



Wind Power Connection and Operational Services.

To ensure the success of your wind farm project, we provide a range of services to support you at every phase of the project life cycle – from site selection, design and manufacturing, right through to operation.

Product Certification	Project Certification	Manufacturing Surveillance
Health & Safety	Marine Warranty Survey	Periodic Inspections
Due Diligence	Laboratory Services	Expert Reports
Training / Education	Management System Certification	Grid Connection
Project Planning Services	Coating Inspection Services	CE Marking
Condition Monitoring	Risk & Safety Management	

Specialist electrical services for wind energy projects in cooperation with FGH GmbH

The main aim in a wind energy construction project is the efficient and ecological integration of wind power into the electrical grid. The large-scale integration of offshore and onshore wind farms poses challenges for the various stakeholders involved. These range from the technical hurdles of generation, transmission and distribution (with respect to the contribution of wind farms to power quality and the grid stability) to commercial considerations of power trading and consumer satisfaction.

In matters regarding grid connection, operation and integration in the rapidly changing energy markets, it is necessary that all partners pool their expertise to ensure the highest standards of market solutions. To complement their portfolio, TÜV Rheinland and

FGH have set up a close cooperation in order to provide comprehensive services for the development and management of wind energy projects. These services include the verification and testing of grid code compliance as well as consulting services.

Our partners – your benefit

The close cooperation between TÜV Rheinland and FGH establishes the ability to offer comprehensive packages and products in the connection, integration and delivery of a source of renewable energy in the wind energy industry.



TÜV Rheinland together with FGH provide the following services:

Assessment and certification of grid code compliance:

- Certification of the electrical characteristics of single generation units and entire wind farms with respect to international grid code provisions.
- Compliance testing for IEC 61400 type certification.
- Set up or check of type testing plans according to IEC 61400-21 or country-specific standards.
- In-field inspections of the main electrical components and their parameter settings.

Validated simulation models for power generation:

- Development of accurate and dynamic power generation simulation models to investigate the system stability and contributions to the power quality of the wind farm.
- Validation of unit models in order to provide sufficiently representative simulations of entire wind farms to verify the grid code compliance.

Consulting and research on wind farm planning and system studies:

- Grid connection assessment.
- System impact studies with regional or system wide scopes.
- Expertise on enhanced wind turbine characteristics.
- Research on innovative aspects in wind power generation and grid integration.

Customized & compact setups for medium and high voltage equipment:

- Mobile LVRT and HVRT/OVRT-test laboratories.
- Test bench setups.

Training and competent teaching :

TÜV Rheinland in cooperation with FGH offer seminars, tailor-made training and knowledge transfer concerning grid connection, operation and the integration of renewable energy sources.



About TÜV Rheinland:

Founded more than 140 years ago, TÜV Rheinland is a global leader in independent inspection services, ensuring quality and safety for people, the environment, and technology in nearly all aspects of life.

About FGH:

FGH provides a full range of services for the integration of dispersed power generation units into the power grids. The FGH Certification Office, accredited for grid code compliance proofing according to ISO EN 45011, provides unit certificates as well as project certificates for national and international grid codes.

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