

Consumption and Resources

This group is looking at how to reduce the carbon emissions and harm to the environment that occurs because of what we buy and how we use resources. The consumption footprint, also called 'embedded energy', for the average UK resident is 46% of their total carbon emissions. This embedded energy is largely hidden because government measures do not take this carbon into account if the products are manufactured and imported from other countries. We have focussed on basic consumer goods like food and drink, electrical and electronic equipment; and have looked at what they are made from and how they are packaged and transported; as well as the carbon released from our use of water and natural resources e.g. aggregates used in the construction industry. This Plan includes over-arching 'Recommendations for Action' such as strongly advising that everyone in Shropshire (individuals, households and companies) works out their current carbon footprint by using one of the [calculators](#) on the ZCS website. There's also [Giki](#) that works well on mobile phones. This will enable you to track your carbon footprint over the next 10 years as it moves towards zero. There is a lot of information on the internet to help with a zero carbon journey, we try to highlight good practice and ideas through the links in this document. We also suggest that the Shrewsbury Green Guide be updated and expanded to cover the whole of Shropshire. In the meantime, we encourage people to use other Green Directories such as the [Green Providers Directory](#). SCAP and partners will continue to explore how Shropshire's economy can be re-oriented around the principles of a [Circular Economy](#) and within this section are various toolkits to support community initiatives. SCAP also plans to introduce a kite mark scheme to identify the suppliers of goods and services which have minimised their footprint, so giving consumers more confidence when making consumption choices. Finally, we call upon the Government and Councils to strengthen, widen and enforce legal requirements on businesses to implement the principles of [Extended Producer Responsibility](#).

Commodity type	Researchers	Notes	Case Studies	Carbon Reduction Measurement
Food & drink	Jo Blackman Ali Thomas Andrew Howe	Food production from the point of harvest. Small scale informal food production e.g. allotments, garden shares, private gardens.	Shrewsbury Food Hub	Amount of food in tonnage that is saved from going to landfill.
Clothing & textiles	Lorraine Waumsley	It's vital to avoid waste (of materials and energy) at all stages of production, i.e. applying sustainable design principles, using sustainable materials, recycling and where it's unavoidable, ensuring safe disposal of residual waste. This applies both to domestic and commercial settings.	Turtle Doves	Materials re-purposed and therefore kept in circulation for longer, which means less cashmere wool needs to be imported.
Electrical & electronic goods	Charlie Monk	It's vital to avoid waste (of materials and energy) at all stages of production, i.e. applying sustainable design principles, using sustainable materials, recycling and where it's unavoidable, ensuring safe disposal of residual waste. This applies both to domestic and commercial settings.	Veolia's Flatscreen Recycling facility at Bridgnorth reclaims materials from old TVs & monitors delivered to the household recycling centres by the public. See YouTube video Veolia UK Flatscreen Recycling for case study details.	Raw materials are reclaimed and reused in industry. Carbon is saved by not transporting these items to other countries for processing.

Commodity type	Researchers	Notes	Case Studies	Carbon Reduction Measurement
<p>Household goods The focus is on consumer behaviours and choices. The importance of knowing your own footprint, discovering ways to reduce your own carbon.</p>	Lorraine Waumsley	<p>If there is no option other than buying new products (i.e. if existing products cannot be repaired or a replacement cannot be borrowed, leased or purchased second-hand then, when buying new goods, consumers ask themselves the following 5 questions:</p> <ol style="list-style-type: none"> 1. Is the product made from recycled and recyclable materials? 2. Is it designed and built for durability, energy efficiency and with a low carbon footprint? 3. Does the manufacturing process have an adverse impact on air and water quality and biodiversity? 4. Have the people who have been involved in the production of the item been treated ethically? 5. Is the item packaged in the minimum required to keep the product clean and safe, and the packaging is biodegradable or universally, easily recycled? 	<p>Ludlow Repair Cafe & toolkit</p>	<p>Carbon savings made by repairing or repurposing items to keep them in use for longer; by borrowing/leasing equipment; and purchasing second-hand items.</p>
<p>Plastics</p>	Jane Yardley Ali Thomas	<p>To include goods with plastic components and single-use plastics. Recycling sustainable materials, design, manufacturing, disposal.</p>	<p>Zero Plastic Shop (Darwin Centre) & Everyday Plastic - an excellent site explaining plastic waste and what we can do. www.everydayplastic.org</p>	<p>A lot of energy is required to extract oil and produce plastic raw materials. These are then manufactured into all the different types of plastic that we use today. Some are easily recycled, and some cannot be recycled at all. Savings would be made if pressure is put on manufacturers to only use easily recycled plastic and for consumers to refuse to use single use plastic.</p>

Commodity type	Researchers	Notes	Case Studies	Carbon Reduction Measurement
Cardboard & Paper	Lorraine Waumsley Andrew Howe Ali Thomas	Recycling, sustainable materials, design, manufacturing, disposal.	WRAP: Fibre-packaging-design-guide	Using pulp from recycled paper and card to manufacture new cardboard will result in less transportation of timber. Printing inks are based on soybean oils and biodegradable waxes rather than petroleum based materials. Many large packaging companies are already operating paper mills that make fresh, clean kraft paper by de-inking and pulping used containers.
Water (domestic use)	Howard Perry Henry Mound	Severn Trent Water supplies water and processes sewerage waste for Shropshire. The company operates across a large area and the figures are not always divided by county.	Seven Trent Website has some good case studies and tips for saving water.	Carbon savings through reduced demand meaning less energy to pump water to buildings, also by identifying and repairing leaks throughout the system.
Commercial resources/waste	Andrew Howe Mandy Stoker Phil Lucas	Veolia is responsible, on behalf of both Shropshire Council and Telford & Wrekin Council, for collecting and processing all domestic waste from doorsteps and Household Recycling Centres (HRCs). Non-domestic waste streams and post consumption pathways are very difficult to measure and quantify because companies collecting commercial waste do not always make their figures publicly available and very often commercial waste is taken out of the county (sometimes out of the UK) to be processed.	Fairphone is designed for longevity, easy repair and modular upgrades. The production process is designed to incorporate fairer, ethically sourced, recycled and responsibly mined materials in its phones.	Target Reduction in household waste arisings: <ul style="list-style-type: none"> • Baseline Shropshire municipal waste (Shropshire Council and Telford & Wrekin Council) 1st April 19 to 31st March 20: 244,868 tonnes (1.122 tonnes per household per year). • The Shropshire municipal waste carbon footprint 2019/20 was measured as a net negative carbon footprint of -170 kg/tonne of municipal waste avoided carbon equivalent emissions. The net avoided emission calculated is reflective of the relatively high levels of recycling in the County, energy recovery of the majority of residual waste not recycled and very low landfilled tonnage (less than 2% of all arisings).

Commodity type	Researchers	Notes	Case Studies	Carbon Reduction Measurement
				<ul style="list-style-type: none"> • Municipal recycling rates in Shropshire for 2018/19 were 55.5% for Shropshire Council and 44.8% for Telford & Wrekin Council.
Mineral resources	Adrian Cooper	Quarrying	Mineral Products Association	6m tonnes of Carbon was released to the atmosphere through UK mineral extraction, transportation and use.