



Wind farm

# Ground improvement and reinforcement for wind farms

Menard is a key player in soil improvement and reinforcement. We design and implement effective, innovative solutions with reduced environmental impact allowing our customers to base their projects on conventional shallow foundations. The proposed techniques aim to reinforce and improve compressible soils and are thus economical alternatives to deep foundations.

We put our geotechnical expertise at the service of the energy sector by offering soil reinforcement and improvement solutions for your wind projects adapted to each type of foundation (solid, hollow, with or without water).

**Less is  
MORE MENARD.**

Less is More Menard is a fundamental part of our DNA. This principle means using fewer resources to accomplish tasks and achieving greater development and growth through increased innovation.



## Study, realise, and consolidate

Menard provides a comprehensive turnkey solution by supporting its customers from the initial studies to delivering the required work for each wind project. Thanks to our integrated design office and equipment park, we can respond efficiently and promptly to all projects.

### 1. Analyse the project

Our engineers systematically conduct a study and sizing phase for each wind farm project. This involves analysing the soil characteristics and determining the permissible criteria for the foundations.

We then collaborate with geotechnical engineers and specialized structural designers to exchange this information.

### 2. Set up a reinforcement solution

Our analysis aims to propose the most suitable soil reinforcement or improvement solution while offering the best cost/performance ratio.

The solutions we implement for wind projects typically involve Controlled Modulus Columns (CMC). We can combine these solutions with infiltration wells.

### 3. Protect our stakeholders and our environment

We put quality, safety, and the environment at the heart of our concerns. We are committed to these issues through various initiatives:

- ⊕ Safety of workers on the site: mandatory PPE, shared vigilance
- ⊕ Reduction of environmental impacts: optimized design to reduce the quantities of materials used, local partnerships for our supplies, waste management, provision of an anti-pollution kit, and study of the carbon footprint.
- ⊕ Upstream production of the various documents necessary for our work: calculation note, layout plan, QAP, and HSE Plan
- ⊕ Implementation of a control plan to monitor our work

### 4. Participate in wind power repowering

Repowering, or replacing all or part of an installation to increase its performance, directly impacts the foundations of a structure.

Thanks to its technical capabilities, Menard can meet the requirements of second-generation wind turbines.



⊕ Soil improvement and reinforcement

⊕ Reduced environmental impact

⊕ Economical alternative to deep foundations

⊕ Turnkey solution: studies, optimized sizing, works

