

# Climate Pack

## Shropshire Climate Emergency Resources

|         |                           |
|---------|---------------------------|
| Version | 0.6                       |
| Team    | Climate Change Task Force |



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# 1 Introduction

The aim of this document is to provide climate emergency county toolkit for community groups and all stakeholders (public and commercial sectors alike). This pack acts as a climate action reference manual listing measures that can be taken to both mitigate and adapt to the climate emergency. The intended readers and associated groups 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 Action

Our vision is for Shropshire Council to become carbon net-neutral by 2030 and assist in the ambition for Shropshire 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 influence to foster a positive response to the challenge of the Climate Emergency by 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 carbon performance, and management technologies are changing all the time. We are treating the Climate Strategy as 'live' and invite comments and 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](mailto:climate@shropshire.gov.uk) [Shropshire Climate Action.](#)

## 2 Climate Strategy and Action Plan

Our adopted [Climate Strategy](#) and [Action Plan](#) is on our new [Climate Action pages](#).

Please also see [Environment and Planning](#) for further related information:

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

### 3 Energy efficiency

Our [building efficiency guidance](#), demonstrates how improving fabric insulation and installing appropriate controls can save you money and cut carbon emissions. 40% of the UK's carbon footprint comes from the built environment. Half of this is from energy used that has nothing to do with their operation (UK Green Building Council). Depending on construction type and method, up to 75% of a building's thermal energy (or heat) may be lost through its fabric.

The primary drivers to improve energy efficiency are:

- Reduce carbon emissions and fuel bills.
- Improve comfort levels for occupants (health and wellbeing).
- Reduce fuel poverty by making properties more affordable to run.
- Comply with Parts L and F of the Building Regulations.
- Comply with Private Rented Sector Regulations (MEES).

#### [Shropshire Council sustainable design and construction policies](#)

Our [Sustainable Design](#) and [Sustainable Construction Policy](#) should be referred to for all current planning applications (new builds and retrofits). These policies were put in place in 2011, however given developments over the last 10 years, the performance metrics for new builds and target benchmarks for existing buildings including retrofits are due a revision very soon (2021).

#### [Building regulations \(Parts L and F\)](#)

[The building regulation](#) in England setting standards for the energy performance of new and existing buildings. Part L deals with the conservation of fuel and power:

- Part L1A - the requirements for energy efficiency of domestic newbuilds.
- Part L1B - the requirements for energy efficiency of existing domestic dwellings.
- Part L2A - the requirements for energy efficiency of new non-domestic properties.
- Part L2B - the requirements for existing non-domestic properties.
- [Part F](#) deals with ventilation and cooling requirements categorised as above.

#### [Future buildings standards \(Parts L and F\)](#)

The [future buildings standards](#) for both domestic and non-domestics has been out for consultation and is currently under review – the next set of standards will ramp up EPC ratings and heat loss requirements to be more in line with Passivhaus. For the direction of travel towards zero carbon see the PHPP (Passive House Planning Package) and Government [Future Buildings Standards](#).

[MEES \(Minimum Energy Efficiency' standards\)](#) Legislation for landlords in the private rented sector.

#### [Heritage Buildings](#)

[Historic community guidance](#) should be referred to for improvements on heritage properties. There are useful [case studies from Bath](#) and [Centre for Sustainable Energy](#).

#### [Further efficiency guidance](#)

Further information for the commercial sector can be found from [Carbon Trust](#) ; an expert in carbon reduction and commercializing low carbon technologies. Valuable additional guidance is available for the domestic sector from [Energy Saving Trust](#) and the [Centre for Sustainable Energy](#).

## Commercial efficiency

It is requirement by law to make this information freely available to the public (made evident in the buildings themselves and searchable online on public registers). This data could be made more accessible by GIS mapping and energy dashboards for example.

**DEC (Display Energy Certificate)** Regulations for Display Energy Certificates of public buildings. DEC's provide an accurate information on energy consumption in buildings with floor areas over 250m<sup>2</sup> and are updated annually.

**EPC (Energy Performance Certificate)** Required for properties when constructed, sold, or let. It provides details on the energy performance and what you can do to improve it. They are typically only updated every 7-10 years or when a property is leased, sold or for a significant retrofit.

**Find an energy certificate on the public register:** search for your property by postcode and find EPC and DEC's and their advisory reports. Especially useful when planning a retrofit to improve efficiency. It is useful to map this data when planning wide district scale retrofits and improvement works.

### **Performance Metrics**

The key metrics from energy performance are outputs of EPC's and DECS. They are useful metrics with which to estimate a buildings carbon footprint and running costs (assuming the floor area is known). The colour codes used by EPC's and DEC's are a useful quick performance indicator.

- Dwelling Fabric Energy Efficiency (DFEE) – kWh/m<sup>2</sup>/yr.
- Target Fabric Energy Efficiency (TFEE) – kWh/m<sup>2</sup>/yr.
- Dwelling emission rating (DER) – CO<sub>2</sub>/m<sup>2</sup>/yr.
- Target emission rating (TER) – CO<sub>2</sub>/m<sup>2</sup>/yr.
- Graded letter (colour coded A-G) for both EPC's and DEC's.
- Estimated running cost (EPC's only) - £/m<sup>2</sup>/yr.

These metrics are outputs of a building energy benchmarking exercise (based on utility consumption and costs) or part of detailed design involving one of the modelling tools listed over the page.

Target metrics and best practice will be published in due course for both domestic and non-domestic sectors once these benchmarks are clarified.

### **Find and EPC Assessor**

**Midlands Energy Professionals** - Do you need an EPC (Energy Performance Certificate)? A MEES Report? Help in saving on energy costs? An Air Conditioning Inspection? In fact, any sort of energy survey or consultancy energy efficiency service for a home or business? Our skilled and highly qualified members can help!

## Building Models and Design Tools (for new builds and retrofits)

### 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. However, BREEAM can be an expensive, administrative, and time-consuming process involving an external assessor to cover off a checklist that does not just include energy in its criteria but several other environmental factors.

### CiBSE Guide F: Energy efficiency in buildings

This publication is primarily intended to provide guidance to those responsible for the design, installation, commissioning, operation, and maintenance of building services. Part C: Contains useful benchmarks for different building types and sectors: as best practice targets. These have now been integrated into an Energy Benchmarking Tool Dashboard, showing best practice based on building usage and fuel type. It uses real-world data based on UK DEC reports.

### PHPP (Passive House Planning Package)

The energy balance and planning tool for efficient buildings and refurbishments

PHPP is an easy-to-use planning tool for energy efficiency for architects and planning experts. The reliability and ease of use of this planning tool has already been experienced by several thousand users. Further information on Passive House design from the Passivhaus Trust here.

### SAP (Standard Assessment Procedure) - domestics only

SAP is an energy model for domestic housing retrofits and new builds that accounts for thermal mass, heat loss, thermal bridging, and ventilation. It does not however go into full Passivhaus requirements (see PHPP above). It is the main tool used to lodge domestic EPC's by qualified DEA's (domestic energy assessors) via Stroma Certification.

- FSAP 2012 is the industry standard model for domestic energy assessments.
- FSAP 10 beta is now available for testing.

### SBEM (Simplified Building Energy Model)- non domestics only

Developed by BRE (Building Research Establishment), SBEM provides an analysis of non-domestic building's energy consumption. In support of the National Calculation Methodology (NCM), the Energy Performance of Buildings Directive (EPBD). This tool is used by NDEA's (non-domestic Energy Assessors) to model and calculate savings in commercial retrofits and new builds. Like SAP, it accounts for thermal mass, heat loss, thermal bridging, and a basic ventilation requirement. It does not however go into full Passivhaus requirements (see PHPP).

## 4 Home efficiency

Find out how you can save money and carbon in your own home from [Energy Saving Trust](#) and a comprehensive set of guidance packs and resources from [CSE \(Centre for Sustainable Energy\)](#).

### EPC (energy performance certificate)

An energy performance certificate is required for properties when constructed, sold, or let. It provides the energy performance and what you can do to improve it. Searchable by postcode, the EPC provides valuable information on not only the expected energy and carbon performance, but also the expected running costs for any given property. Its recommendation report lists and prioritises efficiency next steps by capital cost and expected savings and payback period.

### **Grants and support for homes**

#### 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.

### **Find an Accredited Assessor or Installer**

- Midlands Energy Professionals - Do you need an EPC (Energy Performance Certificate)? A MEES Report? Help in saving on energy costs? An Air Conditioning Inspection? In fact, any sort of energy survey or consultancy energy efficiency service for a home or business?
- The Green Age's network of recommended installers  
We know how important it is to get the right man/or woman for the job. From installers of high efficiency boilers to solar photovoltaic panels, and external solid wall insulation installers to double/triple glazing experts we have partnered with the best in London!
- Microgeneration Certification Scheme (MCS)  
Working with industry we define, maintain and improve quality – certifying products and installers so people can have confidence in the low-carbon technology they invest in. From solar and wind, to heat pumps, biomass and battery storage, we want to inspire a new generation of home-grown energy, fit for the needs of every UK home and community.
- Renewable Energy Hub For Home, Business, Schools, Industry and Government.
- Renewables Guide  
The UK's leading resource of green and renewable energy installers and suppliers.

## 5 Funding

Please see [our website](#) for updates where this page can be downloaded as a pdf.

### Opportunities for businesses

1. [BECCI Project](#): For Small and Medium Enterprises (SMEs) in the West Midlands, providing free support in the development of products and services that reduce carbon usage.
2. [Business Energy Efficiency Programme \(BEEP\)](#): Lower your energy bills in your business, so if you are looking to cut costs and save carbon, we can help.
3. [Business Growth Programme](#): Grant support for individuals and businesses looking to start, grow and expand in the Marches LEP area.
4. [CREST](#): University Centre Shrewsbury provides research and innovation support to small and medium enterprises across Shropshire.
5. [Government Finance and support](#) for your business
6. [Innovate UK – innovation funding finder](#) - If you are a UK-based business or research organisation, you may be able to compete for government-backed funding.
7. [Low Carbon Opportunities Programme \(LoCOP\)](#): Do you have the potential for high-tech green growth, and develop innovative low carbon solutions?
8. [MarRE](#): Marches Renewable Energy (MarRE) provides grants to support renewable energy (4-200kWp). MarRE is part-funded by the ERDF and closes to new applications on June 20<sup>th</sup>.
9. [Marches Growth Hub](#): Your gateway to business support: The Growth Hub is the portal for businesses to access support, including information on grants.
10. [Save Money Cut Carbon](#): A purchasing service for businesses and homes: We help everyone with products and expertise to save money and cut carbon.
11. [Shrewsbury BID](#) - Shrewsbury Business Improvement District Limited.
12. [Shropshire Chamber of commerce](#) "In business for business."

### Opportunities for the public sector

1. [Carbon Trust](#): Industry-leading businesses and public sector support.
2. [Local Partnerships Re:fit](#): The Re:fit programme is a procurement initiative for public bodies for energy efficiency and local energy generation projects.
3. [SEPuBu: Sustainable Energy in Public Buildings](#): A match-funded scheme for local authorities to assist innovative retrofitting to save carbon and costs.
4. [SALIX](#): Zero-interest finance for low carbon projects.

### Opportunities for homes

1. [Energy Saving Trust](#): Find out more about [energy for your home](#).
2. [Emergency Central Heating Offer \(ECHO\)](#): Provides gas boiler replacements. Residents must be in a 'no-heat' situation due to a broken boiler.
3. [Green Homes Grants](#): (closed, Local Area Delivery coming soon). Support to homeowners, tenants, and property owners to install air source heat pumps, insulation, storage heaters, double glazing, and high-performance doors.
4. [Keep Shropshire Warm](#): 0800 112 3743 or email [Advice@mea.org.uk](mailto:Advice@mea.org.uk)
5. [Marches Energy Agency](#): Provides support on fuel poverty, domestic energy and grants, assistance and advice for businesses and homeowners.
6. [Warmer Homes Shropshire](#): Grants to install first-time central heating; gas, or air source heat pumps. Available to owner occupiers and private tenants without central heating.
7. [OLEV Grants](#): Home charging points for electric vehicles.

## 6 Schools and academies

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.

### Existing programmes

We would like to make you aware of the [Eco schools](#) and [Let's go zero](#) programmes which already exist to assist your pathway to zero carbon. You can join both for free.

[Active travel](#) is encouraged for health, fitness and to reduce local emissions levels for clean air

[Sustainable School Travel Strategy](#) Shropshire Council is coordinating new active travel, cycling, and walking infrastructure provision report, the results of which will be published in July 2022.

[Sustrans](#) - We help young people to travel actively and safely to school or to college.

### Energy and heating guidance

Managing the energy used in your school plays a vital role in contributing towards reducing greenhouse gas emissions whilst helping to reduce your costs. We estimate Shropshire Councils maintained schools alone are responsible for 6,000 tCO<sub>2</sub>e and cost £2m a year to run.

Wholesale energy prices have risen significantly over the last 6 months and unfortunately, it is likely that everyone will feel the effects of the current situation at some point over the coming 12 months. Costs will likely rise by a further 40% by 2030 without intervention.

We would like to bring to your attention the efficiency checklist. We recommend that site managers, maintenance staff and teachers take the following steps where possible: -

- Did you know that site managers can monitor their utilities directly? You can login in [here](#).
- Being proactive with monitoring will help reduce energy consumption and spend.
- Switch off heating where buildings or "zones" are not occupied.
- Heating controls and thermostats should match the usage/occupancy times.
- Check hot water systems and immersion tanks/timers are set correctly.
- Familiarise yourselves with the heating controls to avoid expensive callouts.
- Make sure thermostats are set correctly (18°C is adequate in the workplace).
- Avoid external windows and doors being open where possible whilst the heating on.
- Shut down ICT systems and lighting after use and outside of operating hours.
- During half-term and weekends ensure heating, lighting, and ICT systems are shutdown.

If you are not already with [WME](#), we would recommend you consider switching. Our local utilities provider demonstrates proven long-term value for money for the public sector and enables us to track your carbon footprint, along with several other benefits. Switching to WME helps us to tailor efficiency advice, funding, and delivery options for retrofits to meet your specific requirements.

For more information on the benefits of contracting with WME, you can contact them at: [customerservices@westmerciaenergy.co.uk](mailto:customerservices@westmerciaenergy.co.uk)

- Marches Partner [Herefordshire school's efficiency guidance](#)
- [Business and sector-based 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. The Diary is designed as a teaching activity to help busy families to cut down their energy use and save money.

## Funding for schools

All schools should develop a Heat Decarbonisation Plan (HDP) to help apply for funding available such as PSDS (Public Sector Decarbonisation Scheme). Depending on status (public sector maintained, independent or academy) you may apply to the funding sources listed below:

- [Salix HDP guidance](#)
- [PSDS Phase 3](#)
- [Low carbon skills fund](#)

## Resources

- [Recycling for schools uk.ecoteam@veolia.com](#)
- [Recycling and plastics advice from WRAP](#)
- [Veolia Shropshire](#)

## Re-use

Warp It is a free online tool to assist with re-using items. The portal allows you to repurpose equipment within your own organisation and exchange any items you wish with public sector; 3<sup>rd</sup> sector and business partners. The network puts you in touch with schools across the West Midlands. Please use the appropriate links below to sign up:

- [Schools sign up for free here](#)
- [Further information for schools](#)
- [Further information for charities](#)
- [Short instructional videos on how to list and claim items](#)
- [Logos and stationery available here](#)

**Remember, don't waste it, Warp It! [ben@warp-it.co.uk](mailto:ben@warp-it.co.uk)**

## Solar PV

All Shropshire schools that have participated in our solar programme, have saved over 3,445 tonnes CO<sub>2</sub> (carbon dioxide) during the last nine years. This has generated 6GWh (that is 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<sub>2</sub>).

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

For PV maintenance enquiries please contact [Property.Maintenance@shropshire.gov.uk](mailto:Property.Maintenance@shropshire.gov.uk)

We have further resources on the Schools Learning Gateway and [our website](#).

## 7 Universities and colleges

Universities play a crucial role in the UK to innovate and carry out rigorous evidence led research. They are well placed to lead on the climate agenda and together with the students who will shape our future. Listed below are practical resources to help universities and college address the energy crisis and help on your pathway to zero carbon: -

- [Active travel – Sustrans.](#)
- [Adapting universities and colleges to a changing climate](#)
- [Alliance for Sustainability Leadership in Education](#)
- [Business efficiency](#)
- [Carbon management – good practice guide](#)
- [Carbon Trust higher education guidance](#)
- [Divestment from fossil fuels.](#)
- [Energy and carbon reporting for colleges](#)
- [Energy management guidance](#)
- [Energy and heating advice](#)
- [Water efficiency](#)

### Funding for higher education

All universities and colleges are advised to develop a Heat Decarbonisation Plan (HDP) to help apply for funding available such as PSDS (Public Sector Decarbonisation Scheme). Depending on your organisation, you may apply to the funding sources listed:

- [Salix HDP guidance](#)
- [PSDS Phase 3](#)
- [Low carbon skills fund](#)

### Re-use

Warp It, an online tool to assist with re-using items and avoid good stuff being skipped. The portal allows you to repurpose equipment within your own organisation and exchange any items you wish with public sector; 3rd sector and business partners.

- [Universities sign up here](#)

Some universities already using Warp It and making savings:

- [Aberystwyth](#)
- [Birmingham](#)
- [Cambridge](#)
- [Edinburgh](#)
- [Nottingham](#)

The more regional users – the better the distribution network. So, we no longer must buy new!

Recycling: Veolia Shropshire, [uk.ecoteam@veolia.co](mailto:uk.ecoteam@veolia.co), [plastics advice from WRAP](#)

Please see our [resources page](#) for more information.

These measures help sustain healthy, resilient communities, economy, and environment long-term by helping to meet net zero targets, mitigate and adapt to climate change

## 8 Renewable energy

[National Grid Live Energy Mix](#) Watch the "[Greening of the Grid](#)" as we increase our renewable, 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 is 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.

### **Installers Directories**

[The Green Age's network of recommended installers](#); We know how important it is to get the right man/or woman for the job. From installers of high efficiency boilers to solar photovoltaic panels, and external solid wall insulation installers to double/triple glazing experts we have partnered with the best in London! Thinking of getting a biomass boiler installed? We know the company for you!

[Microgeneration Certification Scheme \(MCS\)](#) Working with industry we define, maintain and improve quality – certifying products and installers so people can have confidence in the low-carbon technology they invest in. From solar and wind, to heat pumps, biomass and battery storage, we want to inspire a new generation of home-grown energy, fit for the needs of every UK home and community.

[Renewable Energy Hub](#) For Home, Business, Schools, Industry and Government.

[Renewables Guide](#) The UK's leading resource of green and renewable energy installers and suppliers.

## Further References 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](http://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>

## 9 Active travel and zero carbon transport

### [Active Travel Briefing for Local Authorities](#)

This briefing is for transport planners and public health practitioners and sets out the benefits of active travel. [Active Travel](#) - briefing from Sport England.

### [Assistance for Special Education Needs \(SEN\) transport](#)

### [Centre for Sustainable Transport](#)

Advice and support at the intersection of some of the key strands in sustainable transport, vehicle emissions, “mobility as a service” and demand reduction. Centre for Sustainable Transport Ltd (C4ST) consists of three experienced transport professionals who have often worked together on projects — 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: Climate change, air pollution, physical and mental health crises, the pressures on communities 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.”

## 10 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/3bOlysw>. You can use the information tool to find out what condition various 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. An online seminar 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 managers identify the most suitable places for different environmental management options via easy to use, interactive maps. E-Planner is free to use and covers most of the 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)

## Shropshire Council online maps

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>

# 11 Resources (recycling, reuse and the circular economy)

## 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 will 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](http://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](mailto:WarpIT@shropshire.gov.uk)

**Remember, don't Waste it, Warp It!**

## 12 Carbon reporting

Carbon reporting is essential to track changes towards an overarching goal of zero carbon by 2030. The council's corporate 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 and reporting tools available from county level to town and parish areas, organisational, businesses and individuals listed below.

### [County level carbon 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.

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.

### [Regional carbon dioxide emissions national statistics](#)

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

### [National statistics](#)

[Digest of UK Energy Statistics \(DUKES\)](#) is 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.

### [UK greenhouse gas emissions national statistics](#)

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

### [Community carbon reporting](#)

#### [Community Carbon Calculator \(CSE\)](#)

The Climate Impact Tool gives a visual representation of your community's carbon footprint, helping spot areas where your community activities can make the biggest difference. This tool is especially helpful for Town and Parish Councils and calculating their carbon footprint by district area.

### [Local authority carbon reporting](#)

#### [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 deliver robust and measurable carbon strategies.

### [Business carbon reporting](#)

#### [Carbon Trust SME Carbon Footprint Calculator](#)

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

#### [GHG Protocol: GHG Emissions Calculation Tool](#)

The GHG Emissions Calculation Tool is a free, Excel-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 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](mailto:info@pureleapfrog.org) to discuss your requirements.

#### [Scope 3 Evaluator](#)

The Scope 3 Evaluator is a free, web-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 cannot 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 is not 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 carbon reporting

The calculators listed below use figures based on CO2 emissions divided by the population, spend, consumption and lifestyle choices. The figure is raised or lowered to reflect personal households. How these adjustments are made mean you are unlikely to have the same score by inputting the same figures into each calculator, but they should not be wildly different. The key point is to choose a calculator that appeals to you and stick to it. 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 quite 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 calculates an ecological footprint, telling you how many Earths resources would be needed if everyone lived as you do. It measures CO2 and the amount of land 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 22<sup>nd</sup> 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**

An easy-to-use calculator available as a mobile app as well as computer based. You 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. Extremely easy to use and the methodology and data sources used are explained.

## 13 Government support

[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.”

## 14 National support

[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 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.

## 15 Midlands and Marches

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 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.

## 16 Shropshire communities

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 what 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...

## 17 Further resources (business, communities, and charities)

- [Grant Finder](#) leading database in the UK covering local, national, and international sources of funding.
- [Green business network](#) "Environmental networking for the smart business".
- [Marches Growth Hub](#) Your gateway to business support in Herefordshire, Shropshire and Telford & Wrekin.
  
- [Marches LEP Energy Strategy](#) - The Marches region strategy for clean growth.
- [Marches LEP](#) Driving growth across Herefordshire, Shropshire, and Telford & Wrekin.
  
- [Midlands Energy Professionals](#) - Do you need an EPC (Energy Performance Certificate)? A MEES Report? Help in saving on energy costs? An Air Conditioning Inspection? In fact, any sort of energy survey or consultancy energy efficiency service for a home or business? Our skilled and highly qualified members can help!
  
- [Mossy Life](#) Your local green guide for Shropshire including Shropshire's only green directory and events calendar. Plus, practical green living advice and tips to help you.
  
- [Shropshire Climate Action](#) - Our website with programmes and community resources.
  
- [Shropshire Voluntary Community Sector Assembly \(VCSA\)](#) - Represents Shropshire's voluntary, community, and social enterprise (VCSE) sector.
  
- [Sustainability West Midlands](#) - A central resource for the West Midlands.

### **Installers Directories**

- [The Green Age's network of recommended installers](#)  
We know how important it is to get the right man/or woman for the job. From installers of high efficiency boilers to solar photovoltaic panels, and external solid wall insulation installers to double/triple glazing experts we have partnered with the best in London! Thinking of getting a biomass boiler installed? We know the company for you!
- [Microgeneration Certification Scheme \(MCS\)](#)  
Working with industry we define, maintain and improve quality – certifying products and installers so people can have confidence in the low-carbon technology they invest in. From solar and wind, to heat pumps, biomass and battery storage, we want to inspire a new generation of home-grown energy, fit for the needs of every UK home and community.
- [Renewable Energy Hub](#) For Home, Business, Schools, Industry and Government.
- [Renewables Guide](#)  
The UK's leading resource of green and renewable energy installers and suppliers.

## Glossary of abbreviations

| <b>Abbreviation</b> | <b>Definition</b>   |
|---------------------|---|
| AD                  | Anaerobic Digestion   |
| AHU                 | Air Handling Unit   |
| AMR                 | Automated Meter Reader (for electric, gas or water meters) – like smart meters.   |
| AONB                | Area of Outstanding Natural Beauty  |
| BAU                 | Business as Usual   |
| <u>BEEP</u>         | Business Energy Efficiency Programme: Support for SMEs to install efficiency measures.  |
| <u>BECCI</u>        | Built Environment Climate Change Innovations  |
| BEMS                | Building Energy Management System   |
| <u>BRE</u>          | Building Research Establishment   |
| <u>BREEAM</u>       | Building Research Establishment Environmental Assessment Method (for complex large exemplar builds with capital value £500k+) |
| <u>C4ST</u>         | Centre for Sustainable Transport Ltd  |
| <u>CAT</u>          | Centre for Alternative Technology   |
| <u>CSE</u>          | Centre for Sustainable Energy   |
| <u>CCL</u>          | Climate Change Levy   |
| <u>CfD</u>          | Contracts for Difference (large scale renewables incentive)   |
| CMP                 | Carbon Management Plan (previous plan was 2010)   |
| <u>CCS</u>          | Climate Change Strategy (revised strategy 2020)   |
| <u>CIBSE</u>        | Chartered Institution of Building Services Engineers  |
| CO <sub>2</sub> e   | Standard measure for combined Greenhouse Gases: Carbon Dioxide Equivalent   |
| COG                 | Climate Officer Group (working within the council)  |
| <u>COP</u>          | (International) <u>Conference of Parties</u> –climate change  |
| CRC                 | Carbon Reduction Commitments  |
| <u>DBEIS</u>        | Department of Business Energy and Industrial Strategy   |

|              |   |
|--------------|---|
| <u>DEC</u>   | Display Energy Certificate (for public buildings) actual usage and is a legal requirement over 250m <sup>2</sup> GIA. |
| DECC         | Department of Energy and climate Change (Changed to DBEIS 2016)   |
| <u>DEFRA</u> | 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   |
| <u>DUKES</u> | Directory of UK Energy Statistics   |
| DUoS         | Distributed Use of System   |
| <u>EES</u>   | Energy Efficiency Standards   |
| <u>EPC</u>   | Energy Performance Certificate: measure building predicted (designed) performance.                                    |
| ERDF         | European Rural Development Fund   |
| ESCO         | Energy Service Company  |
| <u>ESIF</u>  | European Structural Investment Fund   |
| <i>ESOS</i>  | <i>Energy Savings Opportunity Scheme</i>  |
| EU ETS       | European Emissions Trading System   |
| EV           | Electric Vehicle  |
| <u>FiT</u>   | Feed in Tariff (incentives now ended by Ofgem)  |
| FM           | Shropshire Council Facilities Management  |
| FY           | Financial Year  |
| <u>GHG</u>   | Greenhouse Gas Protocol   |
| GIA          | Gross Internal floor area   |
| <u>GSX</u>   | Green Shropshire Exchange   |
| HVAC         | Heating Ventilation Air Conditioning  |
| ICE          | Internal Combustion Engine vehicle  |
| ICT          | Information Communications Technology.  |
| <u>IPCC</u>  | International Panel of Climate Change   |

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

|                   |   |
|-------------------|---|
| <u>Salix</u>      | Public sector finance: low interest loan scheme for energy efficiency and renewable energy projects.                              |
| <u>SAP / FSAP</u> | Standard Assessment Procedure SAP (generates EPCS for domestic dwellings) models' construction, heating, lighting, and hot water. |
| <u>SBEM</u>       | Simplified Building Energy Model (BRE, NCM) used for commercial new builds and retrofitting.                                      |
| <u>SCAP</u>       | Shropshire Climate Action Partnership   |
| <u>SEG</u>        | Smart Export Guarantee (a replacement for feed-in-tariff offered by some ESCO's)  |
| <u>SEPuBu</u>     | Sustainable Energy for Public Buildings   |
| <u>SBID</u>       | Shrewsbury Business Improvement District  |
| <u>SCOM</u>       | Shropshire Chamber of Commerce  |
| <u>SPC</u>        | Shropshire Providers Consortium   |
| <u>SPEN</u>       | Scottish Power Energy Networks  |
| <u>SRCC</u>       | Shropshire Rural Communities Charities (RCC)  |
| <u>SWM</u>        | Sustainability West Midlands  |
| <u>Sustrans</u>   | 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  |
| <u>NCM</u>        | UK National Calculation Method for non-domestic buildings   |
| <u>UNFCC</u>      | United Nations Climate Change   |
| <u>VCSA</u>       | Voluntary Community Support Associations  |
| VSD               | Variable Speed Drive  |
| <u>Warp-it</u>    | Waste Action Re-use Portal  |
| <u>WME</u>        | West Mercia Energy  |
| <u>WPD</u>        | Western Power Distribution  |
| <u>WRAP</u>       | Waste Resource Action Programme<br>(Circular economy)   |