



WIND ENERGY PROJECT DEVELOPMENT & SERVICES

Ramboll provides expert development, engineering and consulting services throughout the life cycle of on- and offshore wind energy projects.

Full-range service provider

Ramboll provides individualised services, supporting our clients in wind energy project development and implementation processes. The high degree of knowledge covering all project life cycle phases derives from more than 30 years of activity in the wind industry. With offices in 35 countries throughout the world, Ramboll is ready to assist clients in all locations.

Ramboll is a competent partner during the planning, design, permitting, and construction phase to commissioning of wind farms. Project development is a multidisciplinary task and an iterative process. Our colleagues from wind & site, environment, structural and electrical engineering and other departments within Ramboll, collaborate closely to deliver a successful project. Ramboll is an international full-range service provider. We have all

the required competencies in-house, enabling us to quickly present alternatives or assistance to our clients in case of unexpected obstacles and to deal with the emerging issues - this also applies to offshore and onshore.

Project services

Ramboll's scope of services covers all planning and engineering phases of a wind farm development process. Ramboll offers individual services, such as feasibility studies, site layout and engineering, permit and project management, as well as complete logistic concepts. Once the project has obtained the required permits, we advise our clients on how to deal with the permit conditions and adapt the designs if necessary. We define all necessary specifications for the tendering of all equipment and services needed for a smooth and on-time construction and commissioning. Our construction

monitoring and site supervision services ensure the highest quality of project execution.

Experience and competences

With our internationally experienced engineers, we are committed to deliver a professional project and interface management and on-site surveillance ensuring the highest quality and safety standards.

For further information, please visit www.ramboll.com or contact us directly:

CONTACT

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Project development

Our experienced professionals from all engineering disciplines, deal with the many challenges that can occur during wind farm development. Our approach to wind farm planning is tailor-made and respects all determining factors to find the best solution, having in mind the wind resource, state-of-the-art designs, environmental issues and permitting, the economics and the social aspects of a wind project. Ramboll's expert knowledge makes us world leading within these areas of offshore foundation and platform designs:

- Site identification and GIS studies
- Feasibility studies
- Micro-siting and infrastructure design (civil and electrical)
- On- and offshore foundation design, offshore platform design
- Energy yield assessments
- CAPEX/OPEX modelling and cost benchmarking
- Approval planning and permit management
- Project planning and scheduling
- Expert reports for permitting

- Repowering

Procurement

We cover the full process of procurement from strategic planning to contract award. Depending on our clients' needs we act as procurement manager or specialised procurement consultant.

We aim to optimise total-cost-of-ownership (TCO) contributing with our international market knowledge to all type of project agreements and suppliers. We deliver all services required, including:

- Procurement plans
- Tender documents
- Employer's requirements
- Evaluation documents
- Review of agreements
- Negotiations
- Contract implementation

Audits and technology

We audit wind energy projects that concerns the quality of product and processes. Furthermore, a dedicated review of technology can be performed in close cooperation with our management consultancy specialists. Our clients are OEM,

project developers and other wind energy stakeholders with special auditing objectives.

Owner's engineering

The internationally acquired expertise and the profound knowledge of the latest developments in technology, along with health and safety standards, constitute the basis for our engineering activities. Ramboll has an extensive track record of successful practice in international owner's engineering, construction management and on-site supervision and can offer expert knowledge in all aspects of engineering services:

- Executive design & specifications
- Factory acceptance tests
- Owner's engineering
- Site management
- Construction supervision
- EHS concepts
- Supply-chain concepts
- Logistic concepts
- O&M concepts
- Expert statements
- Project management



WIND FARM WETTENDORF-BOTTENDORF I/II PROJECT DEVELOPMENT SERVICE

CLIENT

K/S Hydrovind, Denmark

LOCATION

Wettendorf, Lower Saxony, Germany

PERIOD

2004 - 2006 (I) / 2012 - 2014 (II)

SERVICE PROVIDED

Management and operational implementation of all development stages from greenfield to commissioning.

WIND FARM RASKIFTET CONSTRUCTION SUPERVISION / OWNER'S ENGINEERING

CLIENT

Austri Raskiftet DA, Norway

LOCATION

City of Raskiftet, Norway

PERIOD

2016 - 2018

SERVICE PROVIDED

Supervision of the construction process with permanent on-site presence. Review of executive designs, technical lead in contract negotiations.

WIND FARM JWPC TAFILA PROJECT DEVELOPMENT / PROJECT MANAGEMENT / SITE MANAGEMENT

CLIENT

Jordan Wind Project Company PSC

LOCATION

Tafila, Jordan

PERIOD

2010 - 2015

SERVICE PROVIDED

Wind measurements, wind farm layout, environmental reports, tendering & awarding, contract negotiations, construction supervision.