NATIONAL ENERGY FOUNDATION

Ace

Local United

Community-led wind power

How to plan, build and own a medium or large wind turbine in your community's backyard

About this action pack

This action pack has been developed as part of a series produced by the Academy of Champions for Energy (Ace). Each pack has been written and reviewed by community activists with first-hand knowledge of what it takes to set up social enterprises to address the challenges of peak oil and climate change. Inside you will find practical suggestions and inspiration for setting up your own community initiative, helping those who are ready to take action to do just that.

This series of action packs was originally funded by NESTA and produced by Local United (www.localunited.net), a co-operative of social entrepreneurs which aims to speed up the rate at which good ideas are adopted by communities. These latest revisions have been produced by Ace, a sustainable energy initiative running in the UK, Ireland, France, Belgium and the Netherlands, funded by the INTERREG IVB NWE programme.

Ace aims to bring together 'Champions' of energy transition across the public, private and community sectors to share and disseminate information to increase uptake of renewable energy and energy efficiency measures. The focus is on using resources already available within our communities to build sustainable futures. This means citizens working together to find collaborative solutions which integrate energy transition into our everyday lives. Citizen engagement and community-led action are therefore central to this vision, and these packs aim to demonstrate how to build projects from the bottom up for the benefit of everyone. For more information about Ace visit www.aceforenergy.eu. For more guidance on citizen engagement visit www.aceforcommunities.net.

Each pack provides a useful 'how to' guide, illustrated by inspirational stories of what can be achieved when communities come together to act. Many of the packs contain technical advice, links to other information, copies of legal templates or lists of regulations all of which can help communities get their projects off the ground. Of course, any information provided is only as up to date as the day it goes to print.

Downloadable versions of the packs are available on the many partner websites. If your group or organisation would be interested in sharing the packs on your own website, contact the National Energy Foundation via ace@nef.org.uk. Community groups who have used the packs to support their own projects are also invited to provide information on how useful the packs have been, what other information should be provided or any other feedback which may improve future packs.

Table of Contents

Jon Hallé
Sharenergy
2014

1. Introduction

This guide has been prepared by Sharenergy in order to give community groups considering a wind co-op a head start and overview of the big issues. It is not intended to be a comprehensive manual. It is designed to avoid reinventing the wheel and to raise the level of overall understanding of wind co-ops, to educate and inspire. There are links to further resources in the Support section.

2. Strategy

2.1.Why

The first thing a community group needs to ask is: why do we want to do this? Typically there are three main reasons why a group might want to set up a wind power co-op:

- To reduce carbon emissions and enhance local energy security
- To make sure the benefit of the wind resource is kept locally
- To raise money for a local campaign, project or other good cause

All three are possible, and it has been done (see Baywind Co-op[1] and others), although inevitably there will be trade-offs between these objectives (see the Finance section for more details). Be prepared: nobody has ever got a wind co-op going without something of a struggle. Wind power can be highly divisive and these are always very complex projects. Communities will need support but also determination. Bear in mind that as of 2014 roughly three quarters of technically viable wind projects in the UK fail to make it through the planning stage.

The prize is, however, well worth the effort. For example a 500kW medium size wind turbine in a decent spot will be producing on average 100kW (averaged out over the year), or enough to meet the electricity usage of 200 households[2]. If developed as a co-operative, members could receive an average return of 6 or 7% while still contributing to a meaningful local community fund. A successful community-owned wind project can change local understanding of renewable energy, from something seen as intangible and perhaps even unrealistic to something understood and successful. This can be a strong platform for future community engagement around energy production, energy use reduction, and wider decarbonisation.

2.2.Scale

A note on scale. Wind turbines are available at sizes from a few watts to a few megawatts. This range is normally broken down into three categories.

[1] www.baywind.co.uk (est. 1997)

[2] An average UK household is using roughly 500W or 0.5kW at any one time

2.2.1. Small wind

Small wind turbines are generally seen as those up to 50kW. There are a variety of turbines available at this scale and their use has increased considerably over recent years. While these may prove viable under Feed-in Tariffs (FiTs)[3] for farms or businesses in windy spots who can use all the energy they produce on-site, they are rarely if ever suitable for wind co-ops. The overhead of running a co-op means that in practice it is not usually viable to raise small sums – as a rule of thumb £150,000 is a good minimum to aim at – this applies to wind as well as to other technologies. Co-ops much smaller than this normally end up with finance models which are very squeezed, often relying on volunteer admin (for 20 years!) and similar shortcuts. This is not a great deal for members of the public investing in the project – and arguably more trouble than it is worth for the people putting the co-op together. The other main concern is risk. Small wind turbines do not by and large have an excellent operational record and it is often impossible to obtain credible warranties and maintenance agreements.

It makes sense to use good wind sites to their real potential – it also makes sense to leave marginal sites well alone!

2.2.2. Medium wind turbines

For our purposes these range from 50kW up to the 1MW scale. In fact due to the way FiTs are structured and the limited availability of turbines from well-established and credible manufacturers in the UK community groups are likely to be looking at a sub-500kW turbine, probably a 225kW, 250kW or 500kW machine. This size of turbine was not financially viable pre-FiTs, hence very few installations of this size existed in the UK pre-2011. The market is now developing fast (as of 2014). Some manufacturers are offering 500kW versions of larger turbines which are often a good choice, as they can offer significant energy production and the backup of a well-established supply chain. Sharenergy is working on a number of community-owned projects at this scale. Examples include Dingwall Wind Co-op[4] (250kW) and Kemps Hill Wind Co-op[5] (500kW).

Medium wind turbines are normally installed as single turbines although it is also possible to combine two on the same site (for example a 900kW turbine alongside a 500kW machine as planned by Crida Wind Co-op[6]). More than two turbines at this scale is very rare - generally it does not make sense financially to install multiple turbines where one would give the same output – restrictions of road access or turbine height may dictate otherwise.

---

[3] More detail on Feed-in Tariffs is available in the Finance section

[4] www.dingwallwind.org.uk

[5] www.kempshillwind.org.uk

[6] www.cridawind.org.uk

2.2.3. Large turbines

Large turbines are anything over 1MW. These may be installed as single turbines, although FiTs de-incentivise this. The most likely configurations under current FiT boundaries are small wind farms of three or more turbines (850kW plus - larger wind farms will normally use 2MW machines or larger). Finding a site for three or more turbines is not easy, and developing the project is correspondingly complex. It can be done as a completely co-op-owned project (see Westmill Wind Co-op[7], which has five 1.3MW turbines). In many cases a community group will need to work alongside a developer or landowner and take a stake in the project rather than own it outright: Energy4All is the leader in this area having set up co-ops which own one turbine in a larger wind farm and co-ops which own a proportion of the total wind farm output (subtly different models – each has its benefits).

2.3.Power, energy and capacity factor

What does it mean to say that a turbine is a '1MW' turbine? It means that at a given wind speed it will produce 1 megawatt (MW) of electrical power. A megawatt is 1,000 kilowatts (kW) and is a serious amount of power: enough to light 100,000 normal 'energy-efficient' light bulbs! This will be close to the maximum power that the turbine can produce in a high wind, and is called the 'rated power'.

Of course the wind varies constantly and is sometimes too light to even move the turbine (or very rarely so strong that the turbine shuts down to protect itself). So the power given out at any one speed is not that useful to know. What is useful to know is the total energy produced in one year. Energy is measured in kilowatt-hours (kWh). A kWh is the same as one 'unit' on a domestic electricity bill. Electrical energy generated by a turbine is paid for in pence per kWh. A kWh means 'the energy generated by something with a power of 1kW running for 1 hour'.

So how much energy will a given turbine produce in a year? It depends on the turbine and the varying wind at the site, and to a lesser extent on downtime for maintenance. To make this easier to talk about, think of this in terms of the percentage of the rated power that the turbine will be producing on average at any one time, averaged over a year. This is called the 'capacity factor' (or sometimes 'load factor'). So for example if the capacity factor is 25%, and the turbine is rated at 100kW, the turbine will on average be producing 25kW. At any one time it might be producing 10kW, or 100kW, or nothing at all, or anything in between. But on average over the year it will be producing 25kW. Real-world capacity factors of medium turbines vary from 15% in poor wind sites to over 50% in extreme environments. 25% is a good rule of thumb for UK conditions[8].

---

[7] www.westmill.coop

[8] Capacity factor for UK onshore wind was 26.9% in 2009 and 28.7% in 2013. See www.goo.gl/iYYbbO and www.goo.gl/KUxnGC. For a list of all operational wind farms and performance, including near-real-time data, see http://www.gridwatch.templar.co.uk/.

Armed with the rated power and the capacity factor it is easy to work out the energy that a turbine will generate in a year. In the above case:

Rated power (kW) x Capacity factor x 8760 (hours in a year) = Energy generated
100kW x 25% x 8760h = 219,000 kWh per annum

It is worth noting that capacity factor is not the same as 'efficiency'. Efficiency is the ability to turn wind power into electricity and turbines are very good at this – a large turbine may exceed 50% efficiency – which may not seem much until you realise that the limit set by basic physics is 59%.

2.4. The group

It may be difficult to follow all the technicalities, but success in wind power co-ops is about much more than nerdy sums. To succeed a group will need people with complementary skills, and will need to form a coherent team. As a minimum it will need to have:

- Ability to work together, to run meetings and to communicate
- Financial experience - this will probably be a £1m+ project
- Community connections (i.e. with local business, councils, clubs etc)
- Ability to learn and understand the issues
- Patience and fighting spirit
- Resilience to negativity
- Ability to communicate in public and through the media

These are exciting projects and people who have these skills will be in the community: though they may be hard to find. Group members will necessarily be working with people who they don't normally work with. Wind power has a lot of friends, not always in obvious places. Clearly there is also a lot of opposition to wind power. Some of this is understandable concern following sensationalist reports. Some is kneejerk NIMBY-ism. In some cases there are perfectly reasonable issues that may be mitigated or may mean that the community really have picked the wrong spot. Diplomacy and respect are required, as well as an acknowledgement that the group may agree to disagree with some people in the community. The group as a whole needs to grasp and be able to clarify the main issues of contention[9].

[9] Good primers are available at:
http://www.yes2wind.com/explore/debunking-the-myths/
http://cridawind.org.uk/faqs/

2.5.Community/citizen engagement

A community wind group needs to work very hard to make sure it engages with and builds trust with citizens. Polls tend to show that the majority of the population is in favour of wind turbines, even if they are sited nearby. The group needs to make sure that people have reason to trust the project. There is very likely to be opposition, which may be well organised and funded and which can easily end up setting the agenda. Fears about wind power are widely shared and promoted by national media, even where there is abundant evidence that they are irrational.

The work of citizen engagement is constant. It will take time for people to understand the motivations behind the project and to have their questions answered. We identify three key stages and possible actions:

Stage	Notes	Actions
Feasibility	During the early stages of the project, it is important to be clear about the intentions of the group, its aspirations and ethics. At the same time it is important not to undermine the group's position with the landlord or the planning authority. Public meetings are not necessarily a good idea when details are unknown.	• Personally meet opinion formers • Recruit a strong support group • Keep communication honest and simple • Some things will have to be kept within a small group – explain why if necessary • Project website and social media set up • Article in local parish magazine explaining exploratory work • Start building mailing list
Planning	When ready to enter the planning process it is time to go fully public with site details, for both planning and engagement purposes. When the application is in you need to work hard to convert your support into actual letters in support of the application.	• Public exhibitions • Press releases • Online campaign and word of mouth • Ask supporters to lobby committee members • Attend local events • Be seen, be brave! • Listen to local concerns and address wherever possible
Share offer	Ensure the share offer will be well taken up by locals. In practice you may also need support from further afield as well – communities of interest as well as the geographic community.	• Launch event and follow up events • Local press, radio, TV • Leafleting and banners • Paid advertising

Marketing tools used by commerce are useful to the wind group, but not enough in themselves. The most successful groups have been those who have long-term credibility within the community. In some cases this may be as a result of previous energy-related work carried out by the group – e.g. energy audits or efficiency advice. Perhaps more often the important trust networks lie outside this sector. Some of the most successful community wind projects have been in farming areas where links go back generations and encompass many previous ways of using the land. Working alongside these networks will often accomplish more than a trendy 'outreach' session – put your Post-its away and get your wellies on!

2.6. The site

Finding a wind site is not easy. A site that is technically viable and with a willing landlord is required. Sometimes the latter can be harder to find than the former. Here are some of the considerations and suggestions of how to start thinking about them:

2.6.1. Wind speed

The good news: the UK is one of the windiest developed countries in the world, and the windiest in Europe. Wind speeds are high in general in comparison to, say, Germany. The bad news: most windy places will not be suitable for wind turbines due to the considerations detailed below. You do need to start with a site that has good wind. The UK is lucky in having the NOABL database (see Support section), a national 'good guess' at wind speeds which is publicly available to search by putting in a grid reference. This can be used to find possible sites - look for a predicted wind speed of at least 6m/s at 45m above ground level. That is a bare minimum; really good sites will have wind speeds at that height of 6.5 or 7m/s and more. Even then, NOABL predictions are a very rough guide and tend to overestimate wind resource in many places. Beware of turbulence: sites with heavy forestry or other ground 'roughness' are less likely to be suitable and for this reason built-up areas are very unlikely to be good sites. Ultimately a meteorological mast (a 'met mast') will often need to be erected to get a clearer idea of wind speeds on the site. However, this is expensive and should not be undertaken until other considerations have been examined.

2.6.2. Noise

Wind turbines are not that noisy given what they do - anybody who has stood at the base of one may wonder what all the fuss is about. However, there are guidelines to make sure that the impact on neighbours is kept to a minimum under a worst-case scenario. As a rough rule of thumb the site for a medium-scale turbine should be at least 500m away from habitation. This would be greater for a large scale turbine or might be relaxed in the special case of a property wholly inhabited by beneficiaries of the turbine (i.e. the landowner) or where background noise from a motorway or industrial area is already very high. As a low-tech method, set compasses to 2cm (4cm=1km on a 1:25,000 map) and start drawing circles around inhabited buildings on the map. For those with Geographical Information Systems (GIS) skills, the open Ordnance Survey data can be used to create buffers around habitations. GIS software

is freely available and not hard to learn; Sharenergy has provided GIS training for community groups in the past.

2.6.3. Designated areas

National Parks, Areas of Outstanding Natural Beauty, and Sites of Special Scientific Interest are some of the more common designated areas where wind development may be tricky or impossible. However, there are examples of turbines in each of these: check out the Glyndebourne turbine[10], which is a rich source of information on what a planning application would entail. It may be that the boards controlling these areas realise that as they often encompass high and windy areas it is likely that sooner or later there will be some wind development there, and may pragmatically accept community-based turbines. Most are coming to accept that the impact of climate change will be far greater than the impact of turbines. This situation varies very heavily according to area. In some cases the authorities in charge of designated areas may also oppose turbines outside the area but visible from within its boundary.

2.6.4. Access

A good site is no use if the turbine cannot get there. In many cases this is the largest constraint on the size of turbine that can be installed. Bear in mind that a 2MW turbine has approximately 45m long blades, which do not bend, as well as tower sections, which are very wide and will not travel easily over sudden dips or humpbacked bridges. For larger wind farms it is quite usual to create new access roads and even to cut off corners that may be miles away from the site. For smaller installations this will be too expensive, so think about pinch points all along the access path. A 250kW turbine has blades that are approximately the length of an articulated truck. As part of a full feasibility study an access expert can be brought in to do 'swept path analysis' of the delivery route to check access – in some cases the turbine manufacturer will offer this as a service.

2.6.5. Grid

The electricity generated will go into the grid, normally at either 11,000 or 33,000 volts. In some rare cases it may be worth considering selling electricity to a local user - but it is very unlikely that you will find anybody who can really use a meaningful proportion of the electricity generated.

The power lines you will feed into are relatively easy to recognise: three bare wires side by side, normally on a wooden pole. The nearer to an existing line the turbine is the better. The fact there is a line does not necessarily mean there is the capacity to accept the energy generated. Properly determining that involves a formal application to the Distribution Network Operator (DNO) for the area, which can only be done once many of the installation details have been worked out. DNOs normally provide a low

[10] See the Support section for links to Glyndebourne and other planning applications

cost or free budgetary cost at an earlier stage, and some may provide maps to help locate the nearest line – although these are rarely adequate to fully rely on.

The DNO will give you a price broken down into 'contestable' and 'non-contestable' works. The latter includes things which must be done by the DNO, such as the actual connection to the grid, and the cost of upgrading transformers or wires if necessary. The 'contestable' works could be done by somebody else, and it is often worth considering this – the landowner may already be more than capable of digging long cable trenches for example.

Think carefully about the probable route of a power cable – it will add considerably to the cost if it is very long, if it has to go across the property of multiple landowners, or if it has to cross rivers, railway lines, roads or built-up areas.

2.6.6. Wildlife

Ecological considerations are a major constraint on where to put wind turbines. Bird migratory routes must be completely avoided. In general sites with high bird or bat activity are likely to present problems, although in some cases these can be mitigated. Less obvious, but often more problematic, are protected species that may be affected during the installation phase: a surprising number of suitable wind sites are also potential habitats for Great Crested Newts, for example.

Impacts on wildlife may be able to be mitigated, for example by provision of alternative habitat or very careful installation procedures. On the other hand if the site has a lot of wildlife a very detailed study to establish exactly what is there will be required. For larger projects this may entail long-term studies being carried out by qualified ecologists and can cost many tens of thousands of pounds. For medium scale installations it should be possible to avoid these extreme costs if the site is chosen carefully. Often local wildlife experts may be happy to give informal information about what is around. There are also local, regional and national datasets. Landowners generally have a very good idea of what is around on their land. It is usual to carry out what is known as a Phase 1 habitat survey, often with some extensions to consider particular species that are thought to be on site.

2.6.7. Rights of Way

Turbines need to be situated a certain distance from thoroughfares: a minimum of the charmingly named 'topple distance', and often considerably further, depending on the importance, type and usage of the track. As a rough guideline stay at least the tip height of the turbine from roads, bridleways, footpaths and the landowner's property boundary.

2.6.8. Aircraft and communications

While turbines do not pose a direct threat to aircraft, except in the case of very low flying military planes, they do have the potential to disrupt radar. Similarly they can

cause interference to broadcast signals and microwave data links. Establishing the full picture of the issues on a chosen site is an expert task, and will involve formal consultation with NATS (Civilian Air Traffic Control) and MoD (military radar and flight paths).

Before this, however, it is important to use some common sense. If the community is close to a military airbase or civilian airport (less than 30km) and there is line of sight between the site and the runway, you are very likely to encounter some issues. Similarly if the turbine is situated between a TV transmitter and a centre of population or very near to a telecoms mast then you can expect difficulties to arise. MoD and NATS publish free maps and GIS datasets, which are useful in assessing possible radar impacts[11]. The most difficult telecoms issues to get a handle on early are often fixed microwave links, which may be used by businesses or by rescue services – there is often no practical alternative but to spend money assessing these quite early on.

2.6.9. Landowner

A community will usually be dealing with at least one landowner and quite often several: in multi-turbine schemes it is common to have turbines on more than one person's land and even if this is not the case it is likely that there will be a need for access agreements for installation and maintenance, and 'wayleaves' – legal agreements to allow access and for cabling to pass over the land between the turbine and the grid. In some cases there may also be dealings with landowners away from the site, for example if road junctions need widening to allow equipment to pass. All deals with landowners will need some legal agreement to be signed and some annual payment to be made. In general landowners are paid a proportion of gross income, sometimes with a minimum rental. Rental value rules of thumb are 5-15% - it is a matter of negotiation. Bear in mind that legal costs will be high and may include the landowner's legal team costs too. Some landowner's agents may try to add expensive upfront fees. In general co-ops end up paying a similar rental payment to anybody else and it is wise to budget for this. The likely landowner agreements needed are:

Exclusivity Agreement. A simple agreement that the landowner will allow work on developing the project and agrees to work only with the designated group and no other developer for a fixed period: 1-3 years is usual. This needs to be signed as soon as possible as some basic safeguard of time and effort. A landowner who will not sign an exclusivity agreement may just be using the process to learn more about the possibilities on their land or may not really be serious about taking the project all the way through – landowners' change of heart is one of the biggest reasons for co-op project failure across the technologies.

Heads of Terms. Once the site has been determined as a real prospect the basis of an agreement needs to be established between the community group and the

[11] See http://www.renewableuk.com/en/our-work/aviation-and-radar/

landowner. This is as far as possible a plain-English commercial document with the basis of the agreement laid out – rental values etc. In theory it ought to be possible to get this agreed with minimal legal costs. If the landowner insists on involving solicitors at this point then it may make sense to go straight to the option.

Option & Lease. This is where the legal costs are likely to be concentrated. An option is an agreement to take up a lease at a future date. This would usually be signed before progressing to a full planning application. This option sets out the terms on which the lease will be taken up. As the lease involves payment of rent it is only taken up once the planning process and any conditions have been fulfilled, and the funds raised. An option is a binding document – once you have an option the landlord is obligated to take up the lease on the stated terms.

An example exclusivity agreement is given in the Appendix. Heads of Terms agreements will be completely specific to project issues. For option agreements you will need the services of a solicitor – choose one who has been involved in wind projects before and who understands the co-op model.

2.7.Finance and structure

Wind projects are expensive. A 500kW project may cost around £1.3m. For larger projects a figure of £2m/MW installed is often quoted. This can be extremely daunting. However it can be done and it has been done: Westmill wind co-op raised £4.8m from the public and obtained a bank loan to cover the rest of the £9m needed. The large sums of money reflect the fact that these projects are working on a scale that will make a real difference!

2.7.1. Development and construction costs

The money needed falls into two categories:

Development costs ('Risk money')	Construction costs ('Capital costs')
•Initial assessment •Feasibility and technical work •Planning and permitting •Legal •Finding the funds •Marketing the share offer	•Turbines, transformers, etc. •Groundwork •Grid connection •Installation

We call the development money 'risk money' for a reason: it is quite likely to be lost! During the period where the project is being developed, a lot of things could put a stop to it, from issues with the MoD to the discovery of a rare lizard on the site. The greatest risk of all is the planning process, which does not always progress in an orderly and predictable manner. More than half of viable sites fall at this hurdle, by which time tens or even hundreds of thousands of pounds could have been spent.

Once the project has full planning permission and the legal documents are signed off the risks are far from over, but they are much reduced.

This distinction between development and construction costs generally means that there would be different sources for each. As an initial summary:

	Development	**Construction**
Grant funding	Possible. Different schemes exist in England, Wales and Scotland. Local grants may be available.	Unlikely unless you are very lucky! Public money spent on turbines would mean the project was ineligible for FiTs.
Venture capital	Unlikely to be on offer to community project.	Only largest projects: they are likely to demand high returns.
Partnership with developer	Good solution where it is on offer. In some cases you could buy a developed site – but expect to pay a premium.	Good because they will pay for their part: you still have to find yours.
Conventional loan	Not available as there is no security for the loan.	Yes – in theory. It is hard to find loans on reasonable terms below £1m.
Soft loan (repayable only on success)	Often available through separate schemes in England, Wales and Scotland.	Not generally available at this scale.
Single private investor (i.e. the landowner)	Possible and often a good solution. They will take a bonus on completion.	Possible although not much will be left for you.
Co-operative share offer	Possible to do 'pioneer' share offer to raise risk capital in some cases.	Good solution – normally your main option. Co-operatives can raise large sums at a reasonable cost.

2.7.2. Grant funding

Many people start along the community energy trail imagining that grant funding is plentiful. In practice grants are sporadically available but rarely cover the full costs of project development. Although there are a few community renewable energy projects that have received significant capital grant funds, these were pioneers and those funds are no longer available. Both economic conditions and the general policy

direction mean that you would be unwise to base your project on the assumption that grant funding will come from somewhere. Projects that are grant-dependent tend to stop and start as funding appears and disappears. Worse, they are in danger of tailoring to the funders' priorities, which are rarely exactly aligned to the best interest of the co-op.

It is usually possible to access local or national grants to do feasibility work and other 'risk money' activities. These grants are generally small and you are likely to need a number of different sources. Giving grants for development represents good value for funders as they enable a large investment with a comparatively small expenditure.

2.7.3. Venture capital

Most wind projects are funded with venture capital, i.e. money invested by big investors looking for a big return. Venture capital is fine, but a community project is less likely to appeal to these funds as it may be seen as a risk: in any case if they fund it there will be few benefits for the community. One exception is Energy Prospects, a co-operative that exists to provide risk money for community projects developed by Energy4All. With this one exception, venture capital is generally a poor partner for a co-op.

2.7.4. Partnership with developer

Some of the existing Energy4All projects use this model, where a co-op group buys in to a developer-led project. This is a proven model and is often the only way for communities to get a foot in the door when large wind farms are being built locally. The co-op ends up owning one or two turbines in the wind farm – or a proportion of wind farm output. This model is less likely to be viable for smaller projects and may not fit the bill where community groups are developing the projects themselves from grassroots. The Government Community Energy Strategy makes mention of a possible future situation where commercial developers would be obliged to offer a proportion of community ownership (as is the case in Denmark) but at the time of writing it is not clear if and how this will ever make its way into policy.

Co-ops also sometimes buy projects from small developers – often the landowner themselves. This is the model used at Dingwall Wind Co-op and others in Scotland. It may be an attractive prospect for the landowner as it cuts out the banks, which often do not offer particularly appealing finance deals for landowners.

2.7.5. Conventional loan

A bank may loan a proportion of capital cost, but will not be at all likely to provide risk money unless there is some other security: don't be drawn into putting up your house as security (yes, it has been done!). In the past most wind co-ops used a bank loan as part of the capital finance - normally around 50%. However this is becoming rarer. The Co-operative Bank was a major lender in this sector but has withdrawn from renewables. Others remain in the market - notably Triodos Bank. However, co-ops have gained confidence in their ability to raise all the money through a community

share offer, and low public confidence in banks means that the lack of a bank loan can even be a marketing possibility for co-ops. On top of this, there are hidden costs to bank loans – banks charge a considerable due diligence fee up front and may insist that wind studies and legal agreements are carried out by certain approved (and very expensive) bodies.

In the long run it would be preferable if bank finance were more readily available. There are some organisations which offer more flexible loan finance but rarely at the scale where it is most needed – around £400,000-£1m. It is worth keeping an eye on this developing area of finance.

2.7.6. Soft loan

Instead of giving grants, a funding body may choose to provide a 'soft loan'. If the project succeeds, it pays back the loan so the money is available to the next project (usually with a bonus payment to reflect the extra benefit of having the funds available at the risky end of the process). If the project fails, the loan does not have to be repaid. At the time of writing this sort of loan is available from CARES in Scotland, RCEF in England, and Ynni'r Fro and CEDF in Wales. Each scheme has different criteria and none is designed to last forever. Groups often find the prospect of taking a loan with high interest payments daunting – however in practice these are excellent sources of finance. 45% interest on a loan of £30,000 seems like a lot – but paying it back out of a £1m share offer is no huge deal and it is enormously valuable to have funding at the sharp end of a project. Wind projects that attempt to negotiate the planning system 'on the cheap' are very unlikely to succeed in the current political climate!

2.7.7. Single private investor

This is a similar situation to venture capital except that in some cases a single investor may have a reason to invest in the project. For example a landowner might put up some of the development money on the understanding that if the project succeeds it will be paid back with a bonus. This method has been used successfully in the past and can be a good way of tying landowner and project together...if the landowner has a stout heart and deep pockets! A variation might be to ask the landowner to defer option payments and payment of their legal or agents fees until the project is fully funded.

2.7.8. Co-operative share offer

The co-operative share offer is a way of raising capital through large public share offers. Energy4All and Sharenergy exist to help communities do this. Members of the public join the co-op and invest at least a minimum (normally set at £250 to make sure a member's investment covers the costs of administrating their membership over a 20 year period). The maximum investment is set at the time of writing at £20,000 (although this is set to rise to £100,000 in summer 2014 – co-ops could choose a lower figure if desired). Members receive a return on their investment, typically 5%-10% averaged out over the 20 year span of the typical wind project. As this is asking

normal people to invest their hard-earned cash it is important that risks are reduced as much as possible - nobody wants to have to explain to elderly neighbours why their life savings were lost! Generally a main share offer is carried out once the project has:

- Co-op fully established with bank account
- Option signed with landowner
- Planning permission in place and conditions discharged
- Binding grid connection offer
- Firm quotes from technology suppliers
- Share offer Advanced Approval for tax relief from HMRC

While some co-ops have carried out small share offers without one or more of these criteria in place, it indicates bad business planning and should definitely be avoided for larger share offers.

One exception to this rule is the 'pioneer' share offer. Given the need to raise cash to develop projects to the main share offer level, co-ops sometimes carry out much smaller share offers specifically to raise higher risk capital. These share offers aim to give their investors Seed EIS tax relief which minimises the amount of risk taken. They are generally marketed to a smaller set of people who understand and are committee to the project – it is a good idea to talk through the risks in person with members investing in this kind of offer.

To minimise risk, pioneer share offers are normally carried out only once the project has made significant progress (usually post planning) in order to raise money for the main share offer, or to put deposits on equipment where time pressures are great (which is almost always – Feed-in Tariffs drop over time and grid connection offers may need to be taken up when offered at the risk of losing the promised capacity).

Co-operative share offers are an excellent method if done well, spreading the benefit of the project across large parts of the local community and giving normal people a chance to own and run their own serious renewable generator. Over £30m has been raised for renewable energy co-ops as of 2014 – most of this is for wind projects.

For information on how the income is eventually split and the influence this has on the chosen funding pathway see the 'Finances' subsection of 'Development' below.

2.7.9. Structure

All projects will need to have a formal structure in order to access funding, sign legal documents and raise money. In theory there are multiple ways in which these could be structured, although in practice many of these options are unlikely to be suitable. If the community can access capital grants then there is a choice: a company, a society, or even a charity: whatever the grant-making body is willing to work with. It is

much more likely that the group will have to (or want to) raise money from the public. The best choice for this is likely to be a Society. A Community Interest Company (CIC) can also raise share capital but there are restrictions on the returns it can give to investors, which would likely mean that it would not be able to raise the money required. There are two forms of Society –the Community Benefit Society and the Co-operative Society[12].

A lot of time is often spent agonising over the choice of form – time which might be better spent on the project itself, in some cases! In practice there is little difference between them in terms of their everyday management and ability to raise share capital. You are likely to hear passionate advocates of one form or the other. In theory Community Benefit Societies are 'for the benefit of the community' whereas Co-operative Societies are 'for the benefit of their members'. In practice both have a social mission and the boundaries between 'community' and 'members' can be blurred. As a brief summary of some of the issues:

	Community Benefit Society	**Co-operative Society**
Ethic	Philanthropic. Can lead to restrictions on member return which may make raising funds harder.	Mutual. Can lead to a perception that co-ops are 'investor clubs'.
Asset Lock	Assets remain with the organisation or are transferred to one with similar aims. Asset locks are sometimes seen positively by funders.	No statutory asset lock possible. In practice renewable energy co-ops have few transferable assets anyway though – second hand turbines are practically worthless.
Demutualisation	Cannot be transformed into a company. Sometimes seen alongside asset lock as a positive sign of real community intent.	Can be demutualised by consent of 75% of members. Arguably if it has got to the point where members wish to do so, this could be a useful thing!
Shares	Can raise community shares and pay interest (theoretically only enough	Exactly the same capabilities and restrictions. However,

[12] Before mid-2014 these were known respectively as Societies for the Benefit of the Community (or Bencoms), and Bona Fide Co-ops. Both were forms of Industrial and Provident Society, a term now obsolete.

	interest to enable the raising of the capital – a slightly circular definition). Model Rules often default to relatively low levels of member interest (i.e. 5%) although this can be changed.	Model Rules typically do not seek to cap interest payments to members. Historically share offers have needed to offer 7%+ to raise the £1m+ needed for a wind turbine.

For what it is worth, Sharenergy tends to recommend use of the Co-operative form unless there are special circumstances – a realistic prospect of large amounts of income for a philanthropic cause, or restrictions placed by funders (at the time of writing CARES grants in Scotland are only available to Community Benefit Societies, although CARES loans can be made to either form of Society). But we work with a lot of Community Benefit Societies as well and many have had great success at raising funds.

Whichever form you choose you will need to find a provider of Model Rules – pre-approved Rules (like a company's Memorandum and Articles) which you can modify and use to register. There is normally a cost for the use of Model Rules, although you may in some cases find support to help pay for this. Sharenergy has its own set of Rules for Co-operative Societies.

3. Development

3.1.Stages

Each wind development is different but it is possible to generalise some stages in development:

Find a site	**£ 0**	**DIY 100%**	**1-12 months**

Start from the map or perhaps from local knowledge or leads with keen landowners: a surprising number of people turn out to have been thinking about good places for turbines once people start asking. It may be possible to find a lot of sites: one group identified 56 sites in their area and spent most of a year meticulously whittling them down to the best two.

Find a landowner	**£ 0**	**DIY 100%**	**1-12 months**

The best site in the world is no good if the owner is not keen. Most community-owned wind projects are on private rather than publicly owned land, with the landowner paid rental for the use of the site. You can find out who owns land from the Land Registry[13], or from local knowledge within your group. Be discreet and as a rule never discuss one

[13] http://www.landregistry.gov.uk/

landowner's business with another. It is wise to sign the landowner up with an exclusivity agreement at this stage to make sure they are serious about the idea and to show them that the group is serious about the project too.

Create a core group	**£ 0**	**DIY 100%**	**1-12 months**

Wind development is often divisive and there is no point sharing the idea more widely until a viable site has been found – you are likely to face a lot of questions to which you do not have the answers, and perhaps create a local issue around a site which turns out not to be suitable after all. This means keeping the work to a tight group, perhaps a subgroup of an existing community group. Groups will vary in how they handle this and often feel uneasy about keeping secrets: but openness too early can scare away landowners who need to know that the group is trustworthy. Many community groups choose to be open about the fact that they are considering a wind project but also clear about the fact that exact sites will not be discussed in public – this is a good approach but it requires discipline.

Assess site feasibility	**£ 2500**	**DIY 30%**	**1-3 months**

Some of this work can be done by the group but it is likely that some specialist help to properly assess the chosen site(s) will be required. A standard cost for an outline feasibility study done by a consultant is around £2,500 per site[14]. The exact contents of such a study will vary and you may need to direct the experts to look at specific local issues but a sample table of contents might include:

- Preparing a 'constraints map' based on the findings of available datasets
- Identifying relevant environmental and planning issues (i.e. landscape, nature conservation, cultural heritage, archaeology etc.)
- Identifying other designations of relevance; e.g. local planning policy, designated areas
- Identifying nearby wind farm / wind turbine proposals and planning status
- Incorporating property (and other relevant) development buffers
- Identifying an appropriate turbine position
- Undertaking a preliminary summary of wind speeds at the site
- Undertaking preliminary energy modelling at the site
- Providing a list of potential showstoppers and major constraints to development

There are a number of specialists who provide this sort of study. Sadly we have also seen some poor examples over the years. As a rule of thumb choose a provider who is willing to discuss the project over the phone, who will actually visit the site, who has preferably worked with community wind before and (our most important rule of thumb) is not trying to sell you a particular turbine!

[14] Sharenergy can advise, or to find other consultants visit http://www.renewableuk.com/

Work out financials	**£ 0-1000**	**DIY 30%**	**1-2 months**

In the past some groups have managed to carry on a long way without doing this. Some did manage to get funding in the end; others still have not. At this stage it makes sense to take a long hard look at the numbers and decide if they really stand up. Be ruthless! Sharenergy is often called in to help with this financial modelling work. We normally find that groups have erred on the optimistic side, missing out or minimising costs and maximising income. Ultimately this helps no-one – much better to under-promise and over-perform.

Double check everything	**£ 0-5000**	**DIY 30%**	**1-6 months**

Feasibility studies often leave trailing questions. These need to be addressed or they may come back to bite later: one group got nearly to the planning application before realising that grid capacity was much lower than they thought on that site. Another discovered an unexpected microwave link used by the rescue services which scuppered an otherwise good project which had been years in development. This phase can take a long time and there is a risk of loss of momentum. Grid and aviation authorities may take a long time to respond.

Screening and scoping	**£ 0-2000**	**DIY 20%**	**1-2 months**

These terms are used to describe the initial approach to the planners, a point at which work is carried out to determine what they expect to see in a planning application. It is worth putting in special effort to make sure that the application scope is proportionate to the project: the cost of a full ecological survey carried out by professionals, for example, may be enormous and convincing the Local Planning Authority (LPA) that it is not needed may be the line between success and failure of the whole project. It is generally not advisable to go cold to the LPA and ask them what they would like you to do – the tendency is for them to ask for all possible surveys and studies. It is better to suggest a sensible approach to them and for them to ask for additional work if needed. You will almost certainly need professional help to do this well.

Prepare planning	**£ 10-30k+**	**DIY 20%**	**1-2 months**

The LPA will expect to see some of the work carried out by appropriately affiliated independent experts, particularly noise assessments, landscape character assessments, archaeological and cultural heritage work, ecological survey work and technical installation plans. We have seen some very impressive DIY applications by groups but these tend to run into the sand as the LPA have no way of independently assessing their competence. Trying to skimp on a planning application is very rarely a winning tactic.

Public meetings	**£ 1k-2k**	**DIY 80%**	**1-2 months**

When the planning application is ready to go in will be the best time to answer questions from the public. Some subgroups may need to 'soft launch' to their wider group before this. A public meeting will be needed to show that proper public consultations have been undertaken. More importantly, this is the chance to start really connecting the community to 'its' project: these are the people who will live near the turbines and also the people who will end up owning them. Public meetings can be hard work - quite often people will be very worried about what the turbines mean for them, worries which are frequently stoked by inaccurate or misleading anti-wind campaigning. A lot of this comes down to your group – make sure you seek support from people who have done this before, and that there are a lot of you trained up and ready to answer questions. Local people deserve to be treated with respect and if you cannot put up people they recognise who are well-versed in the facts then there is no reason they should support you.

Planning application	**£ 500-£10k +**	**DIY 10%**	**4-120 months!**

The LPA has 13 weeks to determine the planning application, although in practice they often take longer. They are likely to come back with a range of additional requests for information, some of which could take a long time (and in many cases money) to satisfy. While they are deliberating, it is important to keep up the momentum with the community, asking them to write letters of support, and building up a database of supporters. Some of the groundwork for the following tasks can be done while waiting for the planners. In the worst cases you might have time to finally write that novel as well – we have seen applications sat in limbo for years on end. This is usually a greater problem in areas where there have been comparatively few wind applications.

Met mast	**£ 10-30k**	**DIY 0%**	**3-12 months**

Around this time is when the wind monitoring, or 'met' mast, can be erected. This will also require planning permission. In principle it would be good to put this up earlier, but in doing so the group would effectively publicly announce the site that has been chosen: it is also expensive and should not be done until all other factors are positive. As well as telling you more about the wind conditions on site, the data will be needed by the bank that provides the loan, the turbine providers, and the specialists producing the noise monitoring reports (completing this may be a condition of planning, in which case you would need to do this earlier). For medium scale single turbines it is increasingly the case that you could instead commission a detailed digital model which predicts wind speeds on site relatively accurately – do take this option if possible but make sure that all the people who need to believe in the wind speed predictions are prepared to accept this (this may include your future member shareholders).

Prepare share offer	**£ 5-100k**	**DIY 40-90%**	**1-3 months**

A low cost share offer can be prepared with a minimum of legal and printing costs. The more money required the more cost will be incurred: a large share offer (in the million pounds plus range) needs a serious publicity campaign. This extends not only to the share offer document itself, but to events, press, advertising, banners, radio, TV, online marketing through websites, email lists and social media, and anything else you can think of. It is quite usual for projects to need support from marketing professionals and designers at this stage. Amateur may be charming but rarely brings out the chequebook!

Financial close	**£ 1-100k**	**DIY 40%**	**1-2 months**

Assuming that planning permission is in hand, all the relevant legal agreements should be put in hand and firm offers from the installers and the bank obtained. This is also the time when you may need to take up a binding grid offer – often entailing the payment of a deposit or the entire connection cost. Doing this before a share offer can complicate things - see pioneer share offers above for a possible solution.

Share offer	**£ 0-5k**	**DIY 40-90%**	**2-3 months**

Having taken as much risk as possible out of the project, the share offer can now be opened to the community. The project generally needs to be completely ready to go as soon as the target is reached.

Installation	**£ varies**	**DIY 25%**	**3-9 months**

Most of the work is highly specialised. A community group's role will be that of project management rather than digging holes. Project management requires cool and experienced people who are not terrified by the responsibility of having a good proportion of their neighbours' savings in their hands and can solve problems under pressure. This can be a quite different skillset from that needed to promote a share offer – good reasons to build up the Board from the beginning of the project.

Running the co-op	**£ varies**	**DIY 25-100%**	**20 years**

Once built, the co-op board will continue to run the project, with an ongoing need to take decisions and manage the formal business of the co-op, keep an eye on the finances and decide on members' payments. It may well want to employ a person or organisation to do the day-to-day admin of the co-operative.

Adding up all the time involved makes the project seem rather daunting: 2-20 years! Of course many of the tasks can be run concurrently, although it is very rare so far for a community wind project to take less than 5 years from first idea to commissioning. It is slow and steady work and probably favours those who have come to relish setbacks for the pleasure of overcoming them. £30k-200k development money can

seem like a lot although in the context of a project which will generate millions of pounds worth of green electricity during its lifetime, it needs to be seen in proportion.

3.2.Finances

Once the project is built, income will be received from Feed-in Tariffs (FiTs) or Renewable Obligation Certificates (ROC) plus surplus electricity sales to the grid. The energy production is metered and is paid per kWh generated. In most cases community schemes of under 5MW will opt for FiTs as this gives the best income. Under FiTs a fixed price (the '**export** tariff') is guaranteed for electricity exported to the grid although it would be possible to sell it on the open market for more: 5-6p/kWh at the time of writing. There is also an additional incentive for generating green electricity and this '**generation** tariff' is what makes medium scale wind possible. The amount of the generation tariff varies with the size of the installation (which may include one or many turbines)[15]:

Size of installation	**FiT generation tariff (p/kWh)**
15kW-100kW	17.78
100kW-500kW	14.82
500kW-1.5MW	8.04
1.5MW-5MW	3.41

The way this income is split depends on many factors. The example below gives purely indicative financials for the first year of operation for a 500kW project in a good wind area yielding 1,400,000 kWh per annum. In this example the project has a capital cost of £1,500,000 and is completely funded by a co-op share issue:

Capital costs

	£	
Cost of turbine	1,000,000	Installed cost
Civil and electrical engineering	200,000	Access, foundation, switchgear
Grid connection	150,000	Varies a lot depending on location
Development costs	100,000	Also very variable
Share offer costs	50,000	Including legal support
Total Capital cost	**1,500,000**	

Income (typical year)

Feed-in Tariff (generation)	196,000	1,400,000 kWh at 14p
Electricity sales (export)	84,000	1,400,000 kWh at 5p

[15] Table correct as of early 2014 - could in theory change in October 2014. For more rates visit Ofgem http://goo.gl/nFOibT

Total Income	**280,000**	
Maintenance	25,000	Manufacturers/installers contract
Land rental, rates	45,000	Dependent on landowner deal
Insurance, telecoms, grid costs	10,000	
Depreciation	65,000	1,300,000 over 20 years
Admin	5,000	Correspondence, support, statutory
Community Fund	20,000	Local 'good causes'
Total expenses	**170,000**	
Operating Surplus	**110,000**	
Total return to Co-op Equity	110,000	
Percentage return to members	7.3 %	

This is just a sample: a different project could do better – or worse!
A few important things arise from this. Firstly if a project is really going to work the organisers need to think like hard-headed developers. People often question the large figures on the expenses side:

Maintenance. A wind turbine absolutely needs a maintenance contract. Your dad cannot fix it with a spanner.

Land rental and rates. Business rates will be payable on the installation. Rent is negotiable and this is somewhere that the costs can be reduced – but landowners and their agents talk to each other and the market is becoming better and better understood.

Depreciation. Money needs to be put aside so that members can get their cash back at the end of the 20 years. Be careful when comparing 'rates of return' that this element is included in your forecast.

Admin. Running a co-op means keeping people informed and providing support in case of issues arising. There are statutory requirements regarding accounts and AGMs as with any business. Volunteers can run this, but will they still be there in 15 years' time to manage their neighbour's money?

Community Fund. There is not a great deal left to put into good works here in the scheme of things – although a lot bigger proportionately than a community fund from a commercial wind farm. If the main motivation is to make money for an organisation then community wind is unlikely to fit the bill unless wind speeds are exceptional.

In this case the project returns a healthy 7.3%. This may seem brilliant in comparison to savings accounts, but remember the risk is still a lot higher – there are no bailouts if it goes wrong. The temptation for the more altruistic is to lower the return to members and to up the community fund, but beware: if the return is too low there won't be enough investors. In order to raise £1.5m in shares the project will need to appeal not just to the few committed greens with sufficient cash but also to members of the wider community who may have less disposable cash, or a higher bar for expected returns. The rule for co-ops is that the return for members can be as high as is needed to raise the necessary money - the experience of Sharenergy is that 7% is a good figure to aim for in projections at this sort of scale. Of course the members can choose to take less of the profit in return, once the co-op is up and running. This is how the original money to set up Energy4All was raised: a massive thank you to the members of Baywind Co-op, the UK's first community wind co-op, without whom neither Energy4All nor Sharenergy would exist.

4. Support

4.1.Sharenergy

Sharenergy is a co-op which helps people set up renewable energy co-ops. It focuses on medium scale, ground-up projects across the technologies (medium wind, hydro, PV solar, biomass and biogas) throughout the UK.

Sharenergy usually works alongside community-led groups and helps them to plug the gaps in their abilities. Typically this may involve:

- Initial site finding and feasibility work
- Landowner negotiations and support of legal work
- Business and financial planning (with help to find funding)
- Writing and carrying out share offers
- Project admin during share offer period and ongoing

Sharenergy has been closely involved in 12 successful share offers at the time of writing.
http://www.sharenergy.coop

4.2.Energy4All

Energy4All is a not-for-profit company, which exists to provide support to community-owned renewable energy projects. Energy4All has set up the majority of

the existing community-owned wind projects in the UK at the time of writing. The focus is on larger scale wind projects of 1MW and above, often helping communities to form partnerships with developers to get some impressively large projects off the ground: Westmill Wind Co-op, with 2,500 members, is an outstanding example. Sharenergy was originally a spin-off from Energy4All and the organisations continue to work together.

http://www.energy4all.co.uk

4.3.Others

Of course we would like you to come to Sharenergy, but there are a number of other organisations that can help in different ways to get community wind off the ground. For example:

The brand new Community Energy Association is shaping up to be a hub for community energy groups: http://www.c-e-a.org.uk.

Pure Leapfrog provides free support (in some cases, free legal advice) for carbon reduction projects including renewables: http://pureleapfrog.org/.

An excellent source for training, information inspiration and publications is the Centre for Alternative Technology - many people who work in the wind and community energy sector have done their MSc course: http://www.cat.org.uk/.

We have focused on the co-op route, as we believe it maximises the benefits of community wind, but for a different take on wider participation and benefit sharing from wind see Abundance Generation (https://www.abundancegeneration.com/) and Community Energy Scotland (http://www.communityenergyscotland.org.uk/).

Co-operative development bodies do not historically specialise in renewable energy co-ops but they are now training up to provide support to the sector and they typically know a lot about co-op setups and share offers. A full list is available here: http://goo.gl/UwATLY.

You should be able to find one nearby. Sharenergy is a member of the excellent Co-operative Business Consultants: http://www.cbc.coop/. Co-operative and Mutual Solutions also have a long history of supporting renewable energy projects: http://cms.coop/.

4.4.Information

The NOABL database for wind speeds is available from DECC or there is a handy version here: http://www.rensmart.com/Weather/BERR.

Mapping and GIS datasets are available from many places on the web. A good place to start is: http://www.magic.gov.uk/.

Community Energy Online is a Government website, patchy at present but with some good links: http://ceo.decc.gov.uk/.

The UK trade bodies for wind power are RenewableUK (http://www.renewableuk.com/) and the Renewable Energy Association (http://www.r-e-a.net/).

There are useful support groups for wind power including Yes to Wind (http://www.yes2wind.com/) and the Pro Wind Alliance (http://www.prowa.org.uk/).

4.5. Existing projects

A good primer is to have a thorough look at the projects that are part of the Energy4All family, from Baywind in 1997 (which launched community wind power in the UK) to projects currently in planning:
http://energy4all.co.uk/projects.asp.

Some of these projects have their own extensive webpages with pictures, data and information about how they got off the ground.

For medium wind see Dingwall Wind Co-op – a 250kW turbine in Scotland:
http://dingwallwind.org.uk/.

You may find it useful to look at the planning documents submitted by other similar projects. Bear in mind that every project has special circumstances: some may have been able to afford to go the extra mile with planning applications due to grant support. There are currently very few single turbines under 500kW in the UK, and while there is a fair idea of what needs to go in a larger application, it will be a while before there is a standard level of detail for these medium turbines. Here are some projects where planning details are available online:

		Project link	**Planning link**	**Planning**	**Notes**
Berwick Community Wind Turbine (CORE)	850kW	http://goo.gl/VOYNiM	http://goo.gl/ugdOe	Approved Sep 2010	Community owned

Glyndebourne Opera House	850kW	http://goo.gl/ebVwE	Links on same page	Approved July 2008	Not community owned but interesting. In AONB
Awel Aman Tawe	2 x 1MW	http://goo.gl/7aPWc	Various from site	Approved Summer 2008	10 year battle, eventually secured grants
Bro Dyfi Community Renewables	1 x 500kW	http://bdcr.org.uk/	Links on site	First turbine approved 2003	Tenacious! On their second turbine
Sustainable Hockerton	225kW	http://goo.gl/ojr95	http://goo.gl/pHMOT (Link to summary)	Approved June 2008	Rare medium community turbine

For other renewable energy projects there is a useful map here: http://www.renewables-map.co.uk/index.asp

A number of groups who have successfully delivered renewable energy projects are now set up to work with new projects. The only wind project we know of that does this outside of those with close links to Sharenergy or Energy4All is Sustainable Hockerton (http://www.sustainablehockerton.org/) in Nottinghamshire but you may well be able to glean useful information and support from other renewable energy projects - Sharenergy can put you in touch with some in your area.

4.6.Finance sources

4.6.1. Grants

No Government sources of grant funding are available for community-owned wind, as the income from the Feed-in Tariffs are intended to be the only mechanism for funding these projects. Outside of Scotland and Wales, grants are likely to be hard to find and probably best kept for development costs. To find local and national sources of funds you can try: http://www.governmentfunding.org.uk/default.aspx

Your best bet may be to find a local source of funding: some parts of the country still have active funders for this kind of project. A good place to start is the local energy agency (see lists above) or the Sustainability Officer at your local authority - not all councils have one and their job title may be different but they are usually well informed regarding local funds.

In **Scotland** funds are available through CARES, which has both feasibility grants and development loans on offer: http://www.localenergyscotland.org/

In **Wales** funding is available through Ynni'r-Fro:
http://www.energysavingtrust.org.uk/Wales/Ynni-r-Fro

and Renew Wales: http://www.renewwales.org.uk/. Renew Wales is a good place to start as they have a network of local co-ordinators and mentors to get you up to speed.

There is also a new Welsh loan fund called the Community Energy Development Fund (CEDF) – there is no website for it at the time of writing but contact Robert Owen Community Banking: https://rocbf.co.uk/

You may also be able to get support from the Wales Co-operative Centre:
http://www.walescooperative.org/

England has the Rural Community Energy Fund (RCEF), administered by WRAP:
http://www.wrap.org.uk/content/eligibility-criteria-rcef

Like CARES, this provides small grants and loans for larger development work.

An urban counterpart to RCEF has been announced but is not yet underway at the time of writing – few viable wind projects are in urban areas unfortunately.

Until early 2014 co-ops were supported in their early development by the Co-operative Enterprise Hub. The problems encountered by the Co-operative Group have suspended this service at the time of writing – worth checking back on:
http://www.co-operative.coop/enterprise-hub/

4.6.2. Loans

Most of the main banks will now consider making loans to renewable energy projects, although many still do not have great expertise in this area and may not understand co-ops at all. One bank that does is:

Triodos Bank:
http://www.triodos.co.uk

Some smaller lenders target community energy groups:

The FSE group's Community Generation Fund:
http://www.thefsegroup.com/social-impact-funding/community-generation-fund

Co-operative and Community Finance:
http://www.co-opandcommunityfinance.coop/

4.6.3. Shares

Co-operatives UK now runs a website with advice for those contemplating a community share offer at: http://communityshares.org.uk/

It is also useful to have a look at other share offer documents – there are various sites which list these or market them. An eclectic list is maintained at http://www.shares.coop/share-offer-listing/ and Co-operatives UK have their own marketing portal at http://www.microgenius.org.uk/. Some other community share offers market via Ethex (https://www.ethex.org.uk/) or Trillion (http://trillionfund.com/).

5. Appendix: Exclusivity agreement

THIS AGREEMENT is made on the day of , BETWEEN:

(First) Name:

Address:

("the Owner") being the owner(s) of the land edged red on the plan annexed hereto ("the Site"), and

(Second) Organisation Name:

Registered Address:

Company or Society number:

("the Developer")

RECITALS:

(A) The Developer has had initial discussions relating to the potential development of the Site by the Developer as a wind farm (i.e. for the erection of one or more wind turbines to generate electricity).

(B) The Owner now wishes to carefully and properly consider the terms upon which the Developer propose to proceed (i.e. the negotiation and completion of an option agreement that would enable the Developer to call for the grant of a lease of the Site following and subject to the completion of various feasibility surveys and tests) whilst the Developer now wishes to examine the Owner's title to the Site.

(C) The Owner and the Developer have now agreed to enter into this Agreement to confer exclusivity upon the Developer in relation to the potential development of the Site whilst the negotiation of such terms and documentation and the review of the Owner's title to the Site are ongoing.

NOW THIS AGREEMENT WITNESSES as follows:

1 In consideration of the sum of £1 now paid by the Developer to the Owner (receipt of which the Owner hereby acknowledges) the Owner hereby grants to the Developer the exclusive right to continue and progress negotiations with it to enter into an option agreement to allow the Developer to investigate and assess the potential development of the Site (or any part thereof) as a wind farm and thereafter to call for the grant of a lease in an agreed form.

2 The Owner hereby confirms as follows:

(i) that as of the date of this Agreement neither it nor its advisors are directly or indirectly in discussions or negotiations with any third party relating to the proposed development of the Site (or any part thereof) as a wind farm and acknowledges that the Developer will be incurring costs in connection with the potential development of the Site as a wind farm in reliance of this representation;

(ii) that for a period of eighteen (18) calendar months from the date of this Agreement ("the Lockout Period") it shall not directly or indirectly solicit, enter into or continue negotiations with any third party in relation to the development of the Site (or any part thereof) as a wind farm;

(iii) that it will inform the Developer immediately of the identity of any third party who contacts it during the Lockout Period with a view to the develop the Site (or any part thereof) as a wind farm;

(iv) that it will as soon as reasonably practicable produce evidence of its title to the Site to the Developer and reply to any queries raised relating to the same as accurately and fully as possible;

(v) that it will not produce evidence of its title to the Site to any third party during the Lockout Period; and

(vi) that it will not allow any third party to inspect or obtain a survey or valuation of the Site during the Lockout Period.

3 the Developer hereby agrees as follows:

(i) that it will as soon as reasonably practicable produce a draft option agreement for lease and lease to the Owner or such solicitors as it may appoint for their consideration; and

(ii) that it will review the Owner's title to the Site as soon as reasonably practicable following receipt of the same from the Owner or its solicitors.

4 The Owner and the Developer hereby mutually agree and acknowledge as follows:

(i) that they shall both enter into negotiations for the completion of an option agreement for lease in good faith and use all reasonable endeavours to agree the terms of the same during the Lockout Period;

(ii) that this Agreement does not in itself constitute a binding contract in relation to the Site and no such contract shall be in place unless and until an option agreement for lease is entered into by the parties to this Agreement;

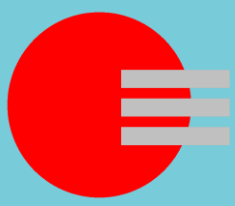
(iii) that neither shall disclose the existence or terms of this Agreement to any third party without first obtaining the consent of the other to any such disclosure;

(iv) that unless the parties to this Agreement agree to the contrary this Agreement will terminate and cease to apply on the date of expiry of the Lockout Period if an option agreement for lease in respect of the Site (or any part thereof) has not been executed and entered into by close of business on the said date; and

(v) that this Agreement is subject to and shall be construed in accordance with the laws of England.

NOTE: IN THE CASE OF JOINT OWNERSHIP, ALL OWNERS MUST SIGN

Signed by the said Signature: in the presence of this witness Signature: Name: Address: Occupation:	Signed by the said Signature: in the presence of this witness Signature: Name: Address: Occupation:



NATIONAL
ENERGY
FOUNDATION

Academy of
Champions
for Energy