Rushcliffe Borough Council

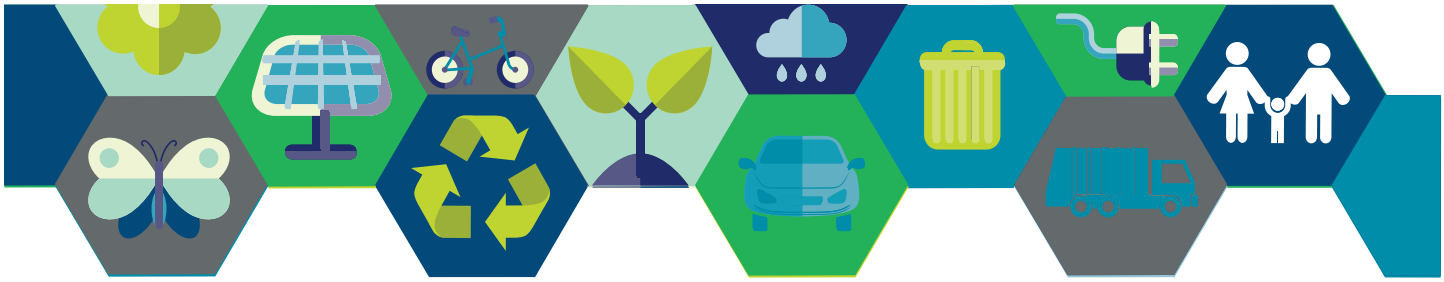
Parish Council Climate Change Pack

Reduce, Recycle, Reuse and Rethink

How to reduce your carbon footprint, reduce costs and improve biodiversity

October 2022

Contents



Pack Overview

This pack contains advice and action lists to help you build a carbon reduction and biodiversity strategy that fits with your local situation and requirements. It is intended to offer advice, point you in the right direction, and give you ideas of how to tackle this extremely important work.

There are 6 sections in the pack, including a series of practical action lists in section B, and information on how to measure your progress.

A. **Pass a motion at your Council -** so you have the mandate, and any new sub-group required.

B. **Action lists of things to consider doing -** everything from turning lights out and changing heating settings, to new heating systems and solar panels.

C. **How to measure progress -** A practical set of things you can monitor easily - energy bills, fuel use, recycling vs rubbish from community halls, number of green events etc.

D. **Funding sources -** there is funding available for many things, from funding for EV charging points to grants for improving energy efficiency of buildings.

E. **Influencing your Parish -** reducing your own environmental footprint is important, but it is also important to work with your community - encouraging recycling, home energy efficiency, renewable energy, waste reduction and improving biodiversity.

F. **Further information -** background information about carbon reduction.

A. Council Motion

To make your policy clear, and ensure you have the mandate to act, the following motion is one you could adapt and adopt. You could modify this, e.g. to change the remit of an existing committee to include climate change (though it probably cuts across all committees).

This Council acknowledges that climate change is one of the largest challenges facing the world and also recognises that it is a key influencing body that can act on this. Therefore it is essential that The Council helps to proactively facilitate the protection of our local environment, heritage and natural beauty. This needs to be delivered in a way that promotes sustainability, healthy living and also prosperity within the district. Through this mutually sustainable approach to living in the district, we can help ensure that it can continued to be enjoyed by future generations indefinitely.

In recognising this, and to lead the way with positive action, this Council resolves to:

- Adopt a Climate Change Action Strategy - setting out an action plan and targets to reduce carbon emissions.
- Promote and embed sustainable and energy efficient practices throughout our organisation.
- Embed the principle of 'Reduce, Reuse, Recycle, Rethink' throughout our organisation.
- Consider ways to protect and enhance our natural environment, stimulate biodiversity and nurture our wildlife and pollinators.
- Organise community action events and work with our partners, businesses, schools, communities, residents and other Councils to promote behavioural change and develop new ideas and co-ordinated responses to climate change and plastic pollution.
- Explore new opportunities and technologies to reduce our carbon footprint.
- Provide for a working group to report and monitor on immediate and longer term actions to be taken.

B. Things for your Council to do

The following is a list of possible actions you could take, to give ideas of things you can do – it is neither prescriptive or complete and undoubtedly you will sometimes find better ways of doing things – please share them so this pack can evolve!

There are a set of action lists in this section, with different themes. Each worksheet has space at the end to add in your own actions.

Action List 1 - Building efficiency

Our buildings are often the largest carbon costs, and fortunately also one of the largest opportunities to improve. Every building will have its own priorities to make it more efficient, but in following will usually apply to any community building.

	N/A	Doing	Done	Notes
Heating and cooling a typical hall can be between 50% and 80% of your total Council emissions, so this is a very significant thing to explore early on.				
Electric radiant heating is generally inefficient, and gas heating is cheaper but still has a high carbon footprint – consider switching to an air source or ground source heat pump system (which will give you air conditioning in the hot weather as well). Eckington Civic Centre has just done this, for a large community hall (capacity 280 people, multiple rooms), at a cost of £20,000.				
Check that heating has smart controls, to avoid it being left on when not in use. A simple remote controlled thermostat can let you turn heating on and off to match events.				
Only heat and cool areas that need it, by setting up heating zones with their own controls.				
If you have an air source heat pump system, it reacts quickly, so you can consider a thermostat that just lets you turn it on for X hours, to give a quick and easy way for users to manage the system.				
Air conditioning is easy, but it is a lot more efficient to simply ventilate hot areas such as kitchens when possible by suitable extractor fans or natural ventilation such as windows.				

	N/A	Doing	Done	Notes
Improving Building Insulation and structure				
Wall and loft insulation is a must, wherever possible. If you don't have cavities, there are external internal and external wall insulation systems that will quickly pay for themselves. This can reduce your heating footprint by 30% or more.				
Install false ceilings to reduce time to heat up and energy required.				
Do a draft check – simple things like rubber strips on doors can make a big difference. Also make sure extractor fans have automatically closing vents, to reduce drafts when they are turned off. This can reduce your heating footprint by up to 15%.				
Consider solar panels on community halls where appropriate. Even if the hall doesn't use much electricity, if you have a suitable roof, you can sell low carbon energy to the electricty grid.				
If you use substantial hot water, consider a solar thermal water system				
If you have a high sun level heating up a building (similar to a conservatory), consider putting solar film on the windows.				
Make sure double glazing is working sufficiently – older units are mostly inadequate and should be replaced with modern argon filled wide gap units.				

Action List 2 - Utilities (excluding heating)

Utility bills are only going to rise, as the pressure to reduce usage grows. The cost savings can be huge, and broadly, the more you save, the better it is for the environment.

	N/A	Doing	Done	Notes
Electricity Consumption				
LED lighting and motion sensor controlled lighting are significantly cheaper to run – this can be a quick and easy win.				
If you have an old style water boiler / urn for hot water, consider fitting a plumbed in efficient unit, with the added benefit of instant boiling water.				
Ensure outside lighting is LED and on timers / sensors as necessary.				
Fans and ventilation, such as a fridge fan can reduce energy use by removing the waste heat from cooling units, and also make them last longer.				
Cooking				
Avoid open pan cooking whenever possible – it uses several times the energy, and means your kitchen gets too hot in summer.				
Modern ovens heat up in 5-10 minutes or less – they don't need turning on an hour in advance. Also make sure they are turned off as soon as they are done with.				
Dish washing uses a lot of water and energy – make sure dishwashers are filled when possible.				
Extractor fans are necessary, but in winter they result in lots of cold air being drawn in through doors etc. so ensure they are turned off when not required.				

Continued overleaf

	N/A	Doing	Done	Notes
Water Consumption				
Make sure all your water use is metered, including kitchens, allotments, cemeteries. Water meters are quick cheap and easy to fit onto allotment taps.				
Consider fitting auto-shut-off taps wherever possible.				
Check taps are not dripping.				
Fit water flow reduction taps, or inserts in existing taps.				
Check your loos – a good flush is good, but a modern loo works better and uses less water than an old one.				
Look to use water butts in cemeteries and allotments.				

Action List 3 - Waste

Waste is not only wasting valuable resources producing things to be discarded, it often ends up polluting our environment – aim to reduce unnecessary usage and ensure that waste is recycled whenever possible.

	N/A	Doing	Done	Notes
Recycling				
Get recycling bins for kitchens, offices etc.				
Encourage staff to recycle whenever possible, and switch to more recyclable products when possible.				
Reduce food waste, and find somewhere useful to dispose of leftover food instead of binning it.				
Optimise litter bin capacity and emptying schedules to reduce bag use and mileage to empty them.				
Encourage clothing banks and other local recycling facilities.				
Every so often, check your bins and see if there are things being discarded that you can reduce, re-use or rethink.				
Single Use Products				
Avoid plastic plates, cups, cutlery.				
Avoid disposable mini milk plastic pots, sugar sachets etc. – fresh milk is nicer and better for the environment. (sweetener still best in packets though).				
Consider using loose leaf tea instead of tea bags (use an infuser - it will be easier in the long run as well, and make better tea as the infuser can be quickly removed, rather than leaving the tea-bags left in stewing).				
Sandwich bags and tin foil for wrapping things is highly inefficient – use proper boxes that can be reused.				
Paper towels in bathrooms can be avoided by a high speed hand dryer, giving a net benefit to the environment.				

Continued overleaf

Action List 4 - Outdoor Things

There are endless opportunities to change how we operate our outdoor facilities – reducing costs, reducing our carbon footprint, and being more environmentally friendly. Below are some examples:

	N/A	Doing	Done	Notes
Allotments / Gardens / Cemeteries etc.				
Leave grass clippings down instead of collecting them.				
Compost waste where possible (e.g. at cemeteries), rather than skipping it (with the associated transport costs).				
Trimming and maintaining trees is not a bad thing, especially if the trimmings go to a biomass boiler somewhere – but if you have to remove one, plant another two!				
Consider using water tubs to collect water and avoid mains water when possible, especially allotments and cemeteries.				
Consider installing water meters at allotments (simple ones, you read yourselves)				
Reduce use of pesticides and weed killers to only essential areas. Weeds grow in earth, so sweeping up a tarmac path can be as effective as using weed killer.				
Use wood chip to inhibit weeds, to reduce maintenance costs of gardens and parks.				
Consider converting unused allotments and other unused green space into wildflower zones (also can reduce mowing costs).				
Adopt a carbon offsetting strategy for tree removal - e.g. if someone wants to remove a tree, then let them offset that by having 2 or 5 trees planted somewhere in the UK.				
Consider creating garden walls (basically large window boxes) up the side of buildings, to provide insect and small bird havens in our towns and villages.				

Continued overleaf

	N/A	Doing	Done	Notes
Play Areas				
When they need replacement or expensive maintenance, look for more natural options, instead of artificial surfaces and equipment – a scooter track from mounds of earth, logs to walk on, or bushes to play hide and seek in can be more fun for kids as fancy play equipment.				
Ensure adequate bins and encourage their use, and regularly arrange litter picks to prevent plastic waste reaching the watercourses.				

Action List 5 - Biodiversity

We are living at a time of immense loss of biodiversity – something that will affect future generations far more than ours. Some simple changes can make a big difference to reduce this, and help future generations preserve the ever growing number of declining species - from skylarks to bats, hedgehogs to bees.

	N/A	Doing	Done	Notes
Allotments / Gardens / Cemeteries etc.				
Native broadleaf tree planting as these promote biodiversity. Organisations such as the Woodland Trust can advise on this.				
Create wildflower meadows and patches, instead of mown grass.				
Create small patches of greenery to encourage insects and bees.				
Composting is a great way to encourage biodiversity of invertebrates.				
Bat boxes are quick and easy and can provide vital sanctuary.				
The RSPB have packs full of helpful things you can do to create bird friendly habitats.				
Derbyshire Wildlife Trust, the Hedgehog Trust and many other organisations can advise you on things you can do to help endangered wildlife.				
Consider creating garden walls (basically large window boxes) up the side of buildings, to provide insect and small bird havens in our towns and villages.				

Action List 6 - Consumables, Procurement

What we buy and where we buy it from gives a Council a lot of say over its external carbon footprint. Sometimes the cheapest is not always the best for the environment, and while funds are of course short everywhere, sometimes for a bit more looking around, or a negligible change in cost, choosing the right supplier can have a big impact.

	N/A	Doing	Done	Notes
Consumables				
Reduce printed paper use, and ensure paper is recycled.				
Look in your waste bins and consider what things in there could be changed to be less wasteful.				
Recycled ink and toner cartridges (good quality ones) can be greener and cheaper.				
Procurement				
Review your energy supplier to choose environmentally friendly with a commitment to renewable energy, (uSwitch is independent and gives some suggestions of green plans with 100% renewable electricity). Note that going directly to an energy companies can save you money, compared to using a broker.				
Adopt a Procurement policy that considers environmental impact of suppliers when relevant.				
Electric vehicles are rapidly becoming practical if you have a charging point, and should be considered if you are purchasing a new council vehicle – however, bear in mind that if the cost is too high, you can probably achieve bigger reductions elsewhere for the same spend.				
Reduce cleaning to the minimum required, and look at what chemicals are used for cleaning.				

Continued overleaf

	N/A	Doing	Done	Notes
Travel				
Travel to work sites (routing) is a big factor – plan work schedules and rotas to minimise travel, which will also increase productivity.				
Encourage ride sharing and adapt work schedules to fit with public transport where appropriate.				
Get electric charge points installed in key locations in car parks, both for employees and visitors (though be aware things are changing very rapidly in t his field, so beware).				
Ensure your vehicles are well maintained and fuel efficient.				

C. Monitor your carbon footprint and progress

Monitoring your carbon footprint can be made incredibly complex but there is no need - simple measures will allow you to monitor your progress without generating a lot of work. It will be important to track this for many years, as some of the actions will take several years to show results.

To give a starting point, consider doing a review of all Parish operations to establish a baseline, and identify any big targets (e.g. halls that could have solar panels, halls that need insulation, inefficient practises).

The following items can be registered in a Climate Spreadsheet that can be made to suit the parish's needs.

Set up regular (e.g. 6 monthly) reviews of progress and look for opportunities to further reduce impact on the environment.

Utilities

- Monitor the fuel usage (all vehicles combined or per vehicle).
- Monitor gas and electricity usage (in Kwh, not money) per building, and 'hours of use' – it is helpful to estimate the use, as more use will obviously increase total usage.
- Monitor water usage.

Waste

- Halls – set up some sort of recycling measure (e.g. how often recycling bin emptied vs other bin, or how full at empty time compared to any non-recycling bins).
- Cemetery - some sort of recycling measure (e.g. how many skips a year).
- Amount of food waste (you can estimate this as a percentage of the food you prepare) and record it from time to time (this will be a guestimate, but that is sufficient, its just so you are aware of it and can reduce it).

Consumables

- Paper purchased, and other key consumables.

Community Engagements

This can simply be a log of things you have done.

- How many community events about climate change (e.g. hosting events by DCC or energy companies, efficiency workshops etc.)
- Litter picks, community tree planting etc.
- Articles in newsletters.
- Events to promote energy efficiency.

Other Actions

This can simply be a log of things you have done.

- Any actions such as sowing wildflower meadow (near play areas for example), or tree planting.
- Any reductions in e.g. mowing, to allow natural areas (e.g. at the Cemetery).
- Any reductions in specific things (plastic plates, disposable stuff, using less cleaning chemicals).
- A target of getting all takeaways to use renewable packaging wherever possible (instead of e.g. polystyrene and plastic bags).

D. Funding

There are a plethora of funding opportunities for renewable energy and carbon footprint reduction, for parishes, businesses and residents – grants and loans are both available.

The following is a subset of the funding opportunities available – NEDDC will regularly update their webpage with information about the latest grants and opportunities.

For specific advice, please call 01246 231111.

Grants

100% funding is hard to find and most funding will include some sort of 'match funding' – typically it can be 50% match funding, 80% match funding, or match funding made up of volunteer time and such like.

National Lottery Grants

Any village amenity can be put forward for funding streams hosted by the National Lottery.

Awards for All is a very good stream offered by the Lottery and is specifically aimed and supporting local sites that promote community, environmental and health sustainability.

https://www.tnlcommunityfund.org.uk/funding/programmes/national-lottery-awards-for-all-england

There is also a specific Climate Action Fund for community partnerships – This funding can be bid for in stages over a 10 year period and follow the below link to see when bidding rounds become available.

https://www.tnlcommunityfund.org.uk/funding/programmes/climate-action-fund

National Lottery Grants are generally applied for via an online application process. There are also comprehensive guidance on how to do this available on the website and can be downloaded as a PDF document for printing.

Landfill tax Grants

It is also well worth exploring landfill tax redresses and local business corporate social funding pots in order to plug gaps in any given projects. Landfill tax is a specific offsetting pot that has to be focused on biodiversity, green space and climate change projects within local communities.

These grants are often applied for directly from the issuer and it is an online application process. Support and eligibility is also provided on the same webpage. An example of this can be seen below.

https://www.biffa-award.org/

Church of England

The Church of England is also very keen on distributing grants towards assets that fall within specific parishes. There are also streams that are specifically focused on actions that reduce energy consumption and carbon emissions. New heating systems and bio-loos have been installed in many listed church buildings via this.

https://www.nationalchurchestrust.org/

https://www.churchofengland.org/more/policy-and-thinking/our-views/environment-and-climate-change/how-you-can-act/sustainable-buildings

The grants schemes are based around making churches more sustainable whilst keeping them in historic character. Information on how to apply and guidance is available on the webpages.

Coalfield Regeneration Trust

This organisation has resources available to assist parishes that fall within coalfield areas to help with bid writing and consultation for other projects around sustainability. The trust also has grant funding available for projects within communities as and when it becomes available. There are also very good resources for people in the community that may need help with job finding and keeping active.

All funding bids and resources are available on the website: https://www.coalfields-regen.org.uk/funding-and-programmes/england/

Government Pocket Parks Fund

This fund has been made available from Central Government in order to encourage communities to turn derelict/waste land into green spaces that can be used for healthy living by residents. A comprehensive guide and

application process can be found by following the below link. This is available until March 2021: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/852241/191025_PP_Prospectus.pdf

Electric Vehicle Purchase and Charging Points

If a Parish Council is exploring changing any fleet vehicles from conventional to electric then there are discounts available nationally via OLEV (Office of Low Emission Vehicles) scheme. This scheme is national and further information on how to apply and what electric vehicles this includes can be found on the below link. Also OLEV offers grant incentives for Parish Councils and residents to install private and commercial charge points. Information on this is also available on the below link along with how to apply: https://www.gov.uk/plug-in-car-van-grants/eligibility

Other Grants

https://www.energysavingtrust.org.uk/scotland/grants-loans/renewables/renewable-heat-incentive

https://www.tnlcommunityfund.org.uk/funding/programmes/climate-action-fund

https://hub.communityenergyengland.org/

For residents – Electric Vehicle Homecharge Scheme

The Electric Vehicle Homecharge Scheme (EVHS) provides grant funding of up to 75% towards the cost of installing electric vehicle chargepoints at domestic properties across the UK.

https://www.gov.uk/government/publications/customer-guidance-electric-vehicle-homecharge-scheme

Approx. £350 is available for homeowners to install a charge point and for full advice on this, simply go to the Energy Saving Trust link below:

https://energysavingtrust.org.uk/transport/electric-cars-and-vehicles/charging-electric-vehicles

For community organisations

There are many grants available for community groups of all sizes – the following link has a good selection of them.

https://communityenergyengland.org/pages/funding-opportunities-2

Loans

Property owned by the parish council would be eligible for SALIX funding which is hosted by the Carbon Trust. This is a no interest loan that can be put against a project and paid back via the savings made from whatever system has been installed.

Salix funding will offer an interest free loan to Parish Councils in order to invest in low/zero carbon projects to improve their commercial stock. Indeed the project needs a capital investment from the parish but this can be grant funding found from elsewhere. The loan is then repaid on the energy savings made by the system. A comprehensive guide amounts available, contribution needed and how to apply are all available on the below link: https://www.salixfinance.co.uk/

If you or your residents is after comprehensive energy efficiency, renewable energy or electric fleet advice then the below links are user friendly and very comprehensive:
Parish Councils - https://www.carbontrust.com/
Residents - https://energysavingtrust.org.uk/

The Council can also provide advice to help Parish Councils and residents save energy, carbon and fight climate change. If your representative would like to discuss anything regarding this then simply call to discuss – 0115 9148441

E. Working with your Parish residents and businesses

The role of the Council is not just to reduce their own carbon footprint, but also to encourage the whole parish / town to reduce theirs. Setting a good example is a part of this, but there are more pro-active things that a Council can also do, to encourage their residents and businesses to reduce their carbon footprints.

Communications

- Include a regular 'eco tip' article in your newsletters and tweet / post on Facebook every so often.
- Include environment / waste stories in the parish newsletters.
- Include information about help for the vulnerable – warm homes initiatives – and inform residents of what to look for and what to do about it, if you know of a vulnerable person who may be in fuel poverty.
- Get involved with the 'everybodys-talking.org' newsletters for tips and to publicise what your parish and local groups are doing.

Businesses

- Meet with / write to retailers and businesses to see what they are doing and encourage them to do more, e.g. takeaways to switch to recyclable packaging.
- Consider encouraging groups of shops to share recycling bins, to make it more affordable.

Schools

- Engaging with schools is a good way to get your community working together to reduce our carbon footprint and increase biodiversity – many things in the worksheets can be joint projects with schools.
- Contact your school and consider things such as the school adopting bits of land for planting or joint clean-up tasks such as litter picks.
- Consider small grants to encourage schools to work on green initiatives.

- School travel plans – work with schools to get more pupils walking to school, parents sharing lifts, walking buses etc. – e.g. by ensuring obstacles to travel plans are addressed.

Events

- Hold events for residents and local businesses, e.g. with a town team or residents association, to get some insulation / air source heating / other types of company in.
- There are 'save energy save money' type events being put on - maybe find one that does them for communities, and host at a community hall?
- Consider having a permanent display at a community hall, with info leaflets on saving energy, recycling etc, and a section on your website that we promote in newsletters, with info on saving energy and fuel poverty etc.

Community Actions

- Create a bespoke community action plan, by engaging with residents, for example by questionnaires, and enable your community to work together on green initiatives.
- Encourage tree planting initiatives and enable your community to use public space to increase biodiversity.
- Car use, congestion, lobby the County Council to investigate and look for solutions to traffic hotspots.
- Arrange a Christmas tree collection and raise money for charity, and send the trees to a biomass plant.
- Create a Neighbourhood Plan, which lets you set out some environmental goals in planning.

Further Information

https://policy.friendsoftheearth.uk/reports/20-actions-parish-and-town-councils-can-take-climate-and-nature-emergency

F. Background Information

Identification of Carbon

First it is crucial to identify where the carbon is coming from and how to measure this in a unit that means something to everyone. And the below is a simplification of where it comes from and how it is measured!

- Gas/solid fuel/LPG – measured in kWh (kilowatt hours) .
- Electricity – measured in KWh.
- Transport – measured in (l) litres of petrol and diesel.
- Water – measured in l.
- Waste – measured in (t) tonnes.

Ultimately all units can be converted into kWh which determines the overall energy used in using, manufacturing, disposing and transporting goods in our daily lives. This then enables us to identify overall how many kWh have been used in the daily operation throughout a parish.

When the overall kWh over a timeframe is put through a simple equation, this then comes out with an overall kg or t of carbon released into the atmosphere. This then can give the parish a set of figures that can be worked on and benchmarked against national targets.

Reducing Carbon

Before exploring renewable energy, it is crucial to get all existing homes and assets as energy efficient as possible. In reality this is often, as energy efficient as money will allow. Depending on what the parish is looking at, 'quick wins' vs major investment, there are positive impacts that can be made in its own assets.

As with a house, most energy in parish assets will be used heating space, then hot water (80%). After this, it will be down to the electrics (20%). Indeed replacing a boiler, fitting insulation to an old solid wall village hall and/or community centre may not be viable to just do as the cost implications a large. Instead, a quick win such as LED light replacement, heating control installation and even putting in curtains can have a small but very cost effective solution.

The below list gives ballpark savings on technologies:

- Boiler Upgrade 60% gas saving.
- LED lighting upgrade 80% electricity saving.
- Solid Wall Insulation/Cavity Wall Insulation – 35% heat saving.
- Loft Insulation – 25% heat saving.
- Draughts – 15% heat saving.
- Windows – 10% heat saving.

These savings are based on a domestic dwelling but this can very easily be translated into a village asset. The below links will give expels of energy loss/savings and also examples of 'quick wins'

- https://www.energysavingtrust.org.uk/home-energy-efficiency
- https://www.carbontrust.com/client-services/advice/technical/housing/

From this, an idea of savings can be made and from this a business case developed to determine return on investment, grant applications and a business case.

Renewable Energy

Sustainable energy is a very good way of decarbonising any community. However, it is essential that the right technology is installed into the right project. There are 5 main technologies that are in use for small scale projects that would be relevant to a parish or householder:

- Solar Electric (Photovoltaic) PV.
- Solar Thermal (Solar Hot Water).
- Ground/Air Source Heat Pump (GSHP/ASHP).
- Wind.
- Biomass.
- Water Turbine (very expensive).

By far the most recognised technology is solar electric (PV or photovoltaic) and this has been installed all over the country mainly thanks to the Feed-in-Tariff which ended in 2019. This does not mean that it is no longer viable but just needs to be considered against electricity consumption and/or complimenting another technology such as an ASHP.

If a parish council asset is an office being used during normal working hours, then PV will pay for itself in approx. 10 years.

If the parish has a swimming pool or asset that requires a lot of hot water, then an evacuated tube or flat plate collector Solar Thermal system would be a very cost effective upgrade that also gets the Renewable Heat Incentive (RHI). This would vastly reduce the payback and ensure that lots of heat was both being generated and used onsite.

If a parish asset is off-gas or in the process of being built, then a biomass and ASHP/GSHP system can be considered. For a heat pump, it is essential that all heat efficiency technologies are installed as this maximises the coefficient of performance (COP) of the pump. Heat pumps also operate at a lower output temperature. For every unit of electricity used to run the heat pump, you want a minimum of 3 units of heat out. This is expressed as 1:3. If this is not achieved due to the building having poor insulation, the electricity costs would be huge.

If the building cannot be insulated due to it being listed or the costs far too high, then it is worth considering a biomass boiler. A biomass boiler will behave like an oil fired system in that it outputs heat at 80oC. Instead of burning oil it burns either logs, pellets or chippings. Pellets tend to be the most installed as they are easiest to run with minimal clogging due to low moisture content. The wood burnt is sourced from coppiced woodland so as you burn it, the carbon is reabsorbed by the new crop.

Wind turbines are generally best for community energy schemes or farms. This is due to fact that you need a wide open area that has an average wind speed of at least 4m/second. A 'micro wind turbine' still needs to stand alone and be approx. 30-50 metres tall. There are numerous cooperative or community interest company models out there to help facilitate this.

All systems need to be installed via a Microgeneration Certification Scheme (MCS) installer. This guarantees a minimum standard of product quality installation and installation. Also it covers the system over the lifetime should the original contractor go out of business.

Below is a list of helpful links about renewable energy:

- https://www.energysavingtrust.org.uk/renewable-energy
- https://brightonenergy.org.uk/what-we-do/other-renewable-energy-co-ops/
- https://www.gov.uk/guidance/community-energy
- https://mcscertified.com/