Climate Pack

Climate Emergency Resource Pack: Shropshire

Creating a low carbon future

Version	Draft 0.4
Team	Climate Change Task Force

Contents

Climate Pack – Introduction

The aim of this document is to create a Climate Emergency resource pack or county toolkit that is useful for all stakeholders (public and commercial sector) and community groups. This pack acts as a reference manual for climate change and listed are the measures that can be taken by various parties to mitigate and adapt to the climate emergency. The groups this is intended for are wide ranging:

- Public Sector: Town and Parish Councils, Social Care and Health
- Education: Universities, Schools and Academy Trusts
- Businesses, Small and Medium Sized Enterprises (SME's)
- Community groups
- Charities and not-for-profits
- Homeowners and tenants
- Agriculture and landowners (natural environment section)

Shropshire Council Climate Change

Our vision is for Shropshire Council to become carbon net-neutral by 2030 and assist in the ambition for Shropshire as a whole to become carbon net-neutral in the same year.

Shropshire Council declared a climate emergency in May 2019 and agreed a Strategy Framework in December 2019 which established the objective of net-zero corporate carbon performance by 2030.

In December 2020 a new Corporate Climate Change Strategy and Action Plan was adopted. The documents outline a strategy to reduce Shropshire Council's corporate carbon footprint and promote adaptation measures to increase the resilience of the Council's services.

Measures to reduce Shropshire Council's carbon footprint and adapt service delivery to address the impacts of extreme weather events will significantly reduce financial risk and generate very real savings to the public finances in the medium to long term as well as delivering on our corporate responsibilities to the environment and our communities. Placing the initial focus on our corporate performance allows the Council to 'lead by example', using its direct and indirect influence to foster a positive response to the challenge of the Climate Emergency by other public and private sector organisations.

Preparation of the Strategy has drawn on both community engagement and in-house expertise. Initially through the Council's quarterly Sustainability Forum and latterly via the Shropshire Climate Action Partnership and the Council's 'Climate Officers Group'. The Strategy summarises the best available information about the Council's current direct and indirect carbon emissions and identifies the scale of reductions and residual offsetting which will be required to reach our objective of net-zero performance by 2030. The Action Plan element of the document reflects the findings of a community engagement workshop in February 2020 and identifies a range of potential actions and a pipeline of specific projects to help deliver progress.

This is a fast-moving area of work and information about climate change, carbon performance and management technologies are changing all the time. We are treating the Corporate Strategy as a 'live' document and invite comments and suggestions for amendments which can be considered as part of an annual monitoring and review process.

Yours sincerely,

The Climate Change Task Force. climate@shropshire.gov.uk

Climate Strategy and Action Plan

Please see our adopted Climate Strategy and Climate Action Plan for further details and our Climate Change and Sustainability pages for any further updates. Also please see Environment and Planning:

- Building Control
- Drainage and Flooding
- Environment
- Environmental Health
- Funding Opportunities
- Historic Environment
- Information Intelligence and Insight
- Natural Shropshire
- Planning Policy
- Recycling

Carbon Reporting

Carbon foot printing and carbon reporting is essential to track changes towards an overarching goal of zero carbon by 2030. The council's organisational whole; carbon and environmental performance data will be communicated to the public and Central Government departments: DBEIS and the LGA (Local Government Association). The Green House Gas (GHG) Protocol is an internationally recognised method to do this reporting Scope1,2,3 emissions. There are many carbon accounting tools available from county level, to town and parish areas, organisational, businesses and individuals listed below.

County Level Reporting

SCATTER Is a local authority focussed emissions tool, built to help create low-carbon local authorities. SCATTER provides local authorities and city regions with the opportunity to standardise their greenhouse gas reporting and align to international frameworks, including the setting of targets in line with the Paris Climate Agreement. Its use is free of charge to all local authorities in the UK.

Tyndall Carbon Budget Tool The Tyndall Carbon Budget Tool presents climate change targets for UK local authority areas based on the commitments in the United Nations Paris Agreement, informed by the latest science on climate change and defined by science-based carbon budget setting.

UK local authority and regional carbon dioxide emissions national statistics

Provides the most reliable and consistent possible breakdown of CO2 emissions across the country, using nationally available data sets going back to 2005.

National Level Statistics

Digest of UK Energy Statistics An essential source of energy information. Extensive tables, charts and commentary. Separate sections on coal, petroleum, gas, electricity, renewables and combined heat and power a comprehensive picture of energy production and use over the last 5 years, with key series taken back to 1970.

Final UK greenhouse gas emissions national statistics

This publication provides final estimates of UK greenhouse gas emissions available from 2010.

Community Level (Town and Parish Council District Area) Carbon Foot Printing

Community Carbon Calculator (CSE)

Climate Impact Tool from gives you a visual representation of your community's carbon footprint, helping spot areas where your community climate change activities can make the biggest difference.

Local Authority Carbon Foot Printing for Councils

LGA Greenhouse Gas Accounting Tool

The Greenhouse Gas Accounting Tool has been developed by Local Partnerships, working with the LGA, to provide a consistent approach for councils seeking to calculate their own carbon baseline.

Carbon Trust Climate Action Planning

Helping local authorities and public sector organisations deliver robust and measurable carbon reduction strategies.

Business (non-domestic, SME) and Corporate Carbon Footprint Calculators

Carbon Trust SME Carbon Footprint Calculator

Calculate your organisation's emissions - for small and medium-sized enterprises.

GHG Protocol: The GHG Emissions Calculation Tool

The GHG Emissions Calculation Tool is a free, Excel-based tool from Greenhouse Gas Protocol and WRI that helps companies estimate their greenhouse gas (GHG) emissions based on the GHG Protocol.

Pure Leapfrog

A very useful and user-friendly Excel based carbon footprint calculator for businesses. This tool is aimed at small and medium businesses (SME). For larger companies or those with a specific process or requirement then please contact us at info@pureleapfrog.org to discuss your requirements.

Scope 3 Evaluator

The Scope 3 Evaluator is a free, web-based tool from Greenhouse Gas Protocol and Quantis that makes it easier for companies to measure, report, and reduce emissions throughout their value chain.

Carbon Calculator

This is a UK based company that primarily advises businesses on how to be carbon neutral. Carbon that can't be reduced is offset. On the site are free carbon calculators, one for individuals and one for businesses. The Individual's one is not so easy to use as consumption is measured in annual spending on items. This isn't always easy to work out. It has a link to 52 weekly helpful tips on reducing carbon.   It also has a plastic calculator and tips on reducing single-use plastic.

Personal (domestic) Carbon Footprint Calculators

All the calculators listed below use figures based on actual CO2 emissions divided by the population and actual spend/usage/lifestyle choices the figure is raised or lowered to reflect more accurately your personal/household score. How these adjustments are made will mean that you are unlikely to have the same score by imputing the same figures into each calculator, but they should not be wildly different. The main thing is to choose which one appeals to you the most and stick to that one. By repeating your carbon calculations every 6 months you should be able to track your progress towards zero carbon.

Carbon Independent

An independent site run by a scientific researcher Ian Campbell, who is UK based. The calculator is very easy to use and can be filled in with bands or with actual figures from bills etc. There is a step plan to reduce personal footprints by 10% per annum over the next 10 years. There is also a lot of information, links and helpful ideas. The calculator builds in average embedded carbon based on your consumption. The methodology and data sources used are explained.

Carbon Savvy

A new calculator that will be fully available by the end of March. It looks to be comprehensive and has information and carbon saving tips that are emailed if you sign up.

Footprint Calculator

This one calculates an ecological footprint, telling you how many Earths resources would be needed if everyone lived as you do. It measures your CO2 and the amount of land that would be required to produce the products you consume and to absorb the CO2 you have emitted. This is the organisation that run Earth overshoot day, in 2020 it was 22nd August. It is a USA based organisation but takes data from UN data sets and is a useful resource because all countries of the world can be compared. Lots of information on the site which has been recently updated. There is also a mobile app version that can be downloaded. The methodology and data sources used are explained.

Giki Zero

A very easy to use calculator that is available as a mobile app as well as computer version. People are encouraged to enter actual figures wherever possible and answer questions to increase the accuracy of the scoring. There is also an app available that enables the bar codes on products to be scanned on a smart phone to get a breakdown of the carbon embedded in the product, https://badges.giki.earth/ . You can plan your journey and look at all areas of your life with tips and help to reduce your footprint. Very easy to use and the methodology and data sources used are explained.

Energy Efficiency (EE)

Commercial Buildings

In our efficiency guidance for commercial buildings, Learn from about how improving building fabric, upgrading insulation and installing appropriate controls can save you money and help cut carbon emissions. For example, around 75% of its heat can be lost through a building's fabric.

The primary drivers to improve energy efficiency are:

- Reduce carbon emissions and fuel bills.
- Improve comfort levels.
- Comply with statutory requirements such as Part L of the Building Regulations or the Private Rented Sector Regulations.

Also please see our Shropshire Council Sustainable Construction Policy.

SBEM (Simplified Building Energy Model): SBEM is a software tool developed by BRE that provides an analysis of a building's energy consumption. It is used for non-domestic buildings in support of the National Calculation Methodology (NCM), the Energy Performance of Buildings Directive (EPBD) and the Green Deal: http://www.uk-ncm.org.uk/

BREEAM (Building Research Establishment Environmental Assessment Method)

BREEAM recognizes and reflects the value in higher performing assets across the built environment lifecycle, from new construction to in-use and refurbishment.

Building Regulations Part L: Building regulation in England setting standards for the energy performance of new and existing buildings. The future buildings standards is currently out for consultation.

Carbon Trust An independent expert in carbon reduction and commercializing low carbon technologies.

DEC (Display Energy Certificate) Regulations for Display Energy Certificates of public buildings.

EPC (Energy Performance Certificate)

An Energy Performance Certificate is required for properties when constructed, sold or let. It provides details on the energy performance of the property and what you can do to improve it.

The Non-Domestic EPC Register is where you can go to search for your property by postcode and find EPC and DEC certificates as well as their advisory reports. A really useful resource when planning next steps for a property and planning a retrofit to improve its efficiency.

Heritage Building Thermal Efficiency Guidance

Historic England guidance should be referred to for fabric improvements on heritage and listed properties. In addition there are very good case studies in historic cities such as Bath and from Centre for Sustainable Energy (CSE). Although 10 years old; we still have excellent Historic Community guidance on our website.

Free to download: a suite of technical advice and guidance on improving the energy efficiency of historic buildings: Historic England: Efficiency and Environmental Management of Listed Buildings

MEES (Minimum Level of Energy Efficiency' standards) Guidance to landlords of privately rented domestic and non-domestic properties.

Save Money Cut Carbon: Practical steps towards sustainable solutions for homes and businesses. This service to helps deliver everything required to save money and cut carbon.

Future Standards

For the latest guidance and direction of travel towards zero carbon see PHPP (Passive House Planning Package)

Domestic Buildings

Find out how you can save money and carbon in your own home and cut down on your heating bills.

Domestic EPC Register (hosted by Ministry of Housing Communities and Local Government).

From the EPC register you can lookup your Energy Performance Certificate; which displays the thermal performance of your property and offers advice and next steps to reduce your energy cost further.

Energy Saving Trust

"We are a leading and trusted organization helping people save energy every day"

Keep Shropshire Warm

The average household wastes £250 a year. Poor insulation, inefficient appliances and bad habits are costing you money. To counter this, Keep Shropshire Warm offers free and impartial advice on:
• Grants and discounts to help finance affordable warmth measures
• Energy efficiency **and lots more...**
https://newsroom.shropshire.gov.uk/2020/04/keep-shropshire-warm/

OFGEM: Consumer protection and government regulation household and business energy.

Marches Energy Agency: Are an independent charity supporting communities in the Midlands. MEA deliver practical solutions to reduce fuel poverty and cold homes, promote energy reduction and encourage the uptake of renewable energy. Over 75,000 households struggling to stay warm in the areas we support. With partners, we are working hard to tackle this.

Save Money Cut Carbon: Practical steps towards sustainable solutions for homes and businesses. This service to helps deliver everything required to save money and cut carbon.

Warm Homes Fund
Over 300 households across Shropshire and Herefordshire are set to benefit from affordable heating thanks to funding from the Warm Homes Fund.

Low Carbon Funding

Please see. https://www.shropshire.gov.uk/funding-opportunities/ for any updates.

Low Carbon Funding Opportunities for Businesses

1. Business Growth Programme 2 **:** Grant support for individuals and businesses looking to start, grow and expand in the Marches LEP area.
2. The BECCI Project: The BECCI Project benefits Small and Medium Enterprises (SMEs) in the West Midlands, providing free support in the development of products and services that reduce carbon usage.
3. Please see the **RE EE Funding Opportunities** website for the latest list of funding opportunities.
4. BEEP (Business Energy Efficiency Programme): Lowering your energy bills can make a big difference to your business bottom line, so if you are looking to cut costs, we can help.
5. CREST: based at University Centre Shrewsbury provides research and innovation support to small and medium enterprises across Shropshire and help access grants to assist prototyping.
6. Low Carbon Opportunities Programme (LoCoP): Support is available If your business has the potential for high-tech green growth, and you wish to develop innovative low carbon solutions.
7. MarRE: Marches Renewable Energy (MarRE) project is accepting formal expressions of interest and provides grants to support renewable energy installations (not including commercial activities like solar farms) of between 4 -200 kWp. Part-funded by the European Regional Development Fund. The project will run for two and half years until 31 December 2021.
8. Marches Growth Hub**:** Your Gateway to Business Support: The Growth Hub is the portal for businesses to use to access help and support, including information on grants.
9. Save Money Cut Carbon A purchasing service for businesses and homes: We help everyone through the products and expertise; because when you save money and cut carbon, everyone benefits.

Low Carbon Support for the Public Sector

1. Carbon Trust Industry leading businesses and public sector carbon and cost saving.
2. Local Partnerships Re:fit is a procurement initiative for public bodies wishing to implement energy efficiency measures and local energy generation projects on their assets.
3. SEPuBu: Sustainable Energy in Public Buildings A match funded scheme for local authorities to assist innovative efficiency retrofitting of public buildings to save carbon and costs.
4. SALIX (zero interest finance for low carbon projects): https://www.salixfinance.co.uk/

Low Carbon Support for Homes

1. Keep Shropshire Warm

    Referrals for all schemes through – 0800 112 3743 or email Advice@mea.org.uk

2. Emergency Central Heating Offer (ECHO) provides fully funded gas boiler replacements. Residents must be in a 'no-heat' situation due to a broken gas boiler. Owner occupiers only. Target 10-day turnaround.

3. Green Homes Grants **(Note this is now closed to new applicants, however a new scheme Local Area Delivery LAD is due to replace this shortly). To** support householders to install air source heat pumps, external wall Insulation, internal wall insulation, high heat retention storage heaters, first time double glazing and replacement high performance doors. Available to owners, private tenants and their landlords. https://www.gov.uk/guidance/apply-for-the-green-homes-grant-scheme

4. Marches Energy Agency: A charity that provides support and advice on fuel poverty, domestic energy use and accessing grants or benefits, assistance and advice for businesses and homeowners.

5. Warmer Homes Shropshire **-** grants to install First Time Central Heating, gas where possible or Air Source Heat Pumps. For households without central heating (e.g. electric storage heaters, open fires, ray burns etc). Available to owner occupiers and private tenants and their landlords.

6. Energy Saving Trust Working to address the climate emergency; Energy advice for your home.

7. OLEV Grants – home charging points for Electric Vehicles   Update

Schools and Academy Trusts

With the recent demonstrations by young people playing a pivotal role to shape the future, schools are uniquely placed to lead on climate change. These measures help sustain healthy, resilient communities, economy and environment long-term by mitigating and adapting to climate change.

Depending on the school's type and status (i.e. public sector maintained, independent or academy) you may apply to the low carbon funding sources listed previously for businesses or the public sector.

Managing the energy used in your school plays a vital role in contributing towards reducing greenhouse gas emissions. Listed below are various resources to support you to reduce your emissions:

- Building Efficiency (reduce running costs for heating and electric)
- Marches Partner Herefordshire school's efficiency guidance
- Carbon Trust school's efficiency guidance
- Lightfoot Energy Diaries for schools

The Energy Diary is an activity for primary and secondary school children to discover what energy is used at home. It is designed as a teaching activity to help busy families to cut down their energy use.

Solar PV

All Shropshire schools that have participated in our solar programme, have saved over 3,445 tonnes CO_2 (carbon dioxide) during the last nine years. This has generated 6GWh (that's enough energy to boil 321,442,900 cups of tea!). Typical annual financial savings range from £1,000 to £5,000 depending on the size of array. An energy map showing PV sites by postcode is available here.

From the Sunrise Portal you can check and generate reports on your solar performance:

- Annual energy generated (kWh).
- Annual financial and carbon savings (£'s, CO_2).

This platform enables you to gather live data for environmental science, physics, maths or geography lessons. Please get in touch by email for your unique login to the Sunrise Portal and manual.

Please contact the Property Services Group for Solar PV maintenance terms:
Property.Maintenance@shropshire.gov.uk

Active travel is encouraged for health, fitness and to reduce local emissions levels for clean air:

- Sustainable School Travel Strategy

Resource Management (reduce->reuse->recycle)

- Recycling and plastics advice from WRAP
- Veolia Shropshire

Waste Action Resource Portal (Warp It) reuse network

Warp It (Waste Action Reuse Portal) allows you to repurpose equipment within your own organisation. The school's network gets you in touch with schools right across the West Midlands:

- Schools sign up here
- Further information for schools and not-for-profits here
- Short instructional videos on how to list and claim items

Remember, don't Waste it, Warp It!

We intend to list further resources via the Schools Learning Gateway and our website.

Renewable Energy (RE)

National Grid Live Energy Mix Watch the "Greening of the Grid" as we increase our renewable and low carbon energy sources and decarbonize our electricity towards 2030 .

Large Scale Renewables

Shropshire Community Energy

Sharenergy   Where people within a local community come together to develop an energy project, with capital raised by selling shares. Sharenergy is a local organization that provides support to groups to help develop and build their community energy scheme.

Twemlows Community Energy Twemlows solar farm near Whitchurch has been operating since 2015. Some of its funds already support great projects around the county - including Blackberry Fair. There's now an opportunity for the local community to own and manage the solar farm. The profits could generate a £1.9 million fund to be spent in the local area over the next 20 years.

Shropshire and Telford Community Energy **(STCE)** STCE is set up as a Community Benefit Society to develop and own community energy projects in Shropshire and Telford.

Rural Community Energy Fund A revised £10million programme, to support rural communities in England to develop renewable energy projects, has now been announced. Please visit this website for further details.https://www.gov.uk/guidance/rural-community-energy-fund

Small Scale Renewables

MarRE: Marches Renewable Energy (MarRE) project is accepting formal expressions of interest and provides grants to support renewable energy installations (not including commercial activities like solar farms) of between 4 -200 kWp. Part-funded by the European Regional Development Fund. The project will run for two and half years until 31 December 2021.

[Further Reference Information on Renewables](#)

Solar PV (Photo-Voltaic)

- https://www.energysavingtrust.org.uk/renewable-energy/electricity/solar-panels
- https://www.gov.uk/government/publications/power-to-the-pupils-solar-pv-for-schools

Wind

- http://www.energysavingtrust.org.uk/renewable-energy/electricity/wind-turbines
- https://www.gov.uk/guidance/onshore-wind-part-of-the-uks-energy-mix

Hydro

- http://www.british-hydro.org/
- https://www.gov.uk/guidance/harnessing-hydroelectric-power

RHI (Renewable Heat Incentive)

- https://www.ofgem.gov.uk/environmental-programmes/domestic-rhi/contacts-guidance-and-resources/tariffs-and-payments-domestic-rhi/current-future-tariffs
- www.energysavingtrust.org.uk/scotland/grants-loans/renewables/renewable-heat-incentive
- https://renewable-heat-calculator.service.gov.uk/

Biomass

- http://www.energysavingtrust.org.uk/renewable-energy/heat/biomass
- https://www.carbontrust.com/resources/tools/biomass-decision-support-tool/
- https://www.gov.uk/find-fuel-supplier

Heat Pumps

- http://www.energysavingtrust.org.uk/renewable-energy/heat/ground-source-heat-pumps
- http://www.energysavingtrust.org.uk/renewable-energy/heat/air-source-heat-pumps

Solar Thermal (Hot Water)

- http://www.energysavingtrust.org.uk/renewable-energy/heat/solar-water-heating

CHP (Combined Heat and Power or co-generation)

- https://www.gov.uk/guidance/combined-heat-and-power

Zero Carbon Transport (ZCT)

Active Travel Briefing for Local Authorities

This briefing is for transport planners and public health practitioners and sets out the benefits of active travel.

Assistance for Special Education Needs (SEN) transport

Sport England – Active Travel

Centre for Sustainable Transport

If you are looking for advice or support at the intersection of some of the key strands in sustainable transport — energy efficiency, vehicle emissions, "mobility as a service" and demand reduction — you are probably in the right place. Centre for Sustainable Transport Ltd (C4ST) consists of three experienced transport professionals who have often worked together on projects but also have separate commissions — in consultancy and advisory roles — with a range of transport and mobility projects.

DfT (Department for Transport) Decarbonizing Transport: Setting the Challenge

How the Government intends to work with others to develop a transport decarbonization plan. The challenge we need to meet to reduce transport emissions and ensuring we reach net zero transport emissions by 2050 reviews of existing climate policy in transport reviews of existing forecasts of future transport emissions from each mode of transport, plus as a whole.

Shropshire Cycle Hub

A community charity helping to improve access to sustainable transport.

Shropshire Sustainable Transport Package - Briefing Note

The Shropshire Sustainable Transport Package is £5M grant funded project that will run over the next 3 years. The funding will be made available on delivery of a specific package of measures designed to encourage more sustainable travel behaviour whilst supporting the local economy and cutting carbon emissions.

Shropshire Sustainable School Travel Strategy

Sustainable Transport Shropshire

An active group that lobbies for improved public transport, better cycling provision and e-bikes.

Sustrans

"Our society faces some profound challenges. From climate change and air pollution to physical and mental health crises, the pressures on communities across our four nations are growing. There is no silver bullet but the work of Sustrans and our partners provides an essential contribution to tackling the challenges of our time".

Natural Environment

Carbon Storage and Sequestration by Habitat 2021 (NERR094)

This recent (2021) update includes some useful estimates for carbon stored in different habitats and how much carbon is taken up or emitted every year.

State of Nature Report

The 2019 State of Nature report is a health check on how the UK's wildlife is faring. It is put together using wildlife data from a group of 50 conservation organisations. Of the 8,431 species assessed, 15% are now at risk of extinction. It has a useful chapter on the impacts of climate change found here: https://bit.ly/SofN-Climate

25 Year Environment Plan (25 YEP): A Green Future: Our 25 Year Plan to Improve the Environment.

In addition to the main plan there is a useful paper on how success towards the plan will be evaluated and what indicators and measures will be recorded. This includes a list of indicators which could suggest successful adaptation; the need for adaptation; or resilience of natural assets to climate change: https://bit.ly/25YEP-climate

Natural Capital Committee

The NCC oversee the progress of the 25 YEP. They produce useful annual reports. They have also produced "Natural Capital Committee advice on reaching net zero by 2050: nature-based interventions": https://www.gov.uk/government/publications/a-natural-capital-approach-to-attaining-net-zero-nature-based-interventions

Multi-Agency Geographic Information for the Countryside (MAGIC)

The MAGIC website provides geographic information about the natural environment from across government. The information covers rural, urban, coastal and marine environments across Great Britain. It is presented in an interactive map which can be explored using various mapping tools that are included. Users do not require specialist software and can access maps using a standard web browser. For example, here is a link to a map of National Nature Reserves and Sites of Special Scientific Interest in the Long Mynd area: https://bit.ly/3bOIysw . You can use the information tool to find out what condition different parts of the site are in.

National Biodiversity Network Atlas

A web-based map and database of species locations. Covers all species known in Shropshire with few exceptions. It can be patchy in other parts of the UK.

Shropshire Ecological Data Network

A partnership that administers the collection of species data across Shropshire and Telford & Wrekin. Some data and other resources are made available via their web site and most species data is also made available from the NBN Atlas. The network gives grants for efficient gathering and processing of species data. This is primarily funded by the two Local Authorities and the Environment Agency.

iRecord

A web site for sharing and managing your sightings of wildlife. Most species experts use this system to help collect wildlife sightings in the right format. You can also get feedback on identification. From a climate perspective it is important that tree planting or other land-use changes do not impact existing habitats of interest. Recording wildlife sightings can help identify trends in species distribution - including changes resulting from climate change.

BirdTrack

BirdTrack is a free and convenient way of storing your bird records online. If you tend to focus on bird recording, then this system is preferred to iRecord or other systems.

Natural Environment Valuation Online (NEVO)

A map-based collection of models providing figures on the value of aspects of the natural environment. It includes predictions by decade up to 2050-2060. Models include: Agriculture; Timber; Carbon (soil and vegetation); Recreation; Biodiversity; Water. A webinar detailing its use is available here: https://vimeo.com/300268123

Outdoor Recreation Valuation Tool (ORVal)

Estimate visitor numbers for any greenspace. ORVal reports values and visit estimates for existing and new greenspaces that are derived from a sophisticated model of recreational demand in England and Wales. These numbers are predictions of a model and not actual counts of visits to green spaces or actual measures of the welfare which that greenspace provides. You can use their own mapped areas of greenspace or paths, or map / upload your own to provide assessments for the status quo or scenarios for the future.

Greenkeeper Tool

How to you raise the profile of urban greenspace? Is it currently adequately valued? Related to ORVal but focused on urban greenspace, and a bit more advanced, this tool can "model the environmental, economic and social 'value' of green infrastructure. It can identify the complete value of a single green space or review a portfolio".

ASSIST Environmental Planner!

Developed by UKCEH to help farmers and other land mangers identify the most suitable places for different environmental management options via easy to use, interactive maps. E-Planner is free to use and covers the majority of agricultural land in GB.

The tool uses environmental datasets to produce maps of the relative suitability of land for different environmental outcomes. E-Planner currently maps relative suitability for four options:

- Water resource protection (buffer strips and cover crops)
- Woodland creation (planting of trees on-farm)
- Sown winter bird food (wild bird seed margins)
- Flower-rich pollinator habitats (flower margins and grassland restoration)

<u>Shropshire Council online maps</u>

A collection of maps including:

- Outdoor Recreation Map - additional resources are available from the Shropshire's Great Outdoors web site: http://www.shropshiresgreatoutdoors.co.uk/
- Shropshire Environmental Network map (a precursor to the Nature Recovery Network);
- habitat maps (Phase 1) of several parts of Shropshire as mapped by community groups.
- Air Pollution Monitoring
- Accessible Natural Greenspace map
- Location of Household Recycling Centres

Marches Ecosystems Assessment (2016)

The Marches Nature Partnership commissioned a provisional assessment of the value of the natural environment of the Marches area (Shropshire, Telford & Wrekin, and Herefordshire). This includes an estimate of the value of the carbon stored both above and below ground in Shropshire. Also, the provision of Accessible Natural Greenspace (an ANGSt+ assessment).

Environmental Land Management scheme (ELMS)

Farmers will increasingly be paid to provide 'public goods' beyond just food. This will include carbon storage in soils and trees and provision of access to their land. A presentation from Defra about the new scheme is available here: http://publications.naturalengland.org.uk/file/4764267014520832

Resource Management (RM)

Recycling

Please refer to our website and recycling policy for further information including reference to single-use-plastics. Both domestic and commercial recycling is delivered by our service provider: Veolia Shropshire   Location of Household Recycling Centres

DEFRA Waste Strategy , Veolia Shropshire

WRAP – Waste and Resources Action Programme - At the forefront of the circular economy

Find out how you can achieve economic benefits and resource efficiency.

Plastic Free Communities (Hosted by Surfers Against Sewage). It's about kicking our addiction to avoidable single-use plastic and changing the system that produces it. We are creating the Plastic Free Community network to free where we live from single use. Together we are tackling avoidable single-use plastic, from the beach all the way back to the brands and businesses who create it.

Reuse

Warp-it: (Waste Action Re-use Portal) We have initiated a re-use distribution network for repurposing stationary, furniture and other office equipment. This service helps to repurpose and relocate office furniture and equipment to where it is needed. This service is available for use by Shropshire Council service areas, Town and Parish Councils, schools and academy trusts, charities, and not-for-profits. It is not available for personal use (for which there are services like Freecycle and Freegle).

Please follow the links above depending on the type of organization:

- o Town and Parish Councils sign up here
- o Schools sign up here
- o Charities sign up here
- o Further information for schools and not-for-profits here
- o Business Partners sign up here
- o Short instructional videos on how to list and claim items

Make sure you bookmark the correct link. Hit the big green button which says 'register' now. Once you register, you'll get further instructions. You can browse items on Warp-it by hitting the search button.

- Learn how to add an item here.
- Learn how to claim an item here.

If you want to know more about the system in general, go to www.getwarpit.com where there are examples of how the system is working well in other organisations just like ours.

You can also check out the Frequently Asked Questions here.

If you have any other questions, please contact. **WarpIT@shropshire.gov.uk**

Government Departments - Climate Change

DBEIS (Department for Business Energy & Industrial Strategy)

For the Government Latest guidance: including The Clean Growth Strategy, and regional statistics.

DEFRA Department of Environment, Food and Rural Affairs (DEFRA)

25 Year Environment Plan and related directives in waste, natural resources and agricultural.

DfT (Department for Transport) Decarbonizing Transport: Setting the Challenge

How the Government intends to work with others to develop a transport decarbonization plan. The challenge we need to meet to reduce transport emissions and ensuring we reach net zero transport emissions by 2050 reviews of existing climate policy in transport reviews of existing forecasts of future transport emissions from each mode of transport, plus as a whole.

Ministry of Housing Communities & Local Government (MHCLG)

Directives and guidance for built environment: commercial and domestic sectors and communities to live and work, and to give more power to local people to shape what happens in their area.

Office for Environmental Protection (OEP) Through the Environment Bill – which is expected to be passed into legislation in 2020 - the OEP will be "a powerful new independent regulator that will hold the government to account, including through the courts if necessary."

National Resources

Centre for Alternative Technology All emissions that can go to zero must go to zero – as rapidly as possible. Not just from electricity, but also from heat, transport, industry and land-use. We have the tools to do it. CAT's Zero Carbon Britain research clearly demonstrates that we already have all the technologies we need to achieve zero carbon emissions by 2050 – or even earlier.

Centre for Sustainable Energy We are an independent national charity that shares our knowledge and experience to help people change the way they think and act on energy.

Ashden supports and promotes sustainable energy enterprises from around the world. Our mission is to accelerate transformative climate solutions and build a more just world.

Tyndall We provide evidence to inform society's transition to a sustainable low-carbon and climate resilient future. The Tyndall Centre is a partnership of universities bringing together researchers from the social and natural sciences and engineering to develop sustainable responses to climate change.

Midlands and Marches Resources

Midlands Energy Hub The support we are providing to local authorities and LEPs will provide resource to understand and utilize energy opportunities and challenges in their local area, undertaking the initial stages of development for priority projects.

Marches LEP Energy Strategy The Local Enterprise Partnership (LEP) recognizes energy provision can impose a barrier to economic growth. Energy is generation and consumption in the UK is changing and it is important to understand this when setting out a strategy for future energy use in the Marches. The current energy infrastructure is already at capacity in many areas, and this presents both a threat to future business and housing development but also an opportunity to invest in innovation that can overcome these challenges while providing a unique selling point for those in the energy supply chain.

For further information and updates on Shropshire Councils Climate Change initiatives

Sustainability West Midlands is the sustainability champion for the West Midlands. We are a not-for-profit company that works with our members in the business, public and voluntary sectors. Our role is to act as a catalyst for change through our advice to leaders, to develop practical solutions with our members and share success through our communication.

UCS CREST University Centre Shrewsbury provides research and innovation support to small and medium enterprises across Shropshire it can also help them access grants to assist prototyping, etc.

Shropshire Community Groups

Find a local community interest group you can get involved in. If there isn't a group in your town or village, why not start one?

Shropshire Climate Action Partnership Shropshire Climate Action Partnership is being established to coordinate a collaborative Shropshire-wide community response to the climate and ecological crisis and oversee the creation of a Zero Carbon Shropshire Plan (ZCSP).

Green Shropshire Xchange Green Shropshire Xchange is the Environment network of local groups in Shropshire and Telford and Wrekin promoting communication and education about Sustainable Living.

Sustainable Newport Shropshire (Previously called Newport 21) Sustainable Newport Shropshire is a group of residents from Newport and the surrounding villages concerned about plastics, pollution, climate change, fossil fuel dependency and how to live more sustainably. Our aim is to increase awareness of we have on our world and help businesses and residents reduce their impact.

Ludlow 21 is a local voluntary group established in 1998 to promote sustainable living in the Ludlow area within a fair and just global society. We are an independent body with no political or council ties.

South Shropshire Climate Action Group Creating a climate action plan for the Ludlow constituency.

Stretton Climate Care Think Global, Act Local – A Community Action Group in it for the Long Haul...

Glossary of Abbreviations

Abbreviation	Definition
AD	Anaerobic Digestion
AHU	Air Handling Unit
AMR	Automated Meter Reader (generally for electric, gas or water meters) – like smart meters.
AONB	Area of Outstanding Natural Beauty
BAU	Business as Usual
BEEP	Business Energy Efficiency Programme
BECCI	Built Environment Climate Change Innovations
BEMS	Building Energy Management System
BRE	Building Research Establishment
BREEAM	Building Research Establishment Environmental Assessment Method (for complex large exemplar builds with capital value £500k+)
C4ST	Centre for Sustainable Transport Ltd
CAT	Centre for Alternative Technology
CSE	Centre for Sustainable Energy
CCL	Climate Change Levy
CfD	Contracts for Difference (large scale renewables incentive)
CMP	Carbon Management Plan (previous plan was 2010)
CCS	Climate Change Strategy (revised strategy 2020)
CIBSE	Chartered Institution of Building Services Engineers
CO2e	Standard measure for combined Greenhouse Gases: Carbon Dioxide Equivalent
COG	Climate Officer Group (working within the council)
COP	(International) Conference of Parties –climate change
CRC	Carbon Reduction Commitments
DBEIS	Department of Business Energy and Industrial Strategy

DEC	Display Energy Certificate (for public buildings) actual usage and is a legal requirement over 250m2 GIA
DECC	Department of Energy and climate Change (Changed to DBEIS 2016)
DEFRA	Department for Environment, Food and Rural Affairs
Divestment	Moving investments away from fossil fuels
DMR	Dry Mixed Recycling
DNO	District Network Operator (Electric Transmission Distributor for National Grid)
DSG	Dedicated Schools Grant
DUKES	Directory of UK Energy Statistics
DUoS	Distributed Use of System
EES	Energy Efficiency Standards
EPC	Energy Performance Certificate: measure building predicted (designed) performance
ERDF	European Rural Development Fund
ESCO	Energy Service Company
ESIF	European Structural Investment Fund
ESOS	*Energy Savings Opportunity Scheme*
EU ETS	European Emissions Trading System
EV	Electric Vehicle
FiT	Feed in Tariff (incentives now ended by OFGEM)
FM	Shropshire Council Facilities Management
FY	Financial Year
GHG	Greenhouse Gas Protocol
GIA	Gross Internal floor area
GSX	Green Shropshire Exchange
HVAC	Heating Ventilation Air Conditioning
ICE	Internal Combustion Engine vehicle
ICT	Information Communications Technology.
IPCC	International Panel of Climate Change

ISO 50001	*Energy Management Certification International Standard*
ISO 14000	*Environmental Management*
kWh	Kilowatt hour is 1,000 watts (units of power) for the period of one hour or a single unit of energy.
LACM	Local Authority Carbon Management.
LCN	Low Carbon Network
LED	Light Emitting Diode
Marches LEP	Regional Local Enterprise Partnership.
MCS	Microgeneration Certification Standard
MEH	Midlands Energy Hub
MEES	The Governments Minimum Energy Efficiency Standards
MGH	Marches Growth Hub
MHCLG	Ministry of Housing Communities and Local Government
OFGEM	Office of Gas and Electricity Markets. A non-ministerial government department and an independent National Regulatory Authority,
PHEV	Plug in Hybrid Electric Vehicle
PHPP	Passive House Planning Package
PSG	Property Services Group (Shropshire Council)
PV	Solar Photo Voltaic
Refit	Retrofitting existing (often pre- 1990's) buildings
Re:fit	Local Partnerships: Public sector procurement framework for energy efficiency and renewables
ROO-FIT	A 'large installation' renewable energy over 50kW and up to 5MW, and all anaerobic digestion (AD) and hydro installations up to and including 5MW
RHI	Renewable Heat Incentive
Salix	Public sector finance: low interest loan scheme for energy efficiency and renewable energy projects.

SAP / FSAP	Standard Assessment Procedure SAP (generates EPCS for domestic dwellings) models' construction, heating, lighting and hot water.
SBEM	Simplified Building Energy Model (BRE, NCM) used for commercial new builds and retrofitting
SCAP	Shropshire Climate Action Partnership
SEG	Smart Export Guarantee (a replacement for feed-in-tariff offered by some ESCO's)
SEPuBu	Sustainable Energy for Public Buildings
SBID	Shrewsbury Business Improvement District
SCOM	Shropshire Chamber of Commerce
SPC	Shropshire Providers Consortium
SPEN	Scottish Power Energy Networks
SRCC	Shropshire Rural Communities Charities (RCC)
SWM	Sustainability West Midlands
Sustrans	Sustainable Transport (National Cycle Network)
Triads	Three half hour periods during the winter when the National grid is at peak capacity.
ULEV	Ultra-Low Emission Vehicle
NCM	UK National Calculation Method for non-domestic buildings
UNFCC	United Nations Climate Change
VCSA	Voluntary Community Support Associations
VSD	Variable Speed Drive
Warp-it	Waste Action Re-use Portal
WME	West Mercia Energy
WPD	Western Power Distribution
WRAP	Waste Resource Action Programme (circular economy)