

Case Study – Large Scale Wind Cairnhill Wind Cluster

Client: James Norrie



Green Cat Renewables



Green Cat Renewables provided technical support from initial site identification, feasibility assessment, environmental assessment, planning support, detailed design, procurement and construction project management. This is initially a 3 turbine project which was constructed in 2009.

The key development issues associated with this project were;

- Civil Aviation Radar
- Grid connection
- Landscape and Visual Impact

However, through a process of thorough consultation and considerate project design a scheme that was acceptable to all of the consultees was developed. As this was a farm diversification project, great care has been taken to manage the risks in such a way that all of the potential show stoppers were dealt with before committing significant expenditure. This significantly reduced the potential for wasted effort.

The key requirements for a project of this nature are:

- Open areas of land heavily exposed to the wind
- Proximity to the 11kV or 33kV electrical supply
- No special environmental classification
- No special restrictions on use of the land

Even large modern wind turbines such as these can be accommodated in a relatively small land area, although they should be separated by at least 5 rotor diameters (~250m) from each other and a greater distance from third party dwellings (~400m to 500m).

Leasing land to commercial wind farm developers can bring in a rent of around £10,000 per MW per annum. However, if a farmer

develops the project himself then the income per turbine can be many times this level. A project of this sort will generate an income for up to 25 years. At present, electricity generated by wind power attracts not only a base level electricity price, but various enhancements due to it being a clean renewable source, giving a total price per unit of renewable electricity of between 9.5p/kWh and 23.5p/kWh depending upon size of scheme.

Key Data

No. Turbines: 3 (with further 3 applied for)

Turbine type: Enercon E48 (800kW)

Date Work Commenced: Feb 2006

Date of First Generation: March 2009

Annual Electricity production: ~7,500MWh



Development of a small wind cluster is a diversification opportunity for the farm business, providing an additional income stream from the land.

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