

Electrical Engineering Consultancy Services

Bespoke engineering solutions for the wind industry

Wind Prospect has been involved in the wind and renewable energy industry around the world for almost two decades.

We provide a complete set of technical engineering services to aid you in all of your wind farm construction projects, and provide an advisory service to assist at every step of the development process.

We have the experience and the staff to ensure that all necessary expertise is available in house to the high quality standards synonymous with the Wind Prospect brand.



Services at a glance

Pre-construction design

- Preliminary substation layout/ elevation drawings, single line diagrams
- Preliminary grid connection method/ costs/ feasibility study
- Connection application

Grid system operator services

- Optimal network development study with large scale wind power integration
- Load flow studies
- Fault level studies
- System stability studies

System operator negotiation

- Management of the connection offer process
- Review of connection offer: cost, programme, methodology, contestability
- Connection offer negotiation
- Dispute resolution

Integration into industrial installations

- Review project requirements and produce an outline/ functional electrical design
- Power quality studies
- Load/ demand power balance study
- Protection co-ordination studies

Wind farm construction

- Review project requirements and produce an outline/ functional electrical design
- Review contractors submitted studies and calculations
- Manage the Grid Code compliance process

Wind farm electrical design services

- Power losses/ cable sizing
- Grid transformer specification study
- Fault level/ circuit breaker sizing study
- Voltage fluctuation/ regulation study
- Harmonics study
- Power factor correction study
- Insulation coordination study
- Protection coordination study
- Grid code/ fault ride through capability study

Factory/ site witness testing

- Wind farm operation
- Grid code breaching investigation
- Nuisance tripping investigation



First hand experience

Our engineering business is built on knowledge and experience. Here are a few of our team.

Peter Kavanagh - Director



Specialisation: Wind energy project management and grid connections
 Years of experience: 9
 Key Wind Prospect experiences and responsibilities

- Project management of wind farms pre-construction and during construction
- Project management of grid connections of wind farms totalling over 250 MW
- Consultancy on electrical aspects of wind farm design and grid connection
- Liaison with utility companies during pre-construction and construction stages

Other experiences

- Project management consultant to Airtricity for 40 MW Coomacheo wind farm
- Project managed pre-construction and construction of 32.45 MW Midas wind farm
- Project managed grid connection of wind farms at 10 kV, 33 kV, 38 kV, 110 kV, 132 kV
- Project managed construction of 2 x 110 kV substations
- Advised on electrical infrastructure design and grid connection options
- Project manager for 110 kV connected, 57 MW Boggeragh Mountains wind farm
- Embedded Generator Representative on ESB Distribution Code Review Panel
- Member of Irish Wind Energy Association Grid Committee

Morgan Donnelly - Electrical Engineer



Specialisation: Wind farm grid connections
 Years of experience: 15
 Key experiences and responsibilities

- Progressing grid connections for UK wind farms
- Electrical engineering due diligence works
- Visual inspections of electrical works prior to energisation
- Electrical input into wind farm contract documentation
- Technical electrical assistance with wind farm installation management and works
- Grid connection feasibility studies and applications

Other experiences

- Offshore wind farm electrical design and authorised person duties during offshore wind farm energisation and commissioning at North Hoyle and Scroby Sands
- Project management for the design and installation of all electrical elements of Bowbeat wind farm

Dr Yazhou Lei - Electrical Engineer



Specialisation: Wind farm & high voltage power system PSS/E modelling
 Years of experience: 11
 Key experiences and responsibilities

- Wind turbine modelling and wind farm grid code compliance studies
- Wind farm electrical networks and protection designs
- Wind farm grid connection application technical and process management
- Power system planning and large scale wind farm grid integration studies

Other experiences

- Technical advisory services to clients
- Large scale wind farm grid integration study in Xinjiang Province, China
- China wind energy market studies
- South China 500 kV networks interconnection feasibility studies
- Validated numerous wind turbine PSS/E models for Eirgrid
- 1500+ MW wind farm grid connection management in Ireland, Northern Ireland and Wales
- 300+ MW wind farm construction & operation electrical lead

Mark Lawson - Project Manager



Specialisation: Wind farm electrical networks
 Years of experience: 18
 Key experiences and responsibilities

- Chartered engineer responsible for the project management of wind farm construction and pre-construction projects
- Experience includes engineering, procurement, management, site supervision and commissioning of large wind farm projects
- Involved in the grid connection of renewable energy projects totalling over 200 MW in capacity

- Technical advisor to Scottish Power on the 92 MW Blacklaw wind farm project and 16 MW Coldham wind farm project
- Contributor to the British Wind Energy Association 'Guidelines for Health and Safety in the Wind Industry'
- Other key responsibilities have included Senior Authorised Person, Health and Safety Coordinator and Lead Electrical Engineer for installation works at 60 MW North Hoyle offshore wind farm

Visit us online at windprospect.com
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