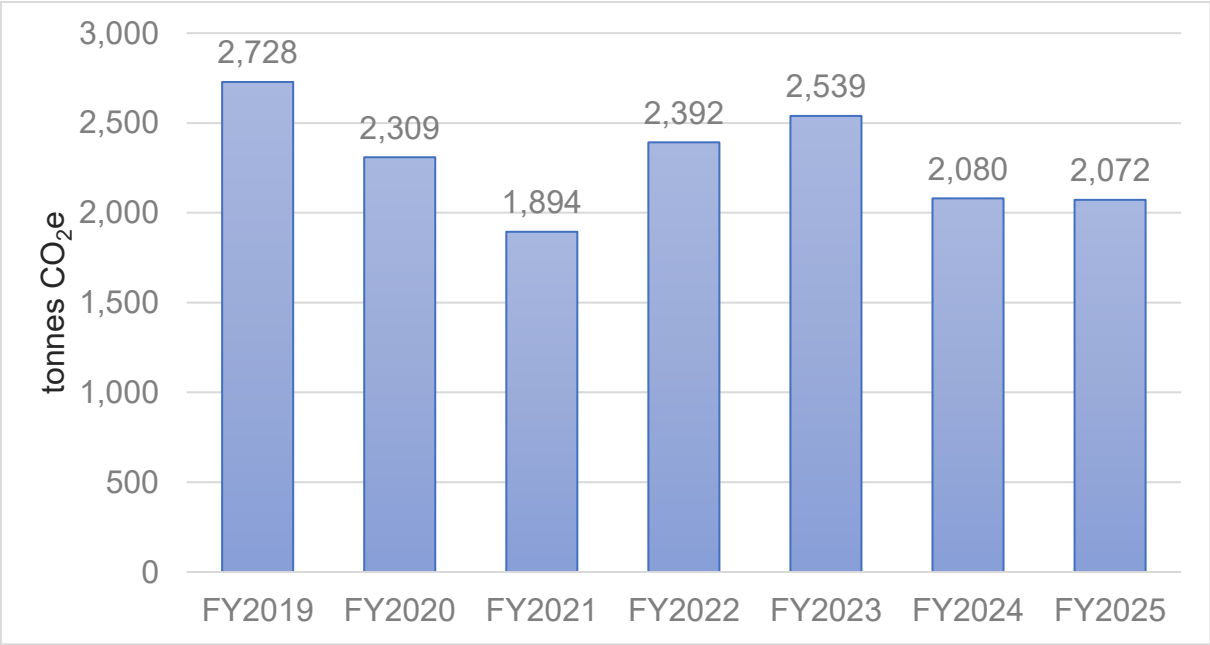


Figure 3 Scope 1 (seven-year dataset)

4.7 Scope 2 emissions became zero in 2020 due to a zero-carbon electric tariff. The Council recognise that reducing energy consumption is important from a cost perspective and Asset Management is progressing to make efficiency savings as part of the Council's Carbon Reduction Programme.

4.8 Scope 3 emissions have reduced by 29% over seven years. However, the estimate relies on supplier spend plus average carbon intensity factors, in addition to measured data. Reductions likely reflect improvements in service delivery and efficiency.

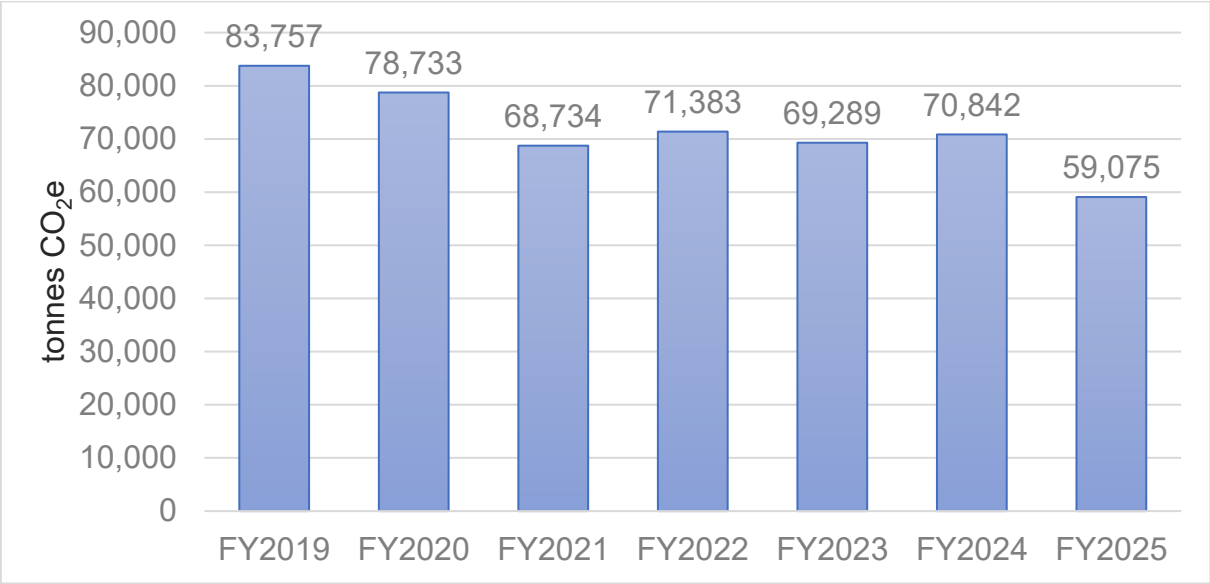


Figure 4 Scope 3 (seven-year dataset)

4.9 Negative emission sets: have come down by 28% over seven years, reflecting changes in the domestic waste recycling contract with Veolia, but also changes in natural carbon sinks on Council's land. With new Pyrolysis plants coming online and carbon capture in biochar, "carbon sinks" or negative emissions will likely improve going forwards.

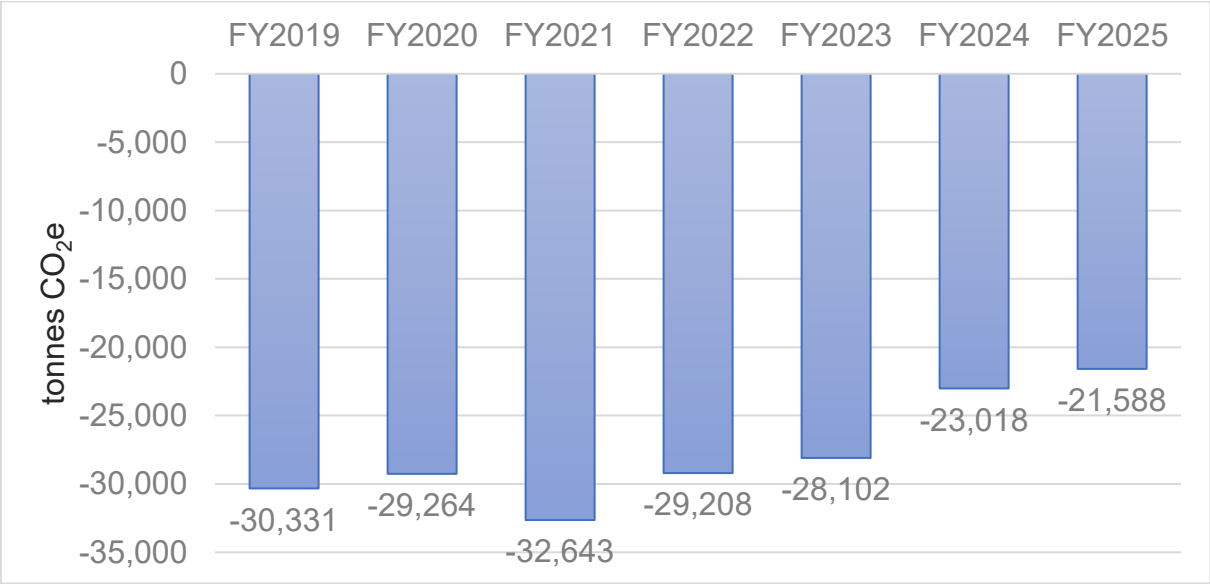


Figure 5 Negative emissions (seven-year dataset)

Is the Council 'on track' to achieve NET-zero by 2030?

4.10 Despite the 35% decrease in NET emissions (22 $ktCO_2e$) over a seven-year period, it is unlikely the Council will meet its target (since it would now require a steep 16% year-on-year reductions for the next five years). With on average 5% reductions every year since 2019, the organisation is on a pathway to reach NET-zero by around 2040.

4.11 Buildings and transport programmes in addition to renewable energy and carbon capture and storage are all helping towards the Council's NET-zero goal.

4.12 The Council has improved its scope 3 supply chain emissions estimate, and performance monitoring will be refined as more data becomes available.

5. Carbon footprint – summary

5.1 The GROSS emissions across all the local authority corporate operations amount to 62 $ktCO_2e$ (the majority of this is classed as Scope 3). This is about 2% of the County total.

5.2 Scope 1 (direct emissions) are from public and administrative buildings (1.2 $ktCO_2e$) with fossil fuels used for heating and the transport fleet (0.9 $ktCO_2e$).

5.3 Scope 3 makes up most of the emissions; ranked highest to lowest. Health and social care (33.8 $ktCO_2e$), social housing (10.1 $ktCO_2e$), LA maintained schools (3.3 $ktCO_2e$) then leisure centres (2.6 $ktCO_2e$) and well-to-tank: (2.2 $ktCO_2e$).

5.4 Collectively travel and transport and travel accounts for 3.5 $ktCO_2e$ so it is important to decarbonise this sector, through electrification and active travel.

Table 3 Corporate GROSS emissions by scope

Scope	*Emissions source*	*GHG (tCO_2e)*	*% of GROSS*
Scope 1	Corporate heating	1,224	2%
	Transport fleet	848	1%
Scope 2	Electricity	0	0%
Scope 3 (internal)	Well To Tank *	2,215	4%
	Staff Commuting	2,026	3%
	Staff Business Travel	702	1%
	Home working	428	1%
Scope 3 (external)	Health & social care – OF **	33,788	55%
	Social housing - STAR	10,083	16%
	Schools (LA maintained)	3,256	5%
	Leisure centres	2,584	4%
	Legal & financial – OF **	1,787	1%
	Highways maintenance (Kier)	1,292	2%
	ICT & BPO – OF **	791	1%
	PFI (ext. managed sites)	318	1%

5.5 * New data provided by LGA GHG accounting tool Well to tank; calculated automatically and accounts for transport, distribution to the point where the fuel or utility is used.

5.6 **Oxygen Finance data was substituted where data is unavailable in-house or from the Council's suppliers: Insights Carbon - Oxygen Finance. One benefit is that the platform reports both spend and carbon emissions by market, supplier and service category.

5.7 The supply chain (Scope 3) makes up vast majority of the Councils emissions:

Table 4 Scope 3 as a percentage of GROSS

97%	*of GROSS = Scope 3*
87%	*of GROSS* = Outsourced Scope 3

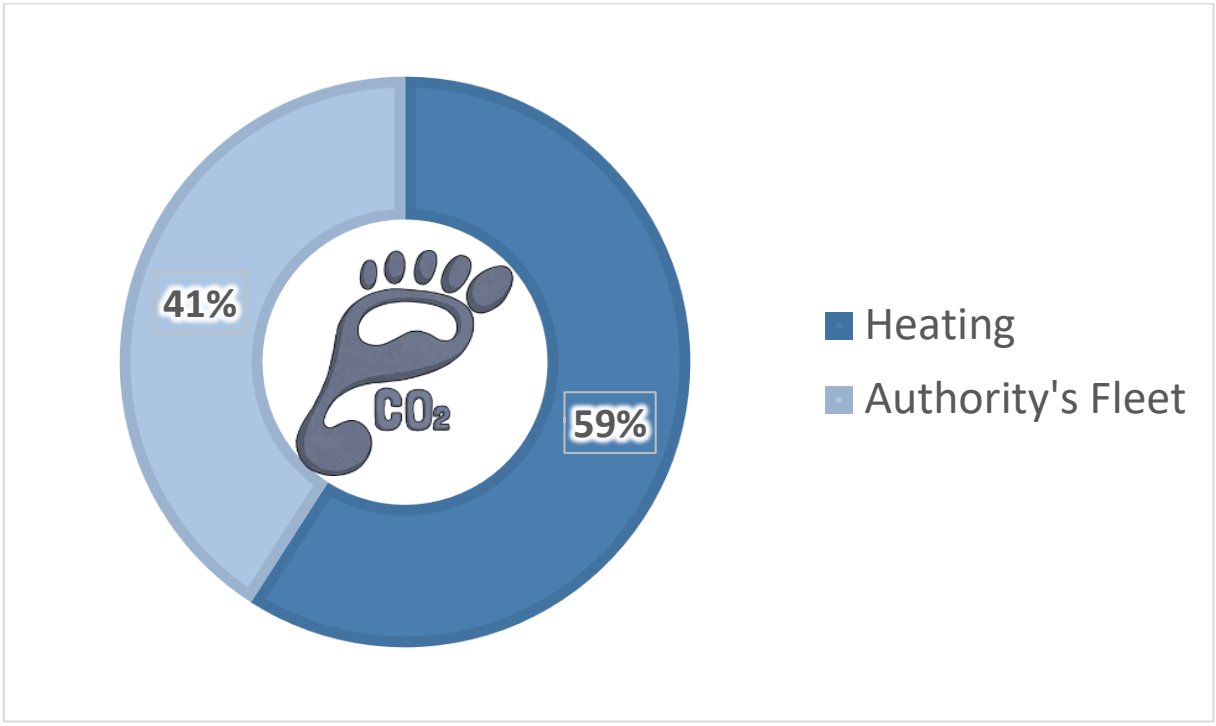


Figure 6 Scope 1 (direct) emissions = 2 $ktCO_2e$

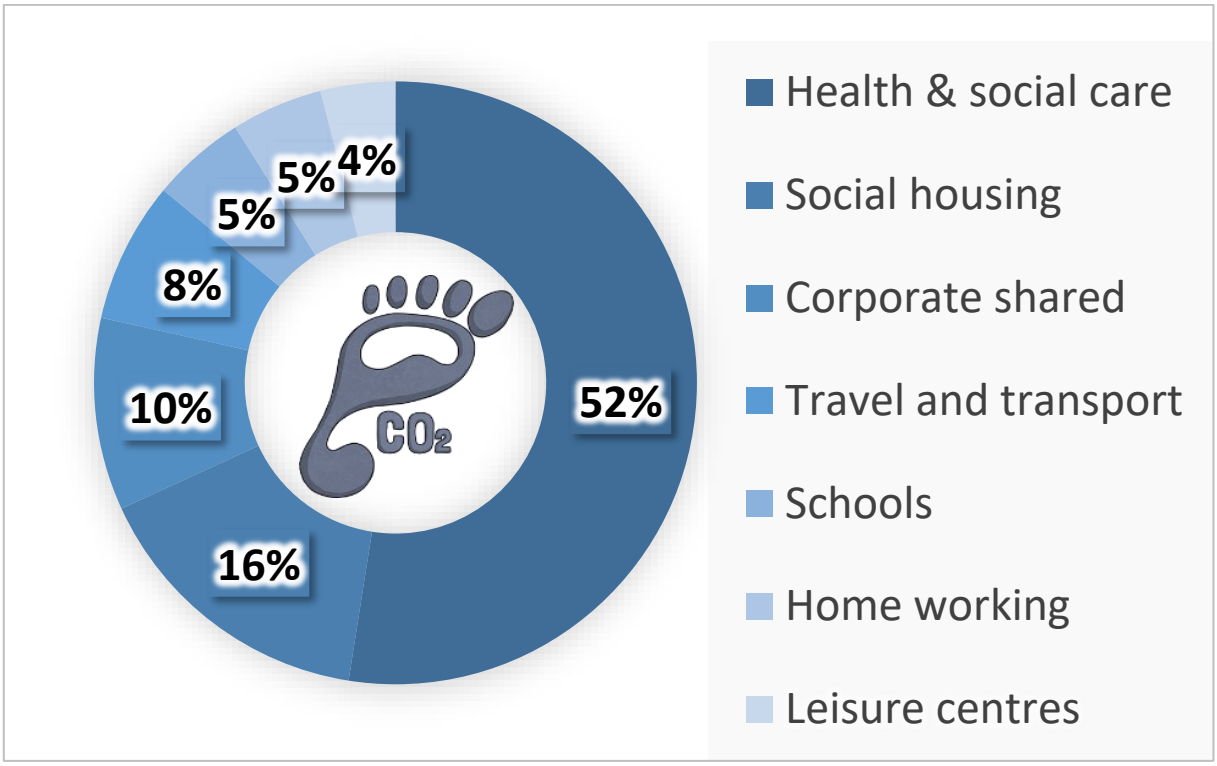


Figure 7 Corporate GROSS emissions = 62 $ktCO_2e$

5.8 Figure 7 presents emissions sub-divided by 'end usage'. For clarity, the first four categories consolidate multiple datasets, reducing the number of segments displayed. For instance, "Corporate shared" brings together all emissions linked to the management of the Council's buildings and associated administrative functions.

Schools carbon budgets

5.9 Table 5 below shows the carbon footprint associated with local authority-maintained schools only (academy trusts are excluded). Suggested reductions of 8%/yr until 2035.

Table 5 Maintained school carbon budgets (tCO_2e)

Service	2025	2026	2027	2028	2029	2030	*Reduce/yr.*
LA Schools	3,256	2,996	2,756	2,535	2,333	2,146	-8%

5.10 In January 2025, there were 151 State-Funded schools in Shropshire of which

- 127 Primary (76 LA Maintained and 51 Academy) .
- 20 Secondary (2 LA Maintained and 18 Academy) .
- 1 All Through School (Academy) .
- 3 Special Schools (all Academy) .
- 1 PRU (LA Maintained) .

Seventy six primary schools and one secondary school are maintained by the Council; these may be decarbonized via private frameworks and sector support such as:- Climate Ambassadors, Lets Go Zero, WME Framework.

5.11 Schools are responsible to commission and publish display energy certificates (DEC's) which depending on the size get renewed annually.

5.12 The academisation of schools means that the local authority will be responsible for fewer primary and secondary schools over time.

5.13 All Shropshire state schools are estimated to be responsible for around 16 ktCO2e.

Leisure centre carbon budgets

5.14 Table 6 below shows the collective carbon footprint associated with local authority-operated or funded leisure facilities in Shropshire with 8% reductions until 2035.

Table 6 Leisure centre carbon budgets (tCO_2e)

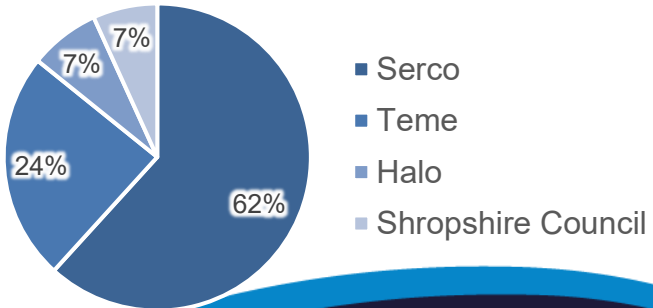
Service	2025	2026	2027	2028	2029	2030	*Reduce/yr.*
LA Leisure	2,584	2,377	2,187	2,012	1,851	1,703	-8%

5.15 Asset consolidation will impact on the overall emissions going forwards.

5.16 Most leisure facilities are managed by external operators who purchase utilities independently from Shropshire Council. Display energy certificates (DEC's) should always be referred to and operators are legally obliged to make them publicly visible.

5.17 Leisure centre emissions by operator (total utility spend was around £1.4m per year).

Operator	GHG (tCO_2e)
Serco	1,595
Teme	621
Halo	191
Shropshire Council	176
Grand Total	**2,584**



6. Directorate emissions

Shared resources

6.1 Carbon budgeting and setting targets needs to represent the impact of controllable and fixed activities associated with service delivery. Shared delivery footprint should be distributed fairly across the directorates and service functions (Table 7).

Table 7 Shared service delivery emissions

Category	*$tCO_2e/yr.$*	*Data source / assumption*
Staff home energy	428	40% staff WFH (20% of home energy)
Staff travel	2,728	Business and commute estimate
Corporate management	5,756	Based on Oxygen Finance est.
ICT & technology services	791	Based on Oxygen Finance est.
TOTAL	**9,702**	**Associated with all service delivery**

Directorate carbon budgets

6.2 Whilst the Council's emissions represent only 2% of County total, Council services can influence up to a third of Countywide territorial emissions by enacting regulatory policies in domestic, industry & commerce, and transport sectors.

6.3 Table 8 below shows the carbon footprint associated with each directorate, together with Countywide emissions influenced. They are ranked highest to lowest emissions for each sector together with a target annual reduction (10%). The County sector emissions below are identified as the closest match to the associated directorate.

Table 8 Directorate influence on County ($ktCO_2e$)

Directorate responsibility	*Council ($ktCO_2e$)*	*Council reduce/yr.*	*County ($ktCO_2e$)*	*County reduce/yr.*
Strategy	-21.8	-1.09	1,262	100k
Commissioning	23.4	1.88	81	8k
Care & Wellbeing	20.2	0.61	n/a	n/a
Children & young people	13.6	0.41	n/a	n/a
Communities & customer	10.1	0.30	362	35k
Enabling	8.9	0.27	n/a	n/a
Infrastructure	3.7	0.11	632	60k

6.4 Please see Annex B – Directorate budget methodology p23 for an explanation on how the budgets have been allocated to each service. This may need further refinement to ensure the emissions and responsibility is apportioned fairly.

Directorate carbon reduction targets

6.5 Table 9 presents each service's carbon footprint and annual reductions of between 3 and 8% (depending on service) to 2030, ranked by emissions. See also Annex B (p23).

Table 9 Directorate targets (tCO_2e)

Directorate	*2024*	*2025*	*2026*	*2027*	*2028*	*2029*
Strategy	-21,808	-22,898	-23,988	-25,079	-26,169	-27,260
Commissioning	23,434	21,559	19,684	17,810	15,935	14,060
Care & Wellbeing	20,178	19,572	17,698	15,823	13,948	12,074
Children & yng. ppl.	13,610	13,202	11,327	9,453	7,578	5,703
Communities & cust.	10,083	9,781	7,906	6,031	4,156	2,282
Enabling	8,920	8,652	6,778	4,903	3,028	1,154
Infrastructure	3,718	3,607	1,732	-143	-2,017	-3,892

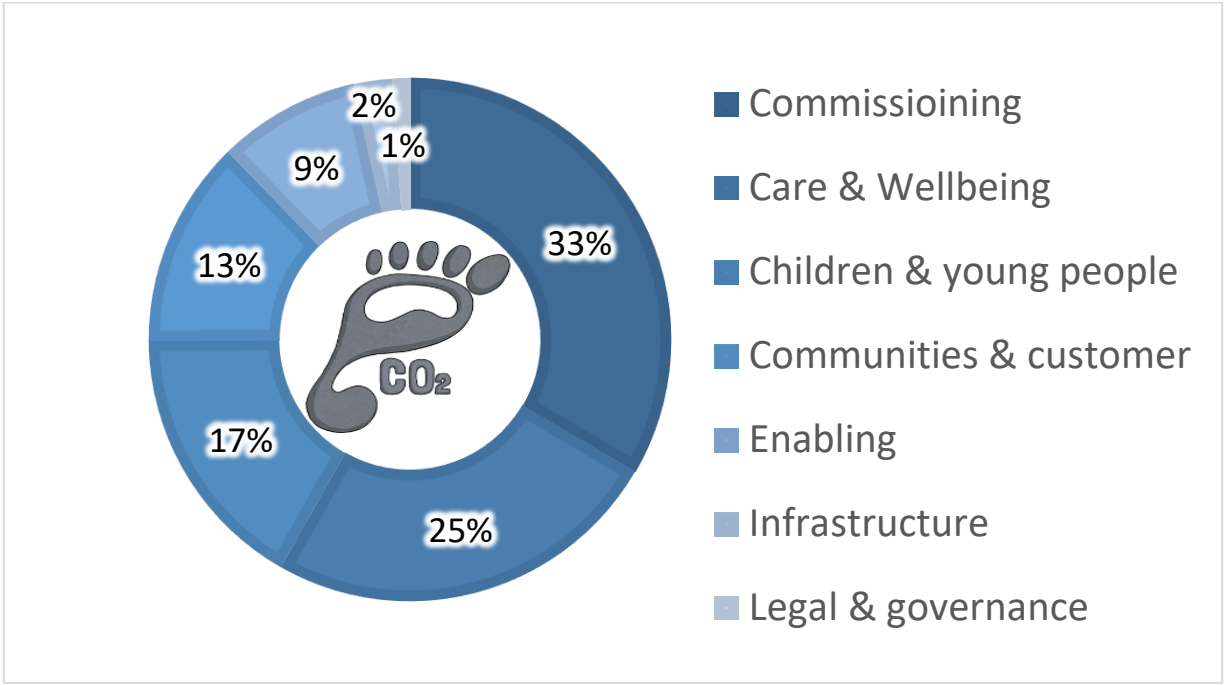


Figure 8 Corporate GROSS emissions by directorate 2025

6.6 Service emissions will improve with measured datasets becoming available.

Carbon intensity metrics

6.7 **Staff carbon intensity = 22 tCO_2e/person/yr**. This is the Council's GROSS emissions apportioned to each employee (FTE in 2025).

6.8 **Financial carbon intensity = 0.17 $kgCO_2e$/£/yr** . The Council's GROSS emissions divided by the total commissioned spend in 2025. (About the weight of a medium apple):

Average carbon intensity – public sector progress

6.9 Insights Carbon - Oxygen Finance data reveals commissioned spend and carbon emission by market sector. Shropshire Council is aligned with the national average

Table 10 Carbon intensity GROSS and NET comparison

0.17	**$kgCO_2e$/£ based on GROSS emissions**
0.11	$kgCO_2e$/£ based on NET emissions

6.10 Table 11 below summarizes carbon impacts from commissioned spending. In Health & Social Care for example spent £170.6 million and associated with 33,788 tCO_2e, or 0.20 $kgCO_2e$ per GBP, with a target of 0.16 $kgCO_2e$/£. Sector data highlights differences in emissions, with some exceeding the Council average. It underscores the need for targeted service-actions and ongoing monitoring to meet sustainability goals.

Table 11 Carbon performance and targets by sector (2025)

Spend per Market	*Value (£)*	*CO_2e (tonnes)*	*Carbon Intensity ($kgCO_2$/£)*	*Target (2030)*
Health & Social Care	£170,605,831	33,788	0.20	**0.16**
Buildings*	£69,436,695	10,667	0.15	**0.12**
Waste & Environment*	£40,730,046	36,888	0.91	**0.72**
Highways &Transport*	£38,279,361	13,586	0.35	**0.28**
Legal & Financial	£19,990,802	1,787	0.09	**0.07**
Corporate	£9,852,990	1,186	0.12	**0.10**
ICT & BPO	£5,989,692	791	0.13	**0.11**
Culture & Leisure*	£3,997,104	664	0.17	**0.13**
Civil Defence	£467,455	94	0.20	**0.16**

*Omitted from Shropshire Councils accounting as measured carbon-data is availble.

6.11 Figure 9 below illustrates national average carbon-intensity coefficients for the public sector, over the last five years , demonstrating progress in supply chain emissions.

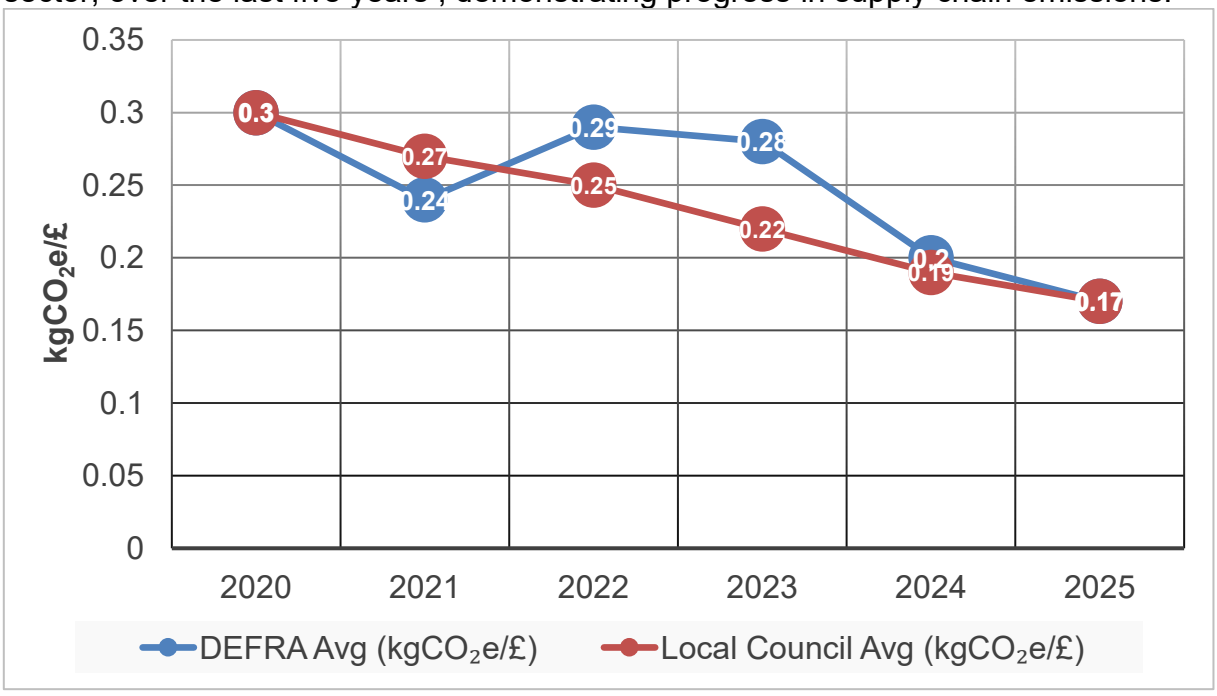


Figure 9 National average carbon-intensity (public sector)

7. Negative or avoided emissions

7.1 The methodology for calculating how much carbon is stored through land management: Mapping Carbon Emissions & Removals in Land Use.

7.2 In terms of the whole County (3,197km^2) Shropshire has about 15% tree cover. Of this, 9% consists of younger woodland and the other 6% is woodland that is at least one-hundred years old. Most of the remaining land is believed to be permanent grassland, which produces very little carbon emissions or absorption (Table 12):

Table 12 Countywide carbon stored or emitted in land-use

LULUCF NET Emissions	*Emissions ($ktCO_2/yr.$)*
Forest land	-183
Cropland	+ 95
Grassland	-114
Settlements	+ 12
Peatland	+107
Bioenergy crops	-0.7
Other	1.3
NET TOTAL	**-83**

7.3 For Council managed land and projects, an estimated -7,139 tCO_2 is sequestered per year by natural carbon sinks across 2,494 hectares (ha) as follows (Table 13):

Table 13 Carbon stored in Council-land

Land use / category	*Area (ha)*	*$tCO_2/yr.$*	*Reference*
Countryside sites	479	- 2,894	Approximate figures as habitats for all holdings aren't known.
Other freehold	1,667	- 2,928	
Leasehold	203	- 353	
Trees planted prior to Climate emergency	Varied (unknown)	- 420	Trees planted since 2010, but not hedgerows.
Trees planted after climate emergency	Varied (unknown)	- 431	No trees planted for the period
NET TOTAL	**2,494 hectares**	- **7,139**	
Claimed after declaring the Climate Emergency		- **431**	

7.4 Only large areas outside the countryside, like the Old Riverbeds, are counted separately. Shropshire Council has not measured changes in carbon storage for hedgerows or individual trees. Carbon storage differs widely by habitat, tree type, soil, and land management. The organisation does not hold reliable information for Council-owned land from before 2019.

Circular economy

7.5 Sustainable waste management avoids emissions through the reuse of materials to offset the carbon impact of manufacturing newly extracted materials (Table 14).

Table 14 Sustainable waste management (avoided emissions)

Recycling and reuse	*$tCO_2e/yr.$*	*Reference*
Domestic recycling	-14,669	NET emissions: WRATE assessment Veolia (May 2025)
Commercial recycling	-84	Shropshire Council Commercial Movement Analysis Report 24/25
Warp It (material reuse)	-38	Shropshire performance metrics

Negative or avoided emissions summary

7.6 Revisions to the domestic recycling model (WRATE) and the methods for calculating material recovery have resulted in a lower overall estimate of avoided emissions. Furthermore, as the national electricity grid becomes greener, the carbon emissions avoided by energy generated from waste (EfW) are now less significant than in the past.

7.7 The WRATE model shows that direct emissions from vehicles used, and the incinerator itself are more than compensated by the emissions avoided from material recovery plus energy recovery. Resulting in the favorable -15ktCO2e (negative emissions).

7.8 The inclusion of avoided emissions as the Council's negative emissions is subject to debate. This uncertainty arises because the carbon savings largely result from materials originally manufactured outside the County. Similarly, energy recovered from waste contributes to carbon mitigation, although this impact is comparatively smaller.

7.9 Since the Council declared a climate emergency, over 130,000 trees have now been planted on Council land to help absorb carbon dioxide. However, the number of new tree planting projects has gone down, and there is now less Council land available for planting. As a result, the amount of naturally stored carbon by plants and trees each year has decreased the overall natural carbon sinks as shown in Table 15 below.

Table 15 Corporate negative or avoided emissions (2025)

Negative (or avoided) emissions	*$tCO_2e/yr.$*	*Percent*
Material reuse (avoided emissions) *	- 38	0%
Commercial waste contract *(avoided…)**	- 84	0%
Domestic waste contract (avoided…)	- 14,669	68%
Natural carbon sinks	- 7,139	32%
Negative emissions total	- **21,930**	100%

*Counted as part of Scope 3 (in-house measured data).

8. County emissions

8.1 Shropshire Council's corporate (organisational) emissions make up about 2% of the County total, but its regulatory policies affect roughly a third of all territorial emissions Countywide. Table 14 presents the projected (estimated) County emissions for 2025, derived from the five-year trend prior to the latest available Government data (2023).

Table 16 County emissions 2025 (projected)

Shropshire County 2025	*2,387 ktCO2e*	*% of County*
Agriculture	1,035	43%
Transport	632	26%
Domestic	362	15%
Industry & commerce	227	10%
Waste Management	81	3%
Public Sector	49	2%

Data source = UK GHG emissions: local authority and regional.

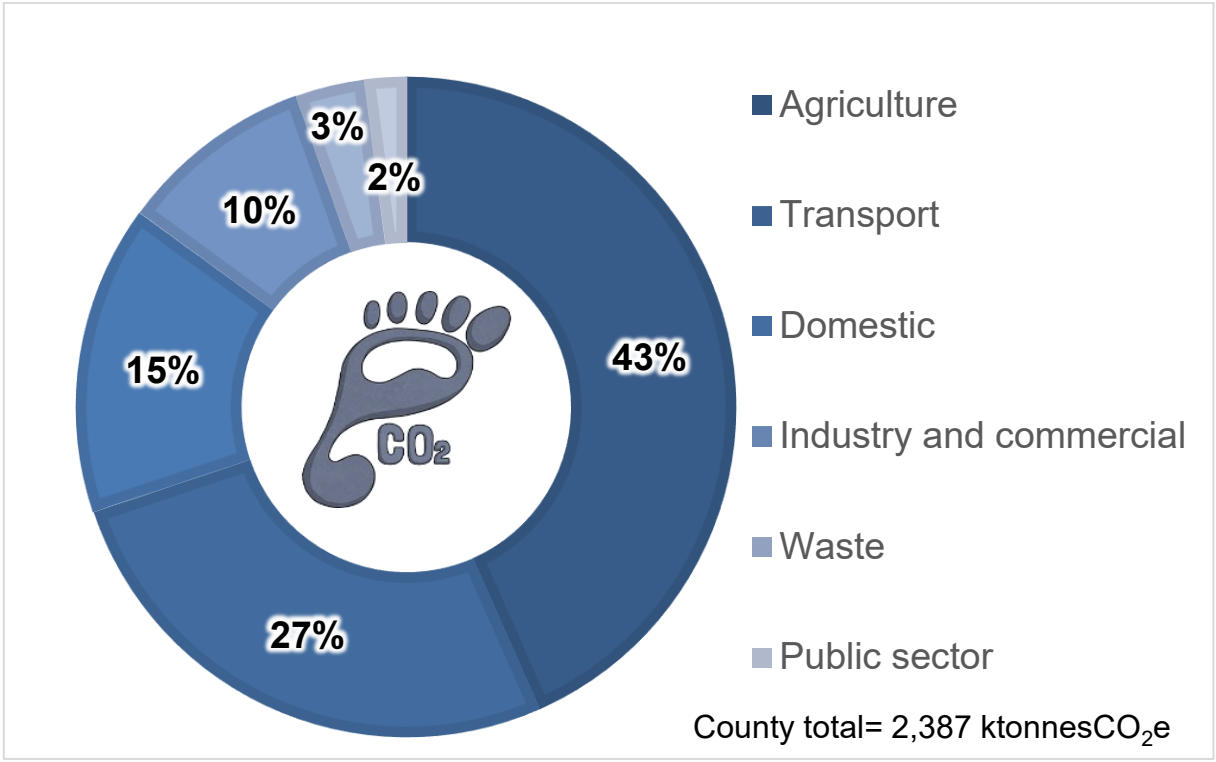


Figure 10 County emissions 2025 (projected)

8.2 UK local authorities are typically responsible for a third of County emissions because of planning and regulatory roles. Shropshire's total is 2,387 $ktCO_2e$, so this equates to at 788 $ktCO_2e$ the responsibility of the planning authority, with the remaining 1,599 $ktCO_2e$ attributed to national policy and other stakeholders.

Household emissions

8.3 Households account for 15% of Shropshire's emissions, with an estimated 143,827 homes and 337,732 residents in 2025. The average carbon footprint in Shropshire is projected at 19 tCO_2e per household and 8 tCO_2e per person, based on the latest available data. A complete set of personal carbon emissions are shown (Table 17).

Table 17 Domestic emissions 2025 (projected)

Domestic only	*County total ($ktCO_2e$)*	*Per person (tCO_2e)*	*Household (tCO_2e)*	*As a %*
Diet**	931	2.8	6.5	34%
Stuff**	632	1.9	4.4	23%
Transport*	442	1.3	3.1	16%
Heating*	275	0.8	1.9	10%
Flights**	366	1.1	2.5	13%
Electric*	87	0.3	0.6	3%
TOTAL	**2,733**	**8**	**19**	**100%**

*Primary data source = UK GHG emissions: local authority and regional - GOV.

**Secondary = ONS 2025, Heatable, ESCEO, DEFRA (food, goods/stuff and flights).

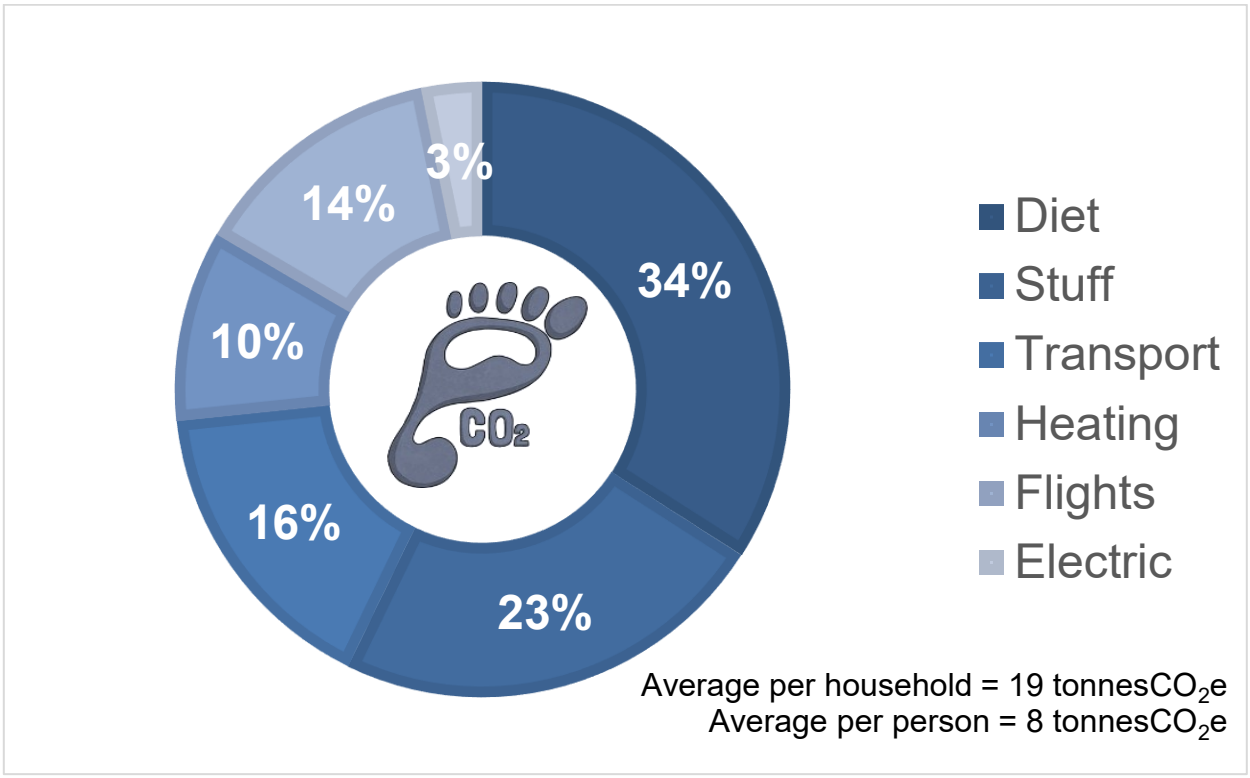


Figure 11 Shropshire household emissions 2025 (projected)

You may measure your own carbon footprint using the WWF Footprint Calculator.

9. Project register

Table 18 Live projects (funding, approval in place)

Project	*Summary*	*Strategy Theme*	*Est. Benefits (tCO_2e, £s)*	*Corporate or Countywide?*
Carbon monitoring	Annual carbon monitoring, accounting service.	Governance Engagement	tCO_2, £/yr. (all projects)	Corporate
Carbon Literacy Climate Training	Roll out training to key services and e-module.	Governance Engagement	2 $ktCO_2$ £0.5m/yr.	Corporate
Maesbury Solar Farm (Oswestry)	2MW solar farm on former landfill, private wire.	Power Up Energy	600 tCO_2 /yr. £300k (est.)	Both
Biochar Joint Venture Plant	Investment in pyrolysis Biochar from pyrolysis	Power Up Carbon Capture	960 tCO_2/yr. £133k/yr.	Corporate
Biochar demonstrator	Construction of an automated pyrolysis and biochar Ludlow.	Power Up Carbon Capture	2 $ktCO_2$/yr. £385k/yr.	Both
Corporate roof solar PV	Solar PV on corporate Buildings and schools	Power Up Energy	300 tCO_2/yr. £250k/yr.	Corporate
Property (PSS) Sustainability	A three-tiered strategy to decarbonise & uplift estate.	Power Down Buildings	500 tCO_2/yr. £100k/yr.	Corporate
Carbon Reduction Programme	Collaboration, best practice to embed decarbonisation.	Power Down Buildings	500 tCO_2/yr. £100k/yr.	Corporate
Low Carbon Skills and PSDS	Secured £3m to decarbonise public building assets	Power Down Buildings	tCO_2, £/yr.	Corporate
Leisure Decarbonisation	Completion of Whitchurch Swimming Pool, all electric.	Power Down Buildings	8 tCO_2/y £10k/yr	Both
Leisure Decarbonisation	Bishops Castle SpArC Leisure Centre: ASHP/solar	Power Down Buildings	273 tCO_2/yr. £22k /yr.	Both
Affordable Warmth	Retrofit scheme for low-income households	Power Down Homes	tCO_2, £/yr.	Countywide
Authority fleet decarbonisation	2 electric bus services. 22 EVs, 25 hybrids.	Power Down Transport	100 tCO_2/yr. ~50 vehicles	Countywide
Highways decarbonisation	LED streetlamps (complete). Low carbon surfacing.	Power Down Resources	190 tCO_2/yr. £300k/yr.	Countywide
EV Charging Infrastructure	~320 Charge points installed Car parks and on-street.	Power Down Transport	tCO_2, £/yr.	Both
Active Travel	100 E-bikes hire service.	Power Down Transport	5 tCO_2, £/yr.	Both
Marches Growth	NET-zero support for commerce.	Power Down Buildings	tCO_2, £/yr.	Countywide
Warp It (reuse)	Re-use and repurposing Shared online platform.	Resource efficiency	160 tCO_2 £240k.	Both

9.1 The combined value of eighteen live projects is estimated to be circa £2m revenue (income plus savings) and mitigating 8.5ktCO_2e in greenhouse gas emissions.

Table 19 Planned projects (subject to funding, approval)

Project	*Summary*	*Strategy Theme*	*Est. Benefits (tCO_2e, £s)*	*Corporate or Countywide?*
Zero Ask (ESG*)	Survey top 100 suppliers, ESG* & data provision .	Engagement Governance	10 $ktCO_2$, £5m/yr.	Both
Up-skill services (sector guidance)	Develop staff deliverable project capability.	Engagement Governance	3 $ktCO_2$ £250k/yr.	Corporate
Staff Energy (Climate Challenge)	Champions: energy, travel and resources	Engagement Governance	5 $ktCO_2$ £1m/yr.	Corporate
Climate Strategy Review/Refresh	Five-year review: evidence and policies.	Engagement Governance	0.5 $ktCO_2$ £250k/yr.	Corporate
Local Area Energy Plan and capacity	Property/land for solar, wind, and bioenergy	Power Up Energy	4 $ktCO_2$, £3m/yr.	Countywide
Heat network – Sundorne	Feasibility for pyrolysis to heat corporate buildings	Power Up Energy	tCO_2, £/yr.	Both
STAR housing 1,300 Homes	£20m retrofit; heating, insulation, solar.	Power Down Buildings	10 $ktCO_2$/yr. £250k/yr.	Countywide
Staff home efficiency	Support efficiency via green finance.	Power Down Buildings	1 $ktCO_2$/yr.	Both
Heat Decarb. Plans	Secured LCSF for 16 HDP's and 3 feasibilities.	Power Down Buildings	37 tCO_2/yr. £50k/yr.	Corporate
School Decarbonisation	Oxon Primary School, decarb project : PV/LED.	Power Down Buildings	20 tCO_2/yr. £13k	Both
Utility-electric optimisation	Max demand review of current capacity.	Power Down Buildings	£100k/yr. .	Corporate
Property heating optimisation	BMS utilisation programme.	Power Down Buildings	200 tCO_2, £100/yr	Corporate
Leisure Decarbonisation	Shrewsbury Sports Village Extension ASHP, Solar PV and Pyrolysis	Power Down Buildings	tCO_2, £/yr.	Both
Public Rapid Chargers	Feasibility for Council-owned 'rapid chargers'	Power Down Transport	tCO_2, £/yr.	Countywide
Authority fleet decarbonisation	Continue with the EV and hybrid rollout plus HVO.	Power Down Transport	0.8 $ktCO_2$/yr.	Corporate
Active travel (Highways)	Low-traffic areas and safe cycle routes.	Power Down Transport	tCO_2, £/yr.	Countywide
Waste Minimisation	Recycling and reuse. (domestic/commercial)	Power Down Resources	tCO_2, £/yr.	Countywide
Climate Resilience & Adaptation Plan	Identify local climate impacts and controls	Adaptation & Resilience	0 $ktCO_2$ £5m/yr.	Both

*Environmental and Social Governance.

9.2 The combined value—which includes both income and savings—of seventeen planned or pipeline projects is estimated to be up to circa £9.5 million, with the potential to mitigate approximately 32ktCO_2e per year in greenhouse gas emissions.

9.3 This level of emissions reduction will bring the organisation significantly closer to achieving NET-zero status. While some data gaps remain regarding project and overarching programme benefits, implementing a unified project management platform (such as integrating with the PMO Framework) to record and incentivize carbon savings will facilitate improved data collection bridging all directorates.

9.4 Establishing carbon budgets and targets at the directorate level will help to promote a culture of continuous improvement moving forward.

Live projects analysis (strategic themes)

9.5 There has been a strong input from Power-Up (renewable energy) projects and Power-Down (efficiency), also an ongoing programme of engagement and governance.

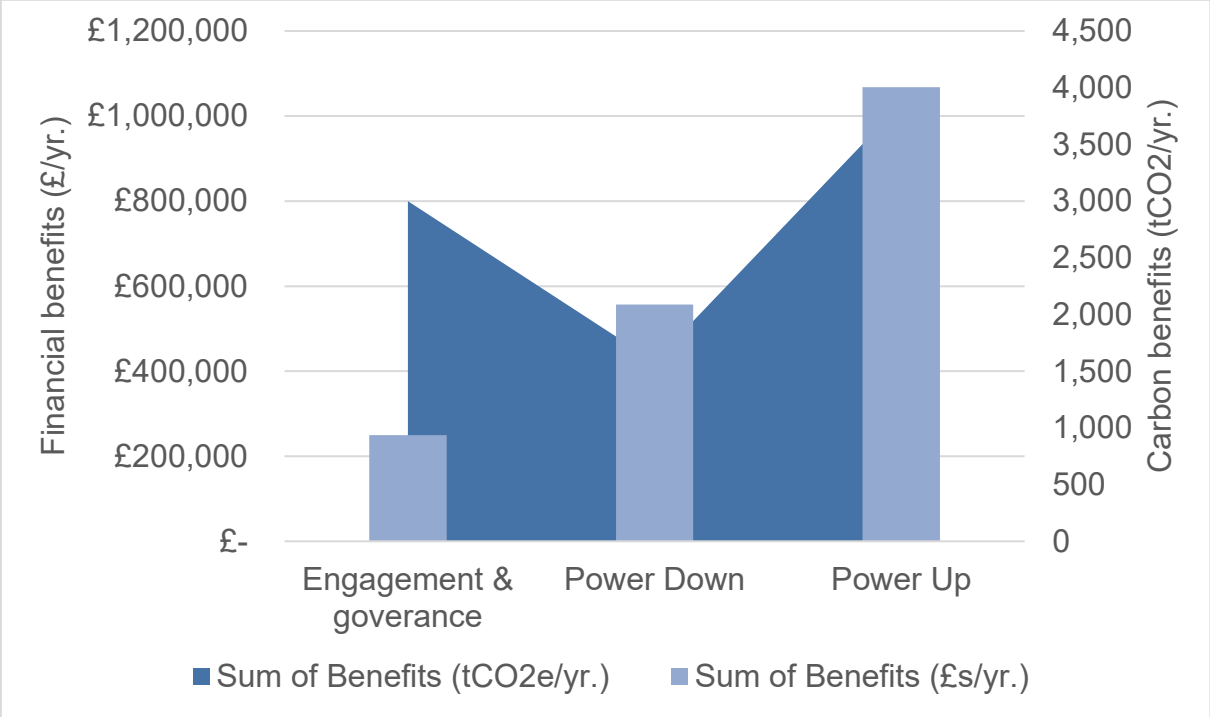


Figure 12 Live projects benefits distribution

Planned projects analysis (strategic themes)

9.6 The dataset for planned projects is incomplete at present, but given budget constraints, engagement and governance features strongly aswell as Power-Up projects.

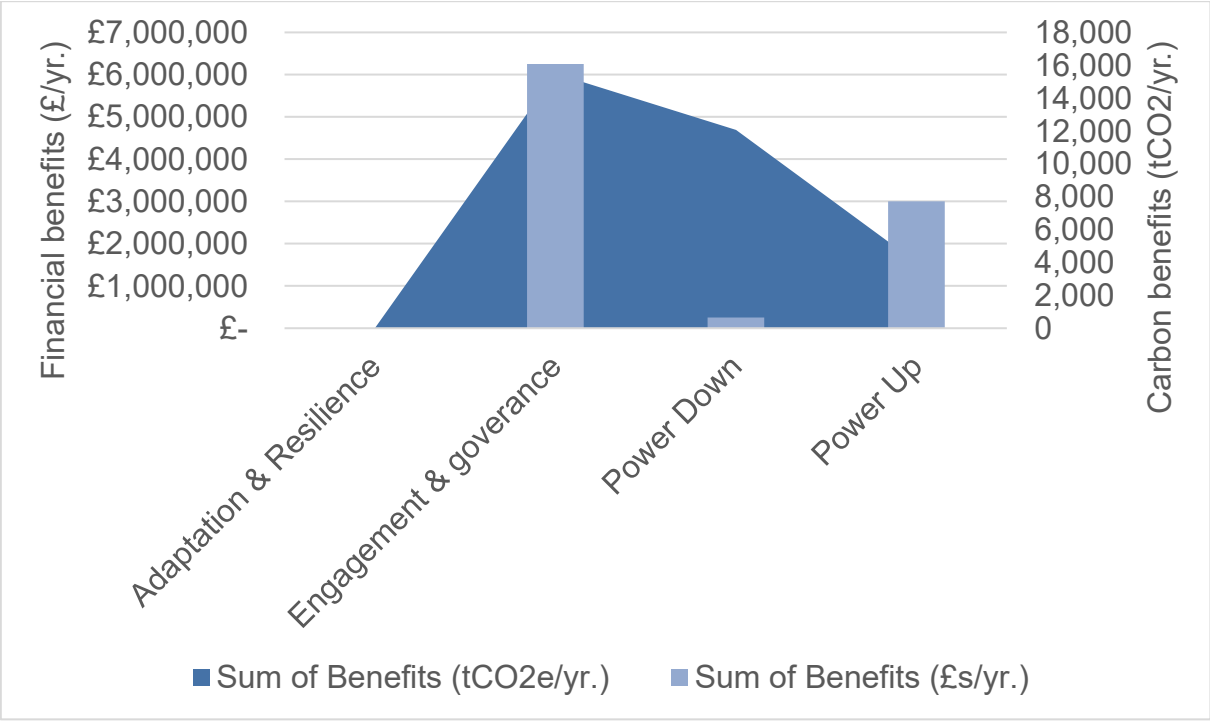


Figure 13 Planned projects benefits distribution

Annex A – Reporting and data issues

Exclusions (due to insufficient data)

10.1 The following datasets have been excluded until more data becomes available:

- Community Transport and public transport operators.
- Fugitive emissions F gases.
- Building construction & repairs (embodied carbon and delivery).
- Contracts KPIs reviewed with suppliers for data provision.

10.2 Oxygen Finance (OF) data was substituted where measured data is unavailable: Insights Carbon - Oxygen Finance, which reports financial spend too.

- Care homes (estimate substituted from Oxygen Finance - OF).
- Temporary accommodation (estimate substituted from OF).
- IT - purchased goods and consumables (estimate from OF).

10.3 The following has been excluded due to no operational/financial control:-

- Independent schools and academy trusts.
- Commercial or residential leases (own metering arrangements).
- Staff pension (for legal reasons a separate governing body; see below).

Shropshire County Pension Fund

10.4 Please refer to Shropshire County Pension Fund for their latest reports: Climate-related Financial Disclosures (TCFD) and Climate change.

Annex B – Directorate budget methodology

10.5 The directorate carbon-budgets have developed since those outlined in 2020 to reflect the new directorate labels and allocated based on a few assumptions (Table 20).

Table 20 Directorate emissions sources and method

Directorate label	*Description of data source allocation*
Strategy	Maintaining and increasing negative emission sets
Commissioning	GROSS emissions minus all other categories
Care & Wellbeing	Estimated to be 60% of health and social care (OF*)
Children & young people	Estimated to be 40% of health and social care (OF*)
Communities & customer	Social housing only (STAR Housing)
Enabling	Workforce, leisure services, ICT, PFI buildings
Infrastructure	Utilities, commercial waste, highways maintenance
Legal & governance	Legal and finance, civil defence (OF*)

*Estimated based on Oxygen Finance market sector report for the financial year.

Annex C – Opportunities and risks summary

What are the economic benefits for the Council?

11.1 The value of live projects (Table 18) is around £2m revenue and 8.5ktCO_2e savings/yr.

11.2 The est. value of planned projects (Table 19) is £9.5m and saving up to 32ktCO_2e/yr.

11.3 Integral to planned projects, it is estimated that £1m can be saved simply by operational improvements (10% savings possible by staff engagement alone) and with targeted capital investment in assets, a further £2m could be saved per year.

11.4 If the Council uses just 1% of its land for renewable energy, it could make £5 million a year and cover all its own energy needs. The investment would pay for itself in about five years, thanks to a mix of solar, wind, and bioenergy (about 10MW in total).

Table 21 Value from renewable energy on Council land

Annual value (£ p.a.)	*£5m*
Carbon Saving	4 ktCO_2e
Capital cost	£16m
Operating cost (£ p.a.)	£0.3m
Payback period (yrs.)	5

What are the economic risks for the Council?

11.5 Implementing projects purely through a financial lens (or BAU) and failing to innovate results in not benefiting from income from renewables and crucial fuel and utility savings from corporate efficiency. It also reflects negatively on corporate use of public finances and missing out on key additional benefits from climate projects (Cobenefit Toolkit):

Citizen & community engagement, Health Economic opportunity, green jobs and skills, Resilience and adaptation, Equity and social cohesion.

11.6 Climate change is currently costing the organisation about £10 million annually, with potential costs rising to £170 million for the Council and £600 million Countywide by 2090 if average temperatures increase by 3°C associated with more extreme weather events; according to a London School of Economics study. Utilising free resources such as the LCAT Adaptation Tool and LGA Climate Adaptation Toolkit can help develop science-based plans for the Council mitigate climate risks and safeguard its finances.

11.7 Finally, the financial cost of offsetting to achieve NET-zero should be considered: The cost of carbon offsets in the UK varies significantly: the UK's regulated Emissions Trading Scheme (ETS) has a price of £42 per tonne CO_2e in 2025.

11.8 If the Council wanted to go NET-zero today by offsetting using bought carbon credits it could cost £1.7m per year. Alternatively, this sum could be invested in local “carbon-insetting” : home-grown Pyrolysis technology to sequester CO_2e and produce biochar.

Annex D – Glossary of technical terms and abbreviations

Table 22 Technical terms and abbreviations

Term or Abbreviation	Definition / Description	Section
Avoidance or mitigation	Preventing emissions in the first place – e.g., replacing fossil fuels with renewable heat or power or preventing deforestation.	3 (page 6)
BEMS	Building (Energy) Management System; a control system that manages/monitors a building's mechanical and electrical equipment.	9 (page 20)
Carbon Offsets	Reduction, avoidance, removal of emissions to compensate for emissions elsewhere.	7 (page 16)
DEC	Display Energy Certificate; energy performance based on actual energy consumption.	5 (page 10)
EfW	Energy from Waste; generating electrical/heat energy from the primary treatment of waste.	3 (page 6)
ETS	Emissions Trading Scheme; a market-based approach to controlling pollution by providing economic incentives for reducing emissions.	Annex C (page 24)
FTE	Full-Time Equivalent; a unit that indicates the workload of an employed person.	6 (page 13)
GHG	Greenhouse gas emissions that cause global warming (CO2, CH4, N2O, F-Gases, H2O).	3 (page 6)
GHG Protocol	Greenhouse Gas Protocol; an international accounting tool for quantifying, and managing GHG emissions in terms of scope 1,2,3.	3 (page 6)
GROSS	Direct + indirect emissions (Scopes 1+2+3).	3 (page 6)
kWh	Kilowatt-hour; a unit of energy = 1,000 watts used for one hour (Energy = Power x Time)	
LCSF	Low Carbon Skills Fund; to support the development of heat decarbonisation plans	9 (page 20)
LCAT	Local Climate Adaptation Tool; helps authorities assess climate risks and adaptation options.	Annex C
LGA Partnerships	Local Government Association; provides a suite of resources for greenhouse gas accounting	3 (page 6)
LULUCF	Land Use, Land-Use Change, and Forestry; covers emissions and removals of greenhouse gases from human-land use.	7 (page 16)
MRF	Material Recovery Facility: a plant that separates and prepares recyclable materials to be used as raw materials by end-user manufacturers.	7 (page 16)
Negative Emissions	Emissions removed from the atmosphere, such as through carbon capture, storage, or natural carbon sinks (e.g., trees, biochar).	3,7 (pages 6, 16)
NET	GROSS plus negative emissions (offsets). That is Scope 1+2+3+negative emissions.	Throughout

Table 22 continued…

Term or Abbreviation	Definition / Description	Section
OF	Oxygen Finance; a platform for supply chain, procurement analytics and carbon reporting.	3 (page 6)
PFI	Private Finance Initiative; a way of creating "public–private partnerships" by funding public infrastructure projects with private capital.	3 (page 6)
PSDS	Public Sector Decarbonisation Scheme; funding for to decarbonise public buildings.	5 (page10)
Reduction	Actions that improve energy efficiency or reduce material use to lower emissions.	3 (page 6)
Removal	Long-term storage of atmospheric CO2 (e.g., through pyrolysis, direct air capture, tree planting, natural carbon sinks or plant-based materials).	7 (page 16)
Scope 1	Direct emissions from owned or controlled sources (e.g., building heating, council fleet).	3 (page 6)
Scope 2	Indirect emissions from purchased electricity consumed by the organization.	3 (page 6)
Scope 3	All indirect emissions (not included in Scope 1,2) that occur in the value chain, including both upstream and downstream emissions (e.g., staff travel, outsourced services)	3 (page 6)
STAR	Shropshire Towns and Rural Housing; refers to social housing managed by the council	3 (page 6)
tCO2e	Tonnes of Carbon Dioxide 'equivalent'; a standard unit for measuring carbon footprints, comparing all other and unifying greenhouse gases to CO_2.	Throughout
WRATE	Waste and Resources Assessment Tool for the Environment; for assessing the environmental impacts of waste management.	7 (page 16)

Annex E – Analytical tools and disclosure platforms

12.1 The LGA GHG Accounting Tool enables local governments to accurately calculate, report, and manage their greenhouse gas emissions using standardized methodologies that support transparency and drive climate action.

12.2 Oxygen Finance Carbon Insights is a platform that provides organizations with data-driven analytics to measure, manage, and disclose their spending data as well as carbon emissions for enhanced environmental reporting.

12.3 CDP (Carbon Disclosure Project) is an international non-profit organization that enables companies, cities, and governments to disclose their environmental impacts and climate-related data to drive transparency and action on sustainability.

Environmental disclosure and data analytics supported by: