

Specialized Logistics for the Wind Energy Industry

Wind Logistics Challenges



Wind turbines have dramatically increased in size over the past two decades, boosting efficiency in power generation to adapt to new environments and satisfy the growing US wind energy demands. However, these longer, heavier, and more dynamic wind components create new challenges in the supply chain.

Engineering Innovations



America’s transportation infrastructure was not designed for movement of cargo as large as modern wind components. Clearance envelopes have not evolved at the same rate as the increasing size of wind turbine components; to move these components via rail, specialized fixtures are required.

Today, innovations in engineering of fixture designs can expand the ability to move increasingly larger components within existing rail networks and keep pace with the ever-increasing/changing demands of wind component transportation.

Successful Transport

It is crucial to involve a broad cross-functional logistics team in the wind turbine component design phase to ensure the feasibility of safe and cost-effective transportation of completed components. Testing of both component and fixture prototypes can bring confidence to the design phase and ensure successful transportation to the final installation site.

WIND ENERGY FACTS



Wind energy provides a quarter of the electricity produced in eight states... and growing. ⁽¹⁾

Wind energy can avoid 327 million metric tons of CO2 emissions annually. ⁽¹⁾

Turbines are getting taller to reach faster, more constant winds higher in the atmosphere. The higher you go, the faster the winds and the more energy that can be produced! ⁽²⁾

The US has over 500 wind turbine manufacturing plants that produce a majority of our turbines. ⁽²⁾

A single commercial turbine can power 600 homes. ⁽²⁾

Most of the modern wind turbines have 3 blades which can reach speeds at the tip of over 320 kph (200 mph). ⁽³⁾

The largest wind turbine in the world is in the US in Hawaii. It stands 20 stories tall and has blades the length of a football field. ⁽³⁾

Sources: 1. The American Clean Power Association | <https://cleanpower.org> 2. Star Energy Partners | <https://www.starenergypartners.com> 3. Conserve Energy Future | <https://www.conserve-energy-future.com>

