Renewable energy development guidance
Frequently asked questions

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Who is this document intended for?	Homeowners, businesses, developers and landowners

Contents

What is the purpose of this document?

This guide is intended as helpful guidance for prospective installers of renewable energy (from individuals, homeowners, businesses to larger developers and landowners); proposing to install renewable energy on their property or land. Unfortunately, Shropshire Council does not currently have the resource capacity to provide one-to-one advice on generating renewable energy, however we can provide information listed in an FAQ (Frequently Asked Questions) format over the following pages. We can also signpost you to local expertise and provide the latest regional and national guidance. Shropshire Council holds no liability to the accuracy of this information, but if you believe something needs updating, please contact climate@shropshire.gov.uk.

In summary this document sets out to:

1. Provide advice to prospective installers and developers (home, business or landowners).
2. Provide answers to FAQs (common enquiries such as funding and technical advice).
3. Provide factual, up to date and relevant informative and technical guidance.
4. Provide impartial advice reflecting national strategy, legislation and industry guidance.
5. Outline steps prior to commissioning renewable energy (depending on technology and scale).
6. Importantly the content does not reflect any opinion but is entirely based on industry, Government and real-world guidance, objective experience, and local expertise.

What this document isn't

This document isn't policy ; for which Shropshire Councils local plan and supplementary planning documents should be referred to. This document is purely technical development guidance to assist prospective domestic and commercial developers and landowners.

What is Shropshire Council's Response to the Climate Crisis?

Please see our website for up-to-date information and community resources as to what is going on in Shropshire and projects and programmes being delivered by the council.

- Shropshire Climate Action
- Our commitment | Shropshire Council
- Policies, strategies and guides | Shropshire Council
- What's happening in Shropshire?
- What have we achieved?

The council's goal is to reach net zero by 2030. As an organization Shropshire Council has an ambition to utilize 100% renewable energy by 2030 as part of this strategy. Shropshire Council has also stated its intent to facilitate the whole county to achieving the ambitious goal of being carbon neutral by 2030. A key component of achieving this objective is to facilitate the effective and appropriate deployment of renewable energy across the county.

Further information on renewables: - Renewable Energy FAQs | Shropshire Council

How is the UK doing in terms of renewable energy?

The UK is decarbonising its electricity but the last 3 years have slowed down. You see the live status below which reflects the percentage share in renewable energy increases as we deploy more renewables nationally. There are seasonal and daily variations depending on the availability or solar, wind, hydro, biomass and AD resources at any given generator: -

- National Grid: Live (iamkate.com)
- Energy Dashboard - real time and historical UK energy figures
- UK Generation (rensmart.com)
- UK Generation Forecast (rensmart.com)
- G. B. National Grid status (templar.co.uk)

What is the National Grids net zero commitment?

The “Greening of the Grid” is accelerating as more low-carbon energy sources are deployed, and our electricity is decarbonized as we approach 2030. The UKs aim is to bring the carbon intensity down below 0.1kgCO2/kWh (electric) by 2030 and zero by 2050.

- What is carbon intensity? | Carbon intensity explained | National Grid Group
- National Grid’s Net Zero Commitment

What is the opportunity to deploy renewables in Shropshire?

In Shropshire there is a lot of opportunity to deploy further renewables; this has been proven on various renewable energy studies in terms of resource and capacity constraints: -

- Meeting the Marches’ Vision – Marches Energy Agency (mea.org.uk)
- The Renewable Energy Mapping Project | Zero Carbon Shropshire
- Energy - Marches LEP
- Renewable Energy Capacity for the West Midlands

Myth busting videos

These videos may help dispel some of the myths surrounding renewable energy...

- Climate games – amazing stats explained.
- Community energy case study
- Community and commercial renewable energy
- Energy - Centre for Alternative Technology (cat.org.uk)

Myth busting informative links

These information links may help answer questions you may have over renewable energy and help dispel some of the urban (or rural) myths.

- Renewable Energy Myths – Fact Busted! | Good Energy
- 20 Fascinating Renewable Energy Facts Everyone Should Know | OVO Energy
- Renewables statistics - GOV.UK (www.gov.uk)
- Debunking 3 Common Myths about Renewable Energy — Student Energy

Where can I find funding and grants for renewable energy?

Whilst Shropshire Council does not directly offer grants or funding for householders to install renewable energy, however you may find support for businesses below:-

- Zero carbon funding FAQs | Shropshire Council
- Funding opportunities | Shropshire Council

What support is there for homes, businesses and landowners?

Smart export guarantee (SEG), a special tariff that reimburses you for energy exported to the National Grid. Find out more from The Energy Saving Trust or speak to your energy supplier

Plots for kilowatts

Octopus Energy invites landowners to host wind turbines to lower local energy bills.

How is renewable energy being mapped in Shropshire?

With partners; Zero Carbon Shropshire, we have mapped the uptake of renewables and what needs to be done next available amongst other stats on Our Climate Dashboard.

- Shropshire renewable energy map (currently installed)
- Shropshire renewable energy opportunities and constraints map
- More info on energy mapping here.

What is the UK Governments position on renewables?

A. UK Government address to industry on large scale solar
A. Renewable and low carbon energy
A. Planning practice guidance for renewable and low carbon energy
A. Planning for renewable and low carbon energy: introduction
A. Developing a strategy for renewable and low carbon energy.

What regional support is there for renewable energy?

- Marches LEP Energy Strategy – Our Strategy for the Marches Local Enterprise Partnership
- Sustainability West Midlands: Making the West Midlands sustainable, fairer and greener.
- Midlands Net Zero Hub: Working with partners across the region to deliver projects to support the UK's Net Zero Strategy

What steps are necessary prior to commissioning?

Make my home more efficient:

A. Home efficiency FAQs | Shropshire Council.
B. Smart Choices for homeowners.
C. Check your EPC Recommendations Report.
D. Use the Shropshire Home Plan Builder to plan your next steps.

Make my business more efficient

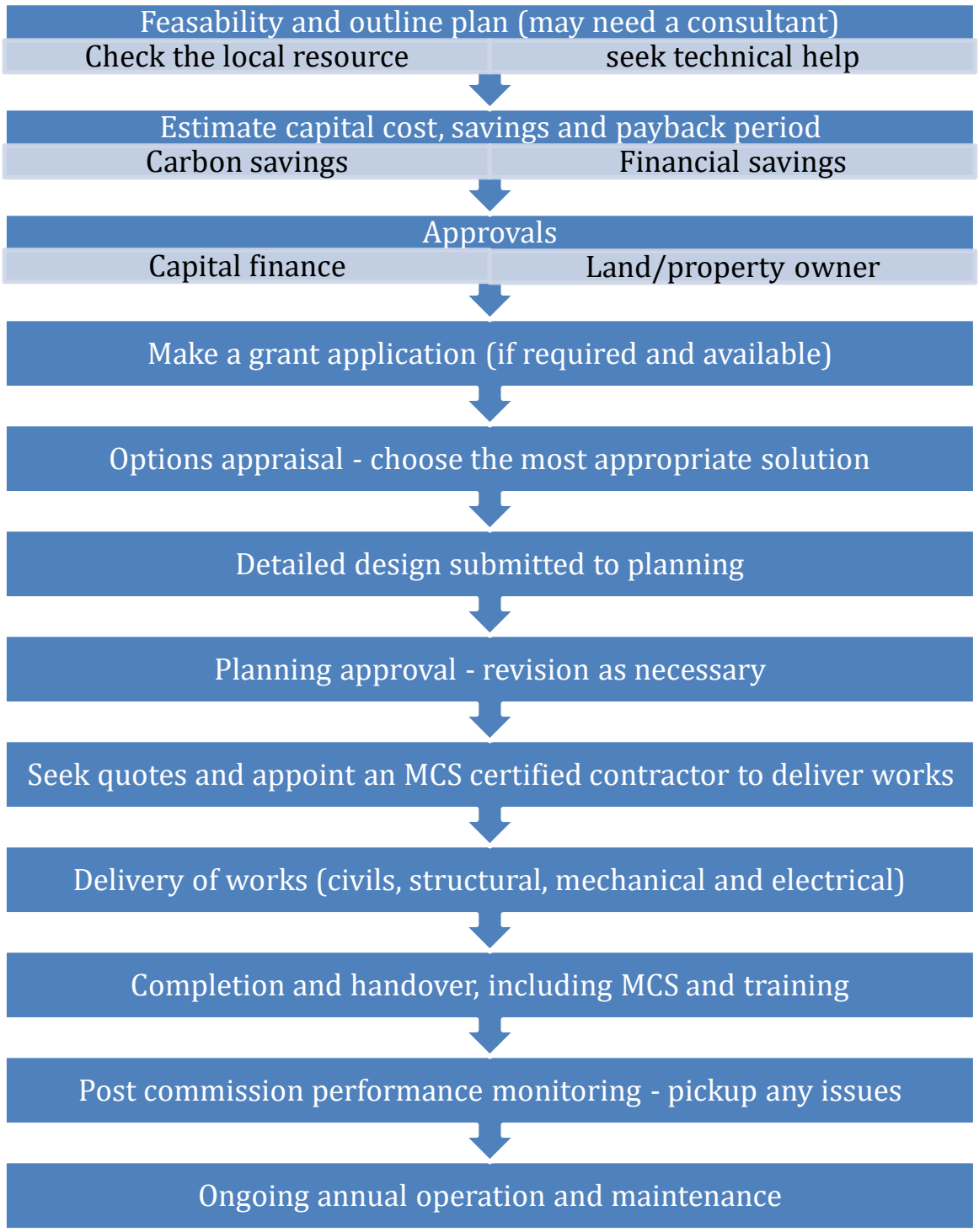
A. Refer to our commercial efficiency FAQs | Shropshire Council.
B. Follow the guidance depending on your sector.
C. Check your EPC and DEC Recommendations Report.
D. Complete our efficiency checklist.
E. Further information for businesses and industry.

The following steps help assess the most appropriate renewable energy type and scale: -

1. What is the local resource (availability of the energy; for example, local solar irradiance, wind speeds or local biomass feedstock). This will help determine the most appropriate technology.
2. What scale of generator is being proposed (usually rated power or capacity in kW or MW)
3. Are you proposing it to be building attached or standalone on land?
4. Are there any geographic constraints: such as landscape, noise, visual factors?
5. What are the planning policy requirements for the renewable technology and scale proposed?
6. Consider any end user of energy; whether that's your own home, business or are you planning to provide it for another local business or the whole local community?
7. Is it for consumption in your own building; or wider provision (as above)?
8. If the generator is on a commercial scale; how will you distribute the energy: -
    a. Are you considering a private wire or standard grid connected system.?
    b. PPA (Power Purchase Agreement)
9. In terms of commissioning and obtaining quotes, make sure the contractor adheres to all the necessary standards (electrical and mechanical, civils, environmental).
10. Make sure that any quote provided includes all stages (from feasibility, development, electrical, mechanical and civils works) as well as estimate operation and maintenance costs.
11. Also make sure you consider the operational and maintenance cost and how the system will be monitored throughout its working lifespan.
12. You may need to consider decommissioning cost or possibly refurbishment and parts replacement to extend the working life of the generator.

How do I go about planning a renewable energy project?

You may (broadly) follow the steps outlined below, as a process flow-chart.



Certified installers and standards

Q. Where can I find local installers?

A. Climate directory | Shropshire Council

Q. What standards should be used for small scale renewables?

A. all small-scale renewable energy generators should adhere to the Microgeneration Certification Scheme and be MCS Certified.

Planning – guidance and laws (England)

Q. What are the planning rules and guidance for renewable energy?

A. Please refer to the Planning Portal for England

Q. What is classed as Permitted Development?

A. Permitted development is outlined here.

Q. What are the laws and regulations for renewable energy in the UK?

A. Renewable energy laws and regulations (UK)

A. Renewable and low-carbon-energy (GOV UK)

Q. What are the planning rules for small scale renewables in England?

A. Please refer to planning rules for permitted development for small scale renewables:
The Town and Country Planning (General Permitted Development) (England) Order 2015

Q. What building regulatory guidance is there for generating your own energy?

A. Building control and sustainable homes and Home energy generation - introduction

Renewable heat

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

Renewable power

Solar energy

Where can I find out about solar panels (electric and thermal)?

A. A comprehensive guide to solar panels - Energy Saving Trust
B. Answering your questions about solar panels | Good Energy
C. Solar PV | Centre for Sustainable Energy (cse.org.uk)
D. Shropshire Councils solar energy page.

Where can I find out about case studies for solar energy?

A. Please see our page of case studies as a starting point.

Local solar energy resource (solar irradiance)

What tools are there to assess the local solar resource and energy yield?

A. Easy PV can estimate energy production and the cost of photovoltaic (PV) systems

B. The following tools may estimate the local energy yield:-

- Photovoltaic Geographical Information System (PVGIS)
- PVSOL : an online tool with more technical information.
- NREL's PVWatts® Calculator

Solar photovoltaics (PV) – small scale roof mounted

Where can I find out about solar photovoltaics (PV)?

A. You may find guidance about PV on the Planning Portal here.
B. Microgeneration Certification Scheme (MCS) information on solar PV.

Where can I find out about solar thermal (water heating)?

A. You may find guidance about Solar Thermal on the Planning Portal.
B. Microgeneration Certification Scheme (MCS) information on solar thermal.

What are the planning rules for solar panels?

The installation of solar panels are classed permitted development (i.e. no need to make a planning application) so long as the local planning rules are met. Further explanation of the England and Wales rules for domestic roof mounted solar panels is set out here.

How do I choose an appropriate site and apply for planning?

Solar PV choosing a site and getting planning permission.

What are the planning rules for solar panels on a non-domestic building?

A. Planning Permission: Solar panels mounted on a non-domestic building

What are the planning rules for modifying a roof?

A. Roof - Planning Permission.

What are the standards and building regulations for solar panels?

A. Building Regulations – Solar Panels

C. Microgeneration Certification Scheme (MCS)

What industry guidance is there for solar PV on commercial buildings?

A. Solar PV on commercial buildings (BRE)

Solar photovoltaics (PV) – commercial scale and ground mounted

What about standalone solar panels within the grounds of a house or a block of flats?

A. Standalone (within the grounds of a house or a block of flats)

What are the regulations for standalone solar panels for a non-domestic building?

B. Standalone solar panel installations in the grounds of a non-domestic building

What about commercial scale standalone solar PV on spare land?

Industry guidance from BRE for the development of commercial scale systems:

A. Solar PV large ground mounted (BRE)
B. Further BRE Publications
C. Planning practice guidance for renewable and low carbon energy (UK GOV)

Community and commercial scale renewable energy

Renewable energy: community and commercial - (cat.org.uk)

Solar photovoltaics (PV) – carparks and carports

Here are some guides from BRE for landowners, businesses and developers.

- Solar car parks
- A Technical Guide to Multifunctional Solar Car Parks
- Multifunctional Solar Car Parks

Solar photovoltaics (PV) – for schools

Solar PV provides a great opportunity not only for schools to save money and carbon but also provide hands-on education about energy

- "Power to the pupils": Solar PV for schools
- Solar for Schools - Education funded by the sun

Wind power

Q. Where may I find out information about onshore wind turbines?

A. Shropshire Council information about onshore wind

A. Energy Saving Trust – guidance to wind turbines

Q. where can I find out about case studies for onshore wind?

A. Please see our page of case studies as a starting point.

Q. Where can I find out general information about UK wind power?

- Onshore wind as part of UKs energy mix (UK GOV)
- Renewable UK
- The Wind Power
- ONS: Wind energy in the UK

Local resource (wind speeds and potential yield)

Q. How can I find out if my site is suitable for a wind turbine?

A. You may check on this website by entering your postcode or coordinates to see if you have suitable wind speeds https://www.rensmart.com/HomePage

Q. Ho may I assess the local wind resource and potential energy yield?

- RENSMART (renewable energy assessment tool)
- NOABL – wind speed map
- UK Wind Speed Database
- Met Office Wind Speeds and Mapping
- Wind Speed by Grid Reference

Small scale standalone wind (1-50kW)

Q. What are the planning rules for small scale stand-alone wind turbines?

A. The planning rules for standalone wind turbines are on the planning portal.

Q. Do small scale wind turbines have to meet any certified standards?

A. Yes, if you are proposing a grid connected turbine then it has to meet MCS 0202.

Commercial scale wind (50kW to 1MW)

Q. How may landowners (with the opportunity to generate) sell to local consumers (to provide them affordable electric)?

A. Plots for kilowatts

Octopus Energy invites landowners to host wind turbines to lower local energy bills.

Commercial scale wind (continued)

Q. How likely is a planning application for a wind turbine to be approved?

A. The advice from the Government says" In the case of wind turbines, a planning application should not be approved unless the proposed development site is an area identified as suitable for wind energy development in a Local or Neighbourhood Plan."

There is information in the rest of the guidance on technical considerations, criteria-based policies, buffer zones and decentralised energy.

Suitable areas and choosing an appropriate site

Q. How are 'suitable areas' defined in relation to wind energy?

Suitable areas for wind energy development will need to have been allocated clearly in a Local or Neighbourhood Plan. Maps showing the wind resource as favourable to wind turbines or similar will not be sufficient.

How to identify suitable areas for onshore wind development in your neighbourhood plan.

Where can I find pre-application advice for community wind projects?

- Community Wind Power
- Sharenergy – generating renewable energy co-ops

What are the key planning considerations for wind turbines?

A. The following should be considered when determining applications for wind turbines:

- Do local people have the final say on wind farm applications?
- How are noise impacts of wind turbines assessed?
- Is safety an issue when wind turbine applications are assessed?
- Interference with electromagnetic transmissions
- How can the risk of wind turbines be assessed for ecology?
- How should heritage be taken into account in assessing wind turbine applications?
- Is shadow flicker and reflected light an issue for wind turbine applications?
- How to assess the likely energy output of a wind turbine?
- Cumulative landscape and visual impacts from wind turbines
- Information needed to assess cumulative landscape and visual impacts.
- Decommissioning wind turbines

Commercial scale wind farms

Q. What is the Government guidance for large scale wind?

A. Consents and planning applications for national energy infrastructure projects

- Wind farms: Ministry of Defence safeguarding
- Electricity development consents
- Environmental Impact Assessment Regulations (England & Wales)
- National Policy Statements for energy infrastructure
- Public inquiries for energy infrastructure
- Carbon capture readiness (CCR)
- Wayleaves and compulsory purchase orders
- Granting a compulsory wayleave: guidance for applicants and landowners

Hydro power

Q. What is the guidance for micro and small-scale hydro generation?

A. Introduction to micro-scale hydroelectricity.

B. Planning guidance on hydroelectricity and Building regulations for hydroelectricity.

Q. Where can I find out about commercial scale hydroelectricity?

A. British Hydro Organisation

A. Harnessing hydroelectric power (UK GOV)

A. Hydro | Shropshire Council

Commercial scale and community owned renewables

Q. What are the planning considerations for medium to large scale renewables?

A. Planning considerations for hydropower, active solar, solar farms and wind turbines

A. Consents and planning applications for national infrastructure projects.

Q. What independent support is there for commercial scale renewable energy?

- Big Solar Cooperative: A new approach to subsidy-free community solar.
- Community Energy – Sharenergy: Local people within a community come together to develop an energy project, with capital raised by selling shares.
- Rural Community Energy Fund: A £10m programme to support rural communities in England.
- Shropshire and Telford Community Energy: A 'community benefit' society to develop and own community energy projects in Shropshire and Telford.
- Renewable energy: community and commercial - (cat.org.uk)
- Tried and tested solutions for a green recovery – Renewable energy - (cat.org.uk)

Q. What support is there for local and neighbourhood planning?

- Centre for Sustainable Energy Neighbourhood Planning Guide
- Support for neighbourhood planning
- Local energy pages (CSE)Local energy resources (CSE).

You may also contact Shropshire Council Climate Task Force: climate@shropshire.gov.uk.