



Shropshire Council

Climate Strategy

Progress Report 2022

1. Introduction	3
2. Carbon reporting method	4
3. 2021/22 Corporate Carbon Footprint	5
4 Carbon footprint – in more detail	8
5 Reporting and data issues	13
6 Shropshire County emissions	14
Project summary	16

In Partnership with:



1. Introduction

- 1.1 Shropshire Council began monitoring its carbon footprint in 2020 (baseline year). This progress report updates the councils carbon footprint highlighting any changes from the baseline and previous year's monitoring. The report addresses the following questions:
1. What is the latest corporate carbon footprint?
 2. How has this changed from that reported in our baseline year (2020)?
 3. How has this changed from that reported in 2021?
 4. What have the projects and initiatives which we've supported contributed to the change?
 5. What other factors have had an influence?
 6. Are we 'on track' as a trajectory towards our corporate target for 2030?
 7. What co-benefits are there: revenue cost savings, public health, air quality and biodiversity?
 8. What have Shropshire Council contributed to wider activity to decarbonise Shropshire?
 9. What additional activities such as training, support for community climate action, changes to procurement, are planned.
- 1.2 As well as reporting carbon performance, the report provides a summary of live and proposed projects necessary to tackle the "carbon gap". Crucially that follows an evidence led approach is taken to target the areas identified with the biggest carbon footprint.
- 1.3 Our adopted Climate Strategy aims for an annual reduction of 10% per year. With UK commitments made in COP26, decarbonisation needs to be continuous and progressive towards our net zero goal of zero carbon by 2030.

2. Carbon reporting method

- 2.1 Shropshire Council is reporting its performance for the financial year 2021/22 using the national LGA [Greenhouse Gas Accounting Tool](#). Performance monitoring will be refined as more data becomes available. The [Greenhouse Gas Accounting Tool](#) and its [FAQs](#) define the scopes:

Table 1 Scopes as defined in LGA Carbon Accounting Tool (FY 2021/22)

Emissions Scope	Category	Detail
Scope 1	Corporate Landlord Buildings (kWh gas and oil)	Corporate administrative and public buildings,
	Passenger transport fleet	(Litres of diesel/petrol)
Scope 2	Corporate Landlord Buildings and streetlighting (electric)	Factors green tariff and conversion to LEDs, and traffic controls.
Scope 3	Veolia commercial recycling	"Resources" recycling, reuse, and water for the delivery of services (but not domestic - below).
	Warp It re-use platform	
	Water supply and treatment	
	Veolia domestic recycling	Municipal waste contract
	Staff travel	Staff travel: Enterprise cars, commute.
	Leisure services	Leisure centre operators
PFI buildings	Private Finance Initiative	
Schools (maintained only)	Highways: Kier, WSP	
Highway's vehicles contracts		
(Uncategorised LGA model)	Service Providers	Contracts and suppliers spend
	Social housing	STAR housing
	Staff carbon footprint:	Shropshire domestic (average)
	Staff home energy	

3. 2021/22 Corporate Carbon Footprint

3.1 Last year's footprint has been updated using the same methodology as this year to make a direct comparison between the two:

Table 2: Change from 2020/21 financial year

Scope	FY2020 (tCO2e)	FY2021 (tCO2e)	FY2022 (tCO2e)	Difference 21/22 (up or down)	% change
Scope 1	2,309	1,894	2,424	530	28%
Scope 2	2,643	0	0	0	0%
Scope 3	30,317	32,204	31,390	-814	-3%
Gross	35,269	34,098	33,814	-284	-1%
Negative emissions	-33,605	-36,729	-36,109	620	2%
Net total	1,665	-2,631	-2,294	337	13%

Annual Change in performance 2020-21 to 2021-22

3.2 The net decrease in gross emissions is due to the following:

- Scope 1: (28% increase from FY21). Increased service delivery compared to FY21, which was impacted due to the pandemic.
- Scope 2: (100% reduction from baseline). The WME green tariff has contributed to the zero-carbon electricity, this is REGO accredited.
- Scope 3: (3% reduction from FY21):
 - Decreased spend across several service areas (estimate based on spend).
 - Amended carbon dioxide emissions intensity factors provided by the Office for National Statistics have resulted in a decrease in emissions, despite in some instances the spend increasing.

3.3 The increase in net total emissions (2% increase from FY21) is due to an increase in negative emissions which is due to lower levels of domestic waste recycling compared to FY21.

Figure 1: Authority emissions (3-year comparison)



- 3.4 An increase in Scope 1 emissions is being reported compared to the previous reporting period (FY21), this is primarily due to an increased service delivery due to a return business as usual following the Covid pandemic. Shropshire Councils offices and buildings are being used more compared to the previous year, and a higher level of services are being offered by the council.
- 3.5 Scope 2 emissions became zero in FY2021 due to a switch to a zero-carbon electric tariff. However, we recognise that reducing our energy consumption is still important and we are continuing to make efficiency savings on buildings as part of our ongoing Carbon Reduction Programme.
- 3.6 A slight decrease in Scope 3 emissions is primarily due to amended carbon dioxide emissions intensity factors provided by the Office for National Statistics (ONS). The current method that has been used to calculate Shropshire Councils Scope 3 emissions is based on the spend of each service area and ONS carbon intensity factors, unfortunately this may not be an exact reflection of emissions. Shropshire Council have commissioned an advanced reporting method to improve the accuracy of our carbon reporting for commissioned services and Scope 3 emissions, this will provide a more accurate representation of our Scope 3 emissions and a consistent framework to help service areas to improve their performance in future.

- 3.7 Carbon offsetting and capture activities have decreased by 2%, reflecting lower levels of domestic waste recycling under the contract operated by Veolia.

Are we 'on track' towards our corporate target for 2030?

- 3.8 The Climate Strategy 2021 Progress Report² reported a net decrease of 258% of our net CO₂ emissions compared to the baseline year (1,665 tCO₂e to -2,631 tCO₂e). For our 2022 report, due to only a 1% decrease in our gross emissions and a 2% increase in our negative emissions we are reporting a net total emission reduction of -2,294 tCO₂e, which although 13% less than was reported in FY2021, is still a net negative total. However, we should be mindful that gross emissions have only reduced by 1% in FY22, and we do not want to rely on our favourable negative emission sets to reach our corporate target.
- 3.9 Our carbon performance monitoring has been significantly influenced by the Covid pandemic, as such establishing a baseline and identifying meaningful trends is difficult at this stage. Our current trends are comparable to those being reported in National Statistics³.
- 3.10 Although we have not seen significant reductions in our gross corporate emissions, we should recognise that the majority of the measures and interventions that we are implementing and working on now do not lead to immediate reductions in carbon emissions.
- 3.11 There is plenty more we have planned in the pipeline across buildings, renewable energy transport and carbon capture and storage that will achieve our goal of net zero by 2030.

² <https://www.shropshire.gov.uk/media/22365/appendix-1-climate-strategy-2021-progress-report.pdf>

³ UK local authority greenhouse gas emissions estimates 2020 – 30 June 2022 National Statistics

4 Carbon footprint – in more detail

4.1 The gross emissions for authority operations are 34ktCO₂e. Scope 1 (direct emissions) comprise of heating public and administrative buildings (1.8ktCO₂) and transport fleet (592tCO₂). Collectively transport accounts for 2.2kt so it is important to decarbonise this sector. Scope 3 makes up most of the emissions; ranked highest to lowest below. Social housing, health and social care, schools then staff’s home energy use (whilst working) are the councils' highest sources of GHG emissions.

Table 3: Corporate Carbon Emissions by Scope

Scope	Emissions Type	Emissions (tCO ₂ e)	Percentage of gross
Scope 1	Corporate heating	1,832	5%
	Transport fleet	592	2%
Scope 2	Electricity	0	0%
Scope 3	Social housing	9,737	29%
	Health & social care	5,005	15%
	Schools	5,998	18%
	Staff home energy	4,867	14%
	Maintenance fleet	766	2%
	Leisure centres	2,563	8%
	Staff travel	879	3%
	Corporate	634	2%
	Transmission losses	241	1%
	PFI	155	0%
	Legal & financial	225	1%
	ICT & BPO	81	0%
	Pending categorisation	66	0%
	Culture & arts	152	0%
	Water	15	0%
Civil Defence	4	0%	
Gross emissions		33,814	100%

Figure 2: Direct Corporate Carbon Emissions

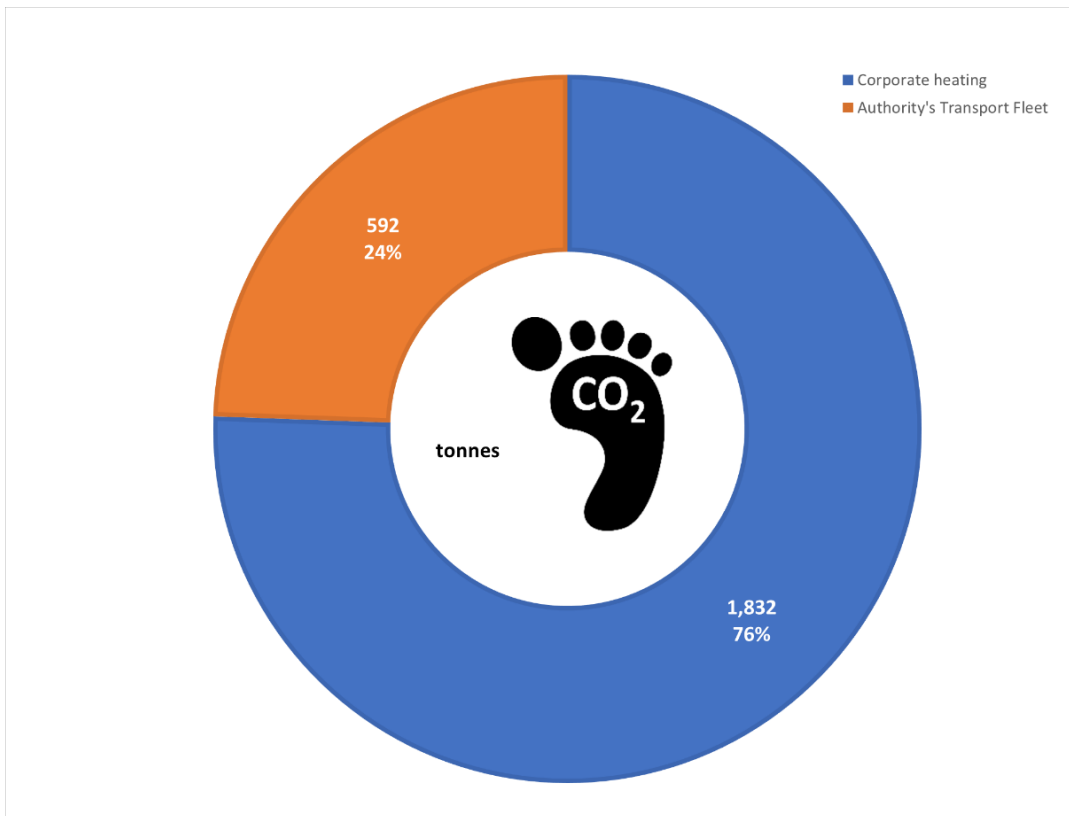
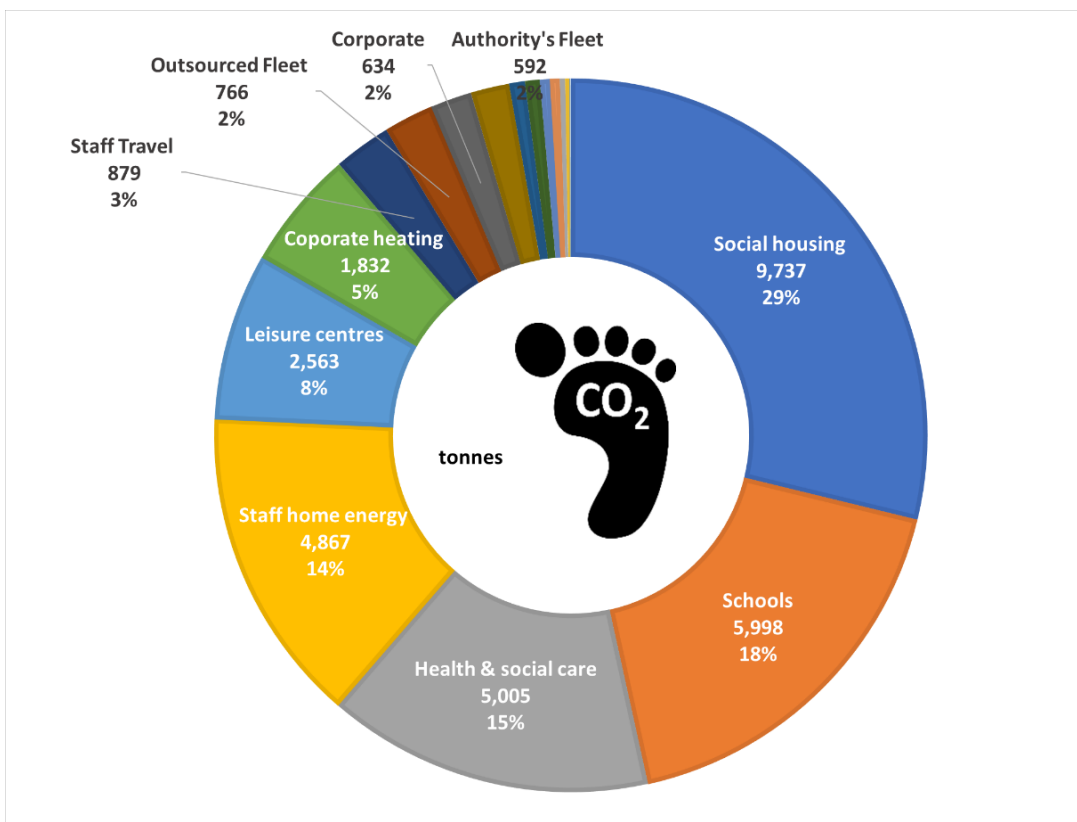


Figure 3: Indirect Corporate Carbon Emissions



Negative emission set (or insetting)

4.2 The methodology for calculating how much carbon is released, or captured and stored through the management of land is set out in: [Mapping Carbon Emissions & Removals for the Land Use, Land-Use Change & Forestry Sector](#). The latest dataset available is from 2019. For the whole of Shropshire (3,197.3km²) the summary position is as follows:

4.3 So, for the whole county (3,197.3km²) the summary is as follows:

Table 4 - Carbon Emissions from land uses in Shropshire

LULUCF Net Emissions (2019):	Emissions (kt CO ₂ /yr.)
Forest land	-156.3
Cropland	151.6
Grassland	-83.9
Wetlands	1.2
Settlements	64.8
TOTAL	-22.6

4.4 For council managed land and projects, an estimated -6,676 tCO₂e is sequestered per year by natural carbon sinks. This is across an estimated 2,500m² as follows:

Table 5 – Carbon Emissions from Shropshire Council Land

Land usage / site category	Area (m ²)	tCO ₂ e/yr.	Notes / reference
Countryside sites	479	-2894	
Other freehold	1810	-3179	Approximate figures as habitats for all our land holdings aren't known.
Leasehold	206	-355	
Free Tree Scheme	Varied (unknown)	-227	Not including hedgerow plantings. Includes trees planted since 2010
Trees outside woodland	Varied (unknown)	-22	No trees planted for the period
TOTAL	2494m² (+ unknown)	-6,676	

4.5 We know that in Shropshire we have around 15% tree cover. 9% is estimated as younger woodland and the remaining 6% as 100 years old or more. The remainder is assumed to be primarily either built up or permanent grassland and therefore have negligible emissions or sequestration. Only large sites that aren't Countryside Sites like the Old Riverbeds have been calculated separately. Change in carbon storage for hedgerows or individual trees hasn't been calculated and all figures are approximations for habitat areas on our land holdings. Wide variation exists even for those habitats that are known; For example, different tree types

store carbon quicker than other types and other factors like soil type and land management also have a significant impact. There is not accurately recorded data prior to 2019 on carbon sequestration for council owned land.

Circular economy

4.6 As well as carbon which is captured and stored through land-use, waste management services and projects also generate carbon savings, largely through recycling materials which offset the carbon impact of manufacturing goods from newly extracted materials.

Table 6 – Carbon Savings from Sustainable Waste Management

Recycling and reuse	tCO ₂ e/yr.	Reference
Veolia domestic recycling	-29,534	A WRATE assessment of the Veolia Contract with Shropshire Council: 2021
Veolia commercial recycling contract	-1.1*	Shropshire Council Commercial Movement Analysis Report 2020 - 2021
Warp It (reuse)	-53	Shropshire Council performance metrics https://www.warp-it.co.uk/company/shropshirecouncil

*This data has not been updated from the Climate Strategy 2021 Progress Report

Negative emission set summary

Table 7 – Shropshire Council Carbon Reduction

Negative emission set 2020/21	tCO ₂	Percent
Material reuse	-53	0.1%
Commercial waste contract	-1	0%
Domestic waste contract	-29,534	82%
Natural carbon sinks	-6,520	18%
Negative emissions total	-36,109	100%

Shared resources

4.7 Carbon budgeting and setting targets between service areas needs to fairly represent the impact of both controllable and fixed activities associated service delivery. Whilst the wider impacts of service delivery by the council (i.e., the county emissions may not be the direct responsibility of the council it is fair to say the council is the significant stakeholder in terms of influence due to the public services it delivers. This footprint is distributed across the service areas, given that further refinement may be necessary.

4.8 The shared carbon footprint associated with council service delivery is as follows:

Table 8 Carbon Impact of Shared Council Service

Category	tCO ₂ e/yr.
Staff home energy	4,867
Office use	1,832
Corporate	634
ICT & BPO	81
Pending Categorisation	66
TOTAL	7,481

Service area carbon budgets

4.9 Whilst Shropshire Council's corporate emissions represent less than 1% of the total for Shropshire, council services can contribute significantly to the objective of decarbonising county-wide emissions from domestic property, industry & commerce and transport.

4.10 Some service areas can have an impact on the whole county. Table 9 below shows the corporate carbon footprint associated with delivery individual services, together with Government data for the emissions which that service could influence and the target annual reduction (based on 10% saving per year) for the emissions in each category. They are ranked highest to lowest emissions for each sector.

Table 9 Carbon Impact by Council Service Area*

Service area responsibility	Council (ktCO ₂)	County sector (ktCO ₂)	Countywide target reduction/yr.
Transport & highways	2	730	73
Place - Economic growth	1	511	51
Social care & housing	25	493	49
Resource's governance & assurance	2	172**	17
Culture & leisure	5	n/a	1
Public health/Outdoor Partnerships ***	1	-23	-2

*This data has not been updated from the Climate Strategy 2021 Progress Report

**The 172ktCO₂e is entirely related to the Shropshire Council pension fund.

**It is understood that public health has some responsibility for land use and therefore will impact on countywide negative emission sets. This would also apply to the AONB, countryside and outdoor partnerships teams.

4.11 The monitoring process for these emissions is likely to evolve and will need further refinement in future years to fairly identify the influence of each service area.

5 Reporting and data issues

Exclusions (due to insufficient data)

5.1 It has been necessary to exclude the following datasets from the monitoring process until more data becomes available:

1. Fugitive emissions (such as F-gases, refrigerants).
2. Academy trusts and independent schools.
3. Temporary accommodation.
4. ICT data services (outsourced servers).
5. Commercial or residential leases – with own utilities arrangements.
6. Building construction & repairs (embodied carbon and delivery footprint).
7. Public transport – trains and buses by external operators.
8. Staff pension (for legal reasons this is reported separately).

Shropshire County Pension Fund

5.2 It was highlighted at COP26 that there is an urgent need to decarbonise global financial assets and equity. The global financial industry has started the process to leverage \$103 trillion assets globally from the 6 largest investor alliances and developed countries to commit to mobilise \$100bn annually.

5.3 In July 2020, Shropshire Council resolved to ask the Pension Committee to follow best practice by:

- i. Adding a statement to their strategy that climate change constitutes financial risks to the fund.
- ii. Setting a 3-year timescale for the reinvestment of funds currently invested in fossil fuel dependant assets.
- iii. Developing an investment strategy consistent with sustainable development goals and developing a local sustainable economy. The Council also recognised that fossil fuel investments constitute part of its 'carbon footprint' and resolved that this element should be reported on within our annual carbon reporting.

5.4 Assuming that the annual contribution to the fund from staff salaries for FY2021-22 is £69,457,000 then the carbon footprint for this annual contribution is around 11,500 tCO₂e. The carbon footprint of the total current equity investments in the fund is estimated at 193,400 tCO₂e.

5.5 The carbon footprint associated with the staff pension scheme was reported as part of the Shropshire County Pension Fund Climate-Related Disclosures (TCFD), although Shropshire Council is only responsible for a proportion of the reported performance since a large number of other organisations also

contribute to the scheme. The total staff salary contribution for period 2020/21 is set out in the Annual Report 2020/21.

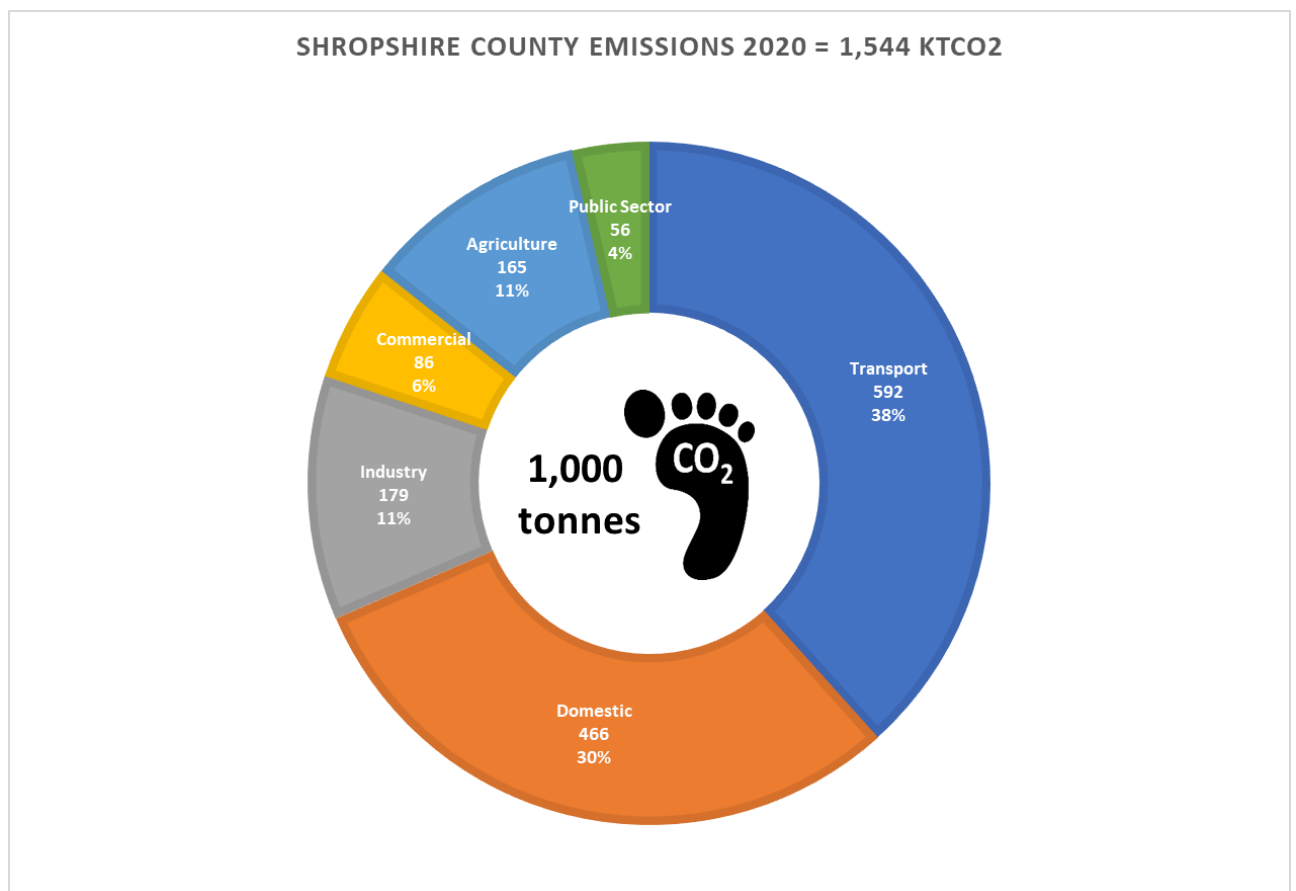
6 Shropshire County emissions

6.1 As noted above, Shropshire Council’s corporate emissions represent less than 1% of the total for Shropshire, but council services can contribute significantly to the objective of decarbonising county-wide emissions from domestic property, industry & commerce and transport. Latest information about county-wide emissions are set out below.

Table 11 Shropshire Carbon Emissions Ranked by Sector:

Shropshire County 2020 (ktCO ₂)	1,544	% of total
Transport	592	38%
Domestic	466	30%
Industry	179	12%
Commercial	86	6%
Agriculture	165	11%
Public Sector	56	4%

Figure 6 – Shropshire Carbon Emissions by Sector 2020



Household emissions

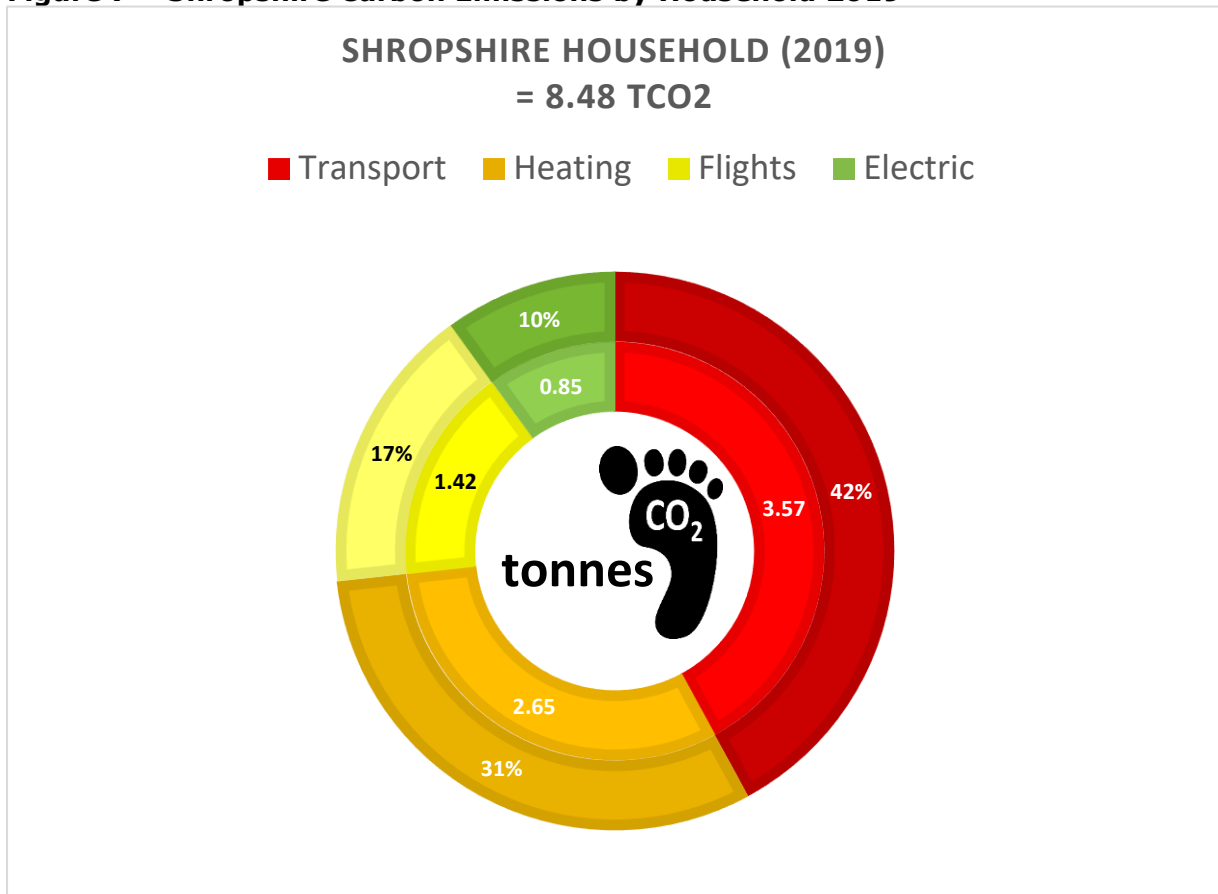
6.1 Approximately 40% of UK emissions comes from households. Based on the Shropshire population of 323,600 and 139,675 active households in 2021. The carbon footprint as a proportion of the county total is 11.1t CO₂ per household or 4.8 tCO₂ per person. However, this is not necessarily a fair representation since approximately 30% is non-domestic activities. So therefore, a fairer way to represent just domestic activities is apportioned in the table below.

Table 12 Carbon Emissions per Person and per Household 2019*

	Per person (tCO ₂)	Per household (tCO ₂)	As a %
Transport	1.6	3.57	42%
Heating	1.2	2.65	31%
Flights	0.6	1.42	17%
Electric	0.4	0.85	10%
TOTAL	3.68	8.48	100%

*This data has not been updated from the Climate Strategy 2021 Progress Report

Figure 7 – Shropshire Carbon Emissions by Household 2019*



Note: this excludes goods or services bought/consumed from within the UK or overseas.

*This data has not been updated from the Climate Strategy 2021 Progress Report

Project summary

Live Projects

Project	Summary	Strategy Theme	Benefits (CO2, £ savings)	Corporate or countywide?
Maesbury Solar Farm	2MW solar farm on former landfill, power supply by private wire to adjacent business	Power Up - Low Carbon Energy	600t CO2/yr £	Corporate
Biochar demonstrator plant	Business case for the construction of an automated biochar plant	Carbon Capture / Power Up - Low carbon materials & energy	CO2, £, ABI	Both
Procurement strategy / Supply Chain CO2 Emissions	CO2A commissioned to model Shropshire Council Supply Chain Scope 3 emissions.	Power Down - Corporate governance	CO2, £	Corporate
Carbon literacy training strategy	Roll out accredited in-house CLT training to key target cohorts and develop wider web-based introductory training material	Power Down - Corporate governance	CO2, £	Corporate
Shropshire Council roof mounted Solar PV	Comprehensive assessment of suitable buildings	Power up - Renewable energy - solar PV	c. 1,215t CO2 p.a. £	Corporate
Corporate Construction Policy update	Update current policy, initially for new build, to reflect changes in good practice	Power Down - Corporate governance	CO2, £	Corporate
Climate Challenge	Improve building energy & carbon performance by encouraging zero cost behavioural change by staff	Power Down - Building efficiency	CO2, £	Corporate
Big Solar Co-op	Grant funding for local node co-ordinator (Sharenergy) to provide free advice to business on funded solutions for roof-mounted solar	Power Up - Low Carbon Energy	CO2, £	Countywide
Cool Shropshire & Telford	Grant funding for free business carbon and energy efficiency advice	Power Down - Low Carbon Energy	CO2, £	Countywide

Planned Projects

Project	Summary	Strategy Theme	Benefits (CO2, £ savings)	Corporate or countywide?
Boars Den Solar / Hydrogen	Feasibility study for a ground-mounted solar array, battery storage and a hydrogen electrolyser	Power Up - Low Carbon Energy / Transport	CO2, £	Both
Public Rapid Chargers	Feasibility study for the installation of a network of Council-owned 'rapid chargers'	Power Down - Low Carbon Transport	CO2, £	Countywide
Public EV Charging Infrastructure Planning	Take forward Amey Strategy with funding from Govt. LEVI funding	Power Down - Low Carbon Transport	CO2, £	Both
Heat Network study / river source heat pump, Sundorne Shrewsbury	Feasibility study for the installation of a water source heat pump to provide heat to community buildings in Sundorne	Power Up - Low Carbon Energy	CO2, £	Both
Climate Strategy Review	Review 2020 Climate Strategy in light of latest performance monitoring and for consistent with national and corporate policy and good practice as required.	Power Down - Corporate governance	CO2	Corporate
Climate Resilience and Adaptation Plan	Commission the preparation of a resilience and adaptation plan to identify potential impacts on Council services, staff and service users	Power Down - Corporate governance	CO2, £	Both
Team skills Training / site visits	Develop staff capability and professional development	Power Down - Corporate governance	CO2, £	Corporate
Waste minimisation	Work with waste management colleagues to reduce waste and promote the circular economy	Power Down – resource efficiency	CO2, £	Both
Staff New Deal - home energy efficiency and low carbon heating	Explore the potential to improve access to home energy efficiency and decarbonisation measures and technology, working with Lendology	Power Down - Low Carbon Energy	CO2, £	Corporate

Project	Summary	Strategy Theme	Benefits (CO2, £ savings)	Corporate or countywide?
Shirehall / Theatre Severn battery storage / Virtual Power Plant	Work with power companies and technology suppliers to explore the potential to store energy at these sites for back-up and grid balancing	Power Down - Low Carbon Energy	CO2, £	Corporate
Area-Based Insetting (ABI) – Phase II	Consultant-led work with multiple Local Authorities on establishing a national framework to support local investment in carbon capture (or emission reductions) in supply chain within a LA area.	Carbon capture / Power Down carbon reductions	CO2, £	Both