ONSHORE WIND ENERGY
CAPABILITY STATEMENT

WWW.RAMBOLL.COM/ONSHORE-WIND
CONSULTANCY SERVICES WITHIN ONSHORE WIND

With a growing demand for energy and a pressure on global resources there is a need for innovative, sustainable, cost-effective and flexible solutions within wind energy.

Ramboll is one of the top-ranking engineering consultants in Europe. We provide individualised services, supporting our clients in wind energy project development and implementation processes. Ramboll has a strong focus on understanding our clients’ needs, and we strive to provide sustainable and long-term technical and commercial solutions to our clients.

In-depth knowledge and experience
With more than 30 years of consultancy experience from onshore and offshore wind projects, Ramboll has built up comprehensive knowledge and competencies within wind energy. Within the field of onshore wind, we have provided expert services to wind farms with a nominal output of +60,000 MW in more than 60 countries.

Access to global knowledge
With 300 offices in 35 countries, we strive to combine our local presence with our global resources and expertise. This means that our clients worldwide can get globally leading consultancy with an in-depth knowledge of local conditions.

Multi-disciplinary assistance throughout the project lifecycle
Investing in a windfarm requires both technical, environmental and commercial knowledge to make sure all risks are evaluated and mitigated to ensure project profitability short and long term. Ramboll has the expertise to support our clients from due diligence and environmental studies over planning and construction to commissioning and operation of the wind farm and can provide assistance at every step of the project. In Ramboll, our multidisciplinary teams complement each other to address our clients’ complex technical and strategic topics across engineering and management disciplines. Our focus is to make solutions taking into consideration the entire project lifecycle.

Cost-effective solutions
Within wind energy there is a constant demand for optimisation and innovation as cost reduction is a driving factor in the industry. In Ramboll, we follow market trends to be able to support our clients in developing new innovative solutions. Throughout the years we have been combining our technical expertise with our market understanding to develop new tower concept designs and foundation solutions for our clients.

SELECTED PROJECT REFERENCES

- Wettendorf-Bottendorf I/II, Germany - Owner’s engineering/project development
- Tafila onshore wind farm, Jordan - Owner’s engineering/project development
- Wind farm, Germany - Data base containing key data of >30,000 WTG installed or decommissioned in Germany
- Raskiftet wind farm, Norway - Owner’s Engineering and Technical Due Diligence
- Hüselitz wind farm, Germany - Performance analysis and optimisation with Gondellidar
- Dynamo wind farm portfolio, Germany - Technical Due Diligence for 12 existing projects
SUPPORT AND CONSULTANCY SERVICES

Ramboll provides support and consultancy services to our clients within all phases of a wind farm project. Our clients include utility companies, project developers and investors. We have expert competencies within infrastructure and transport, urban development, wind energy, power generation and power distribution and transmission.

Project management of complex projects

With growing market demands for flexible, sustainable and cost-effective solutions on increasingly complex projects, Ramboll is dedicated to delivering the best results by providing our clients with world-class project management competencies. Such competencies are essential to deliver a successful project for all stakeholders, and to reach satisfactory financial results. With our structured approach to project management, Ramboll has a safe path to success.

Ramboll has an overall ambition to be known as the consultancy and engineering partner that sets the industry benchmark for excellence within project management and innovation.

Strategic advisor

Over the years Ramboll has gained the experience required to act as a strategic advisor to our clients. We build our advice on in-depth knowledge of the different technical and operational aspects of wind farm projects in combination with a commercial insight gained from the many projects that we have been involved in.

RAMBOLL ONSHORE WIND IN NUMBERS

- 30+ years of experience in wind
- Has provided expert services to wind farms with a nominal output of +60,000 MW in more than 60 countries
- Technical assessments (TDD) on wind energy projects of +35,000 MW nominal power
- 350 people working with consultancy services within wind
- 2,000 environmental experts worldwide with EIA expertise
- Has performed >3,000 wind assessments and 1,000 environmental assessment over the last 20 years
- Has performed >150 measurement campaigns with LIDAR/SODAR equipment.

WIND & SITE

- Wind measurements (LIDAR/SoDAR/masts)
- Energy yield assessments (WASP/CFD)
- Wind farm calculation/optimisation
- Turbulence studies
- Loss calculation

ENVIRONMENTAL SERVICES

- Environmental and Social Impact Assessments
- Landscape impact
- Noise & shadow flicker impact
- Visualisation
- Icefall modelling
- Cultural heritage studies
- Visual oppressive effect
- Visibility analyses

ELECTRICAL DESIGN

- System studies
- Grid connection concept
- LV, MV and HV grid design
- Substation design
- Smart grid solutions

CIVIL & STRUCTURAL DESIGN

- WTG foundation design
- Geotechnical investigations
- Tower design
- Road & hardstands

DUE DILIGENCE

- Technical operation management
- Performance optimisation
- Lifetime extension
- Nacelle based LIDAR
- Inspections
- Condition monitoring
- Power curve measurements

PROJECT DEVELOPMENT SERVICES

- Layout & micrositing
- Feasibility studies
- Project engineering
- Cost optimisation
- Procurement & contracting
- Permit management
- Owner’s & Lender’s Engineer
- Repowering

ASSET MANAGEMENT

- Technical operation management
- Performance optimisation
- Lifetime extension
- Nacelle based LIDAR
- Inspections
- Condition monitoring
- Power curve measurements

FULL-RANGE WIND CONSULTANCY

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