

## *Rotor imbalance/Vibration measurements*

# Solutions for the Mass and Aerodynamic imbalances

**A major cause of the dynamic problems found in wind turbines today is rotor imbalance. Routine inspections have shown that approximately 81 percent of the wind turbines, inspected without special cause, exceed their design limit values for rotor imbalance.**

Rotor imbalances may have different origins. They can be caused either by an uneven distribution of the rotor mass, called mass imbalance, or by deviations of the aerodynamic properties of the blades, such as blade angle deviations between the individual blades, called aerodynamic imbalance.

Our staff has been performing successful dynamic rotor balancing for many years. We have been developing efficient measurement and evaluation procedures including our own software and hardware. Clients benefit from excellent knowledge on the dynamic behavior of many different turbine types.



# Our services

## At a glance:

- Rotor balancing
- Vibration measurements
- Blade angle measurements
- Onsite evaluations
- Root cause analyses

## 8.2 WindScope – the specialists for Rotor unbalance/Vibration measurements

Windscope offers independent expertise on wind energy focusing on the optimisation of wind turbine performance. For many years, we have been working successfully in the wind industry, helping our clients to make the operation of wind turbines more profitable.

Our employees are world-renowned experts in dynamic rotor balancing and technical consulting. We have measured about 2000 wind turbines from more than 20 manufacturers, both onshore and offshore. We are internationally experienced, with references around the globe, working close with wind turbine manufacturers and owner/operators.

We are using high precision measuring systems for rotor imbalance measurement, laser-based blade contour measurement and optical blade angle measurement.

## About us

The 8.2 Group brings together experts with decades of experience and young thinkers dedicated to the sustainable value of renewable energy projects. For onshore and offshore wind energy, photovoltaics, biogas, grid integration and QHSE. The 8.2 network offers a comprehensive range of technical consulting services and inspections with independent expertise.

From the first tender, through quality assurance, to lifetime extension assessments, our services cover the entire life

cycle of renewable energy projects. The expertise generated over the last 20 years is based on around 40,000 inspections of wind turbines, 20 GW due diligence projects on- and offshore as well as photovoltaic projects. Furthermore, the 8.2 Group has been involved in almost all German offshore wind projects right from the start.

**As a client, you benefit from this unique wealth of experience through our broad knowledge base and the guaranteed quality level of our work.**



32  
offices



130  
Experts  
worldwide



40,000  
Technical  
inspections



15  
GW TDD Wind  
on-/offshore



4.2  
GW PV projects



5  
GW Condition  
Monitoring



## Contact

8.2 WindScope GmbH  
Kurfürstendamm 119  
10711 Berlin (Germany)  
Phone: +49 (0)30 86 39 02 80  
E-Mail: [windscope@8p2.de](mailto:windscope@8p2.de)