



Community Renewable Energy Projects

Community Renewable Energy can provide sustainable, clean energy to local communities, with the added possibility of providing the community with an income by selling the excess energy produced back into the National Grid.

As the aim is to provide electricity (rather than just heat), technologies to consider include **wind turbines**, and **solar photovoltaics** which are commercially viable in the medium to long term. Other LESS Common technologies used include **biomass** and **hydro**.

The time it will take to recoup the original financial outlay depends on the individual project, particularly the cost of the feasibility and installation.

Before any community renewable energy project can be started planning permission has to be granted for any structures, and a feasibility study carried out. There are various organisations and possible grants available to help with these, together with the material costs of the equipment and installation.

Feasibility & Planning

Decide on the type of the renewable energy most appropriate for site – ie. a wind turbine, solar photovoltaics, or hydro or a combination.

In the case of wind turbines, feasibility is assessed using an **anemometer**. A potential site for a wind turbine is located and an anemometer sited for a period of time – which may be as little as 2 months, but realistically should be for a year or more. The costs involved vary depending on the site, the size of the anemometer and the duration of the study.

A good site needs an annual average wind speed of greater than 5 m/sec. This can be estimated using the [National Wind Speed Database](#) (NOABL).

The NOABL covers the entire country at 1km intervals. If the site that you have decided on is not close to a 1km point, choose a comparable site nearby (ie same height, aspect, outlook, size) that might be more representative. Also bear in mind that this average wind speed does not take into account local obstructions such as buildings, trees etc. A wind turbine ideally should be sited at a minimum of 100 m from the nearest obstacle but this obviously depends on the lie of the land and other extraneous conditions.

Presuming the wind speed is suitable, then check for other potential stumbling blocks – such as, airfields nearby, or other geographical features that might kill the plan at the outset.

Depending on the size of the community, one or two 15 - 20KW turbines should be sufficient.

There are a variety of manufactures and/or contractors that can advise your community on this. Here are a few links. Please mention Naturesave Insurance when you contact them:

- Segen – www.segen.co.uk
- Greenthinking – www.greenthinking.co.uk
- Next Generation Turbines – www.nextgenerationturbines.com
- Natural Generation - based in St Agnes, Cornwall. 01872 554 144. www.naturalgen.co.uk

If possible, make sure the hub height is not more than 15 m – this way the turbine(s) should not require the full environmental impact assessment (which can cost an additional £10,000 - £20,000). Write to the Local Planning Authority requesting the scoping requirements – these will probably include noise and archaeology.

The turbine should also be sited 250m from the nearest non-involved dwelling (you could find a friendly farmer to rent the site for a peppercorn rent). Any closer and if the noise level is greater than 35 DBA then you have to obtain further permissions.

If you do not require the full environmental impact assessment, then planning permission should take up to 3 months to come through. If the area is an "Area of Natural Outstanding Beauty" - ANOB, then quote "PTS22" in the planning application – which encourages embedded generation for renewables even in areas of outstanding natural beauty.

It is a good idea to get as much local support as possible including letters from all in the community involved.

To enable much higher levels of grant funding, set up a Not-for-profit company or a Company Limited by Guarantee.

Stand-alone or grid-connected system?

Small scale wind systems can be stand-alone or grid-connected. Stand-alone systems would require some battery storage and also an inverter to convert DC electricity to AC (mains electricity). They will also require a controller to divert power to another useful source (eg. space and/or water heaters) when the battery is fully charged. It is common to combine these systems with a diesel generator to act as a back-up during periods of low wind speeds.

If you set up a wind system where there is a grid connection, then the unused or excess electricity can be exported to the grid and sold to the local electricity supply company. The profit made can then be put into the company for maintenance of the turbine (insurance etc), and /or into a Trust Fund to help fund renewable energy initiatives for the users and surrounding households (for example, small grants to enable local people to purchase replacement, more energy efficient appliances, etc).

Companies that can provide feasibility studies include:

- **Heidra** – a company based in Mortonhampstead, can produce feasibility studies and install turbines – 01647 441220, <http://heidra.co.uk>
- **Segen** – National Company who specialise in, among other things, community wind projects – including assessment, planning permission, installation and helping with funding requirements. www.segen.co.uk

Suppliers

Once the type of renewable energy system that is most appropriate for the site has been decided upon and approved, there are several manufacturers of wind turbine / solar panel. Recommended wind turbines will depend on the size, site, grid /off-grid etc. Suppliers of wind turbine and/or other renewable energy systems include:

- Iskra - www.iskrawind.com
- WRE Ltd – www.westernrenew.co.uk
- Proven Energy – www.provenenergy.co.uk
- Natural Generation – www.naturalgen.co.uk
- Next Generation Turbines – www.nextgenerationturbines.co.uk
- Heidra (see above)
- Segen (see above)

Funding / costs

Once the feasibility study has been carried out and the planning permission acquired the funds required can be more accurately assessed. There are many options for funding assistance and grants of up to 50% of capital costs can be achieved. The cost of the turbine and installation depends on the size and location of the turbine. They can cost anything from £10,000 - £80,000 fully installed.

The scope and availability of grants for community renewable energy projects varies with government policy and location of the project. For example:

- [Low Carbon Buildings Programme Phase 2](#) – Government programme offering up to 50% of installation for approved renewable energy technologies.

There are several organisations in the UK who can help with community projects, including advice on funding, for example:

- **CAFE** – Community Action for Energy is a programme from the Energy Saving Trust that is designed to promote and facilitate local community based energy projects. The programme provides information, support, advice and training courses relating to community energy projects. Tel: 08701 261 444. www.est.org.uk/cafe

Whilst finding grants can take a large part of initial financial burden off, it may prove easier to cost up the project on the assumption that grants will not be available, that way any grants that transpire would be a bonus.

Once the turbine is up and running, you will still receive a bill, which needs to be offset against the income made from the electricity you generate and the ROCs (Renewable Operators' Credits) provided by the government.

Insurance

Once the project is up and running it is important to protect the assets that generate the electricity and provide you with an income. There are 4 main areas of insurance cover to consider, none of which are a statutory legal requirement, being:

- **Construction** – the contract works and liability emanating from those works. This cover is usually given by the renewable energy contractor involved in the project. The works are insured under a policy until the contractors "hands you the keys" as is any employers or public

liability emanating from their activities. Ask to see a copy of the chosen contractor's current insurance schedule before work commences.

- **Operation All Risks** – once the chosen renewable energy system is in place it is important to ensure that your insurer has increased the overall rebuilding cost of your own structure to include the cost of the system. In the event that stand alone community renewables company has been formed to manage the system then separate insurance should be taken out for material damage **and** the **public liability** emanating from the use of the equipment
- **Machinery breakdown** – when the system has been installed, tested and commissioned it will come with a maintenance warranty for at least 2 years. This may be provided by the manufacturer of the renewable energy equipment and/or the renewable energy contractor who installed it. There are certain types of breakdown which are not covered by the warranty such as gear box failure.

Naturesave can assist with all aspects of the insurances required

The above information is intended as a guideline to assist communities in pursuing their own project. Naturally those organisations offering advice and funding will change periodically. We hope that the information is of some use.

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