

PROJECT MODEL: NEW WIND GENERATION (GRID CONNECTED, ABOVE 1MW)

LOCAL ENERGY SCOTLAND

This project model is aimed at those interested in installing one or more new wind turbines, to be locally owned, on land either owned or leased by the installation owner, directly connected to the electricity grid. The project may also aim to secure a Contracts for Difference in the next round to guarantee export payments.



REQUIREMENTS

There are a few things you'll need to take your project forward.

- ✓ A commitment to invest time and significant effort in the project.
- ✓ A person with responsibility for, and capacity to, administer this project.
- ✓ The ability to secure low cost capital (on land or other assets), if required.
- ✓ One or more potential sites either in your ownership or that could be leased, and:
 - has a good wind resource
 - is not impacted by civil or military radar issues
 - does not have a history of mining or other underground works
 - does not have neighbours in close proximity
 - has good access from a road, preferably close to a major road
 - is close to grid infrastructure with available capacity.

Time		3-5 years
Cost		Very high
Effort		High
Benefit		High
Carbon		Very high

KEY CHALLENGES

Subsidy-free wind development is high risk if costs are above average. You will need to meet the above requirements due to several key challenges which we have identified below.

- Income generation without subsidy depends on high energy yields.
- Identifying the potential to mitigate radar issues can be very costly.
- Viability and lending are jeopardised where underground risks remain.
- Sensitive planning issues increase the cost of development.
- Neighbours must take a financial stake if noise is above set levels.
- Complex site access can increase delivery and civil costs significantly.
- Limited local grid capacity will likely mean high connection charges.

Site ownership or securing a formal agreement is critical to lowering the risk. Excluding sites with challenges will leave the best to be developed but it should be recognised that ideal sites may be difficult to find and secure.

The [CARES project viability modelling](#) illustrates potential.

ACTIVITIES

Preparing for installation

There is a lot you will need to do before you can install your wind turbine and we've listed these below. Apply to CARES for financial support during your preparation, if required.

- ✓ Contract with an appropriate consultant to review the potential site(s).
- ✓ If the site is leased, secure commitment or heads of terms from landlord.
- ✓ Potential viability must be determined early and should include:
 - discussing planning requirements with your Local Planning Officer
 - a desktop assessment of wind resource and turbulence
 - a desktop assessment of road and site access
 - consideration of all neighbouring properties (noise and flicker)
 - discussing grid connections with the Distribution Network Operator
 - a desktop assessment of geology and mining, if required.

For each site, the consultant should provide a written report including:

- the extent of any Environmental Impact Assessment required
- the potential for planning objections related to radar issues
- suitability of ground, access and relationship to neighbours
- any other key risks and challenges for each site
- an estimate of project scale, costs and programme
- options in relation to a future Power Purchase Agreement (PPA).

Use our [Invitation to Tender](#) templates to engage a consultant.

Delivery

You will need to carry out the following activities to get your project underway. Remember to apply to CARES for financial support during development if eligible.

- ✓ Contract with an appropriate consultant to develop the project further.
- ✓ Develop in stages, to address and mitigate risk and reduce abortive costs.
- ✓ Seek quotes from contractors for all site development activities.
- ✓ A lead consultant and/or Project Manager's role description should include:
 - maintaining all records, budget, programme, reports and risk register
 - identifying and selecting a preferred wind turbine(s)
 - full project design and specification including civil and electrical works
 - programming and delivery of all site and habitat surveys and assessments
 - preparing and submitting a comprehensive planning application
 - preparing and submitting a grid connection application
 - engaging with the landowner and neighbours, where applicable
 - defining future operations and maintenance requirements and costs
 - supporting the procurement of appropriate legal advice/work
 - supporting the project find suitable finance and financial advice
 - obtaining quotes and supporting the procurement of all contractors.
- ✓ Consider options for project finance; this can be from a mix of sources:
 - talk to lenders about project finance, personal or business loans
 - community organisation may seek grants and donations
 - consider crowd funding, share offers or community bonds.
- ✓ Agree a target programme with your consultant and contractor as appropriate.



Community Shares Scotland provides advice and support in raising community funding.

Due diligence and financial close

All forms of funding will require some level of diligence to be undertaken; the extent required will be defined by the organisations providing finance.

A third party will be engaged to review all project documentation; responsibility for funding this activity remains with the project and maintaining excellent project records will support this process.

Financial close is the effective completion of the diligence process. On financial close, a formal agreement is signed, thereby giving access to funds.

To support this process, our [Investment Ready Tool](#) can help you prepare all documentation for due diligence.



Implementation

There are several steps to implementing your project; we have listed these below.

- ✓ Confirm funding, any conditions, claiming procedure and cashflow provision.
- ✓ Agree your consultant's implementation stage scope of works, including:
 - confirming all consents are in place, and all conditions discharged
 - confirming grid connection dates and the payment schedule
 - chairing regular meetings, including risk register and programme review.
- ✓ Instruct your installer to begin, evidencing insurances etc prior to the site start.
- ✓ Promptly attend to queries, variations, unforeseen challenges and changes.
- ✓ At the appropriate time (close to or at completion) you will need to:
 - confirm insurance cover to operate from installation completion
 - contract your operation and maintenance requirements.
- ✓ Secure payment for generation exported to the grid. You could consider:
 - the Smart Export Guarantee (SEG), available to projects under 5MW
 - a PPA with an energy supplier
 - securing a Contract for Difference at auction.

HOW LOCAL ENERGY SCOTLAND CAN HELP

- ✓ **ADVICE** – We have a network of Local Development Officers across Scotland to provide regional advice and support, wherever you are.
- ✓ **RESOURCES** – Our free online resources, tools and good practice guides will help you along every step of your journey.
- ✓ **FUNDING** – we help you access the Scottish Government's Community and Renewable Energy Scheme (CARES) support and funding.

For more information, call Local Energy Scotland on **0808 808 2288**, email info@localenergy.scot or visit localenergy.scot

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