8.2 | The Experts in Renewable Energy

Wind Energy
Solar Energy
Biomass, Biogas
Grid Integration
Quality, Health, Safety & Environment

Lifetime Extension (LTE):
How can you operate your wind turbines beyond their design lifetime?

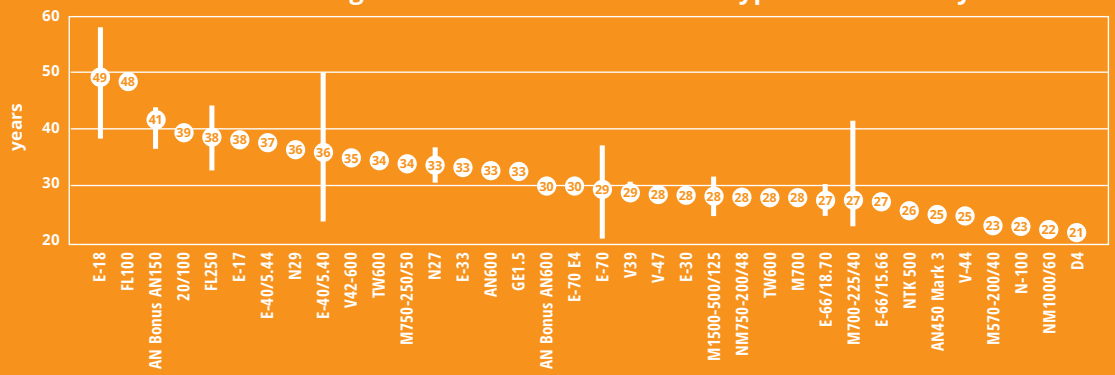
We assess the remaining lifetime of your wind turbines

The lifetime of a wind turbine is typically designed for 20 years according to the international standard IEC 61400.

However, differences between the design loads and actual loads on site can lead to the opportunity of operating the wind energy converter (WEC) beyond its designed lifetime. The assessment of the remaining lifetime of a WEC consists of an analytical assessment and a technical evaluation.

The individual overall lifetime can be calculated per main component through the use of an aero elastic simulation. The results serve as a basis for making strategic decisions. In addition, we recommend assessing the actual condition of turbines and rotor blades with a special focus on the structural integrity of each WEC and the weak points of the specific turbine type. Both, the results of the analytical assessment and the technical inspection are evaluated and combined in a final expert opinion on the total lifetime of the turbines.

Total remaining lifetime of different turbine types calculated by 8.2



8p2.de

Our services

- An individual analysis of each WEC considering the specific on-site conditions enables precise and reliable planning
- Calculation of the remaining lifetime per main component
- Weak point analysis per turbine type
- Precise estimation of financial and structural risks in case of site condition changes
- Advice on adjusted O&M concepts beyond design life
- The results of the simulation can be used to give advice on how to operate a WEC more safely and fine tune the operation mode
- The analysis enables operators, project developers and investors to plan individually and with a high reliability

In more than 600 projects we have shown that the simulated WEC can be operated past their design lives. The results lie between 21 and 49 years of total lifetime.

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
GWP PV projects

5
GW Condition Monitoring

Contact

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