# University of Maine Leads Innovation in Floating Offshore Wind Turbines with Potential for Massive Energy Generation



Researchers globally are focusing on developing floating offshore wind turbines, an emerging industry poised to harness wind energy from deeper ocean waters. This new technology skirts the limitations of fixed-bottom turbines, which cannot be deployed in deeper waters due to their reliance on seabed attachment.

The University of Maine is at the forefront of this innovation, with its advanced composites center conducting tests to ensure these turbines can withstand demanding ocean conditions. Anthony Viselli, the chief engineer at the center, emphasized the massive scale of these floating structures, which could be among the largest moving structures crafted by humankind.

Floating wind turbines present a robust solution for generating renewable energy from areas where traditional turbines are not feasible. According to the National Renewable Energy Laboratory, the potential wind energy over deep U.S. waters is estimated at 2.8 terawatts, enough to power double the current number of homes in the U.S.

The technology was demonstrated with the first operating floating wind farm off Scotland’s coast in 2017, while the U.S. has begun organizing auctions for offshore wind leases, such as those recently announced for the Gulf of Maine. These regions could contribute significantly to local home energy needs.

Despite the high costs associated with floating wind technology, companies like Gazelle Wind Power are developing innovations to make production more affordable. Others, like Norwegian energy firm Equinor and Danish developer Ørsted, are opted for traditional or alternative technologies citing cost or feasibility reasons.

The University of Maine is planning to leverage local resources to produce floating turbines domestically, suggesting broader economic benefits and applications. The state of Maine is also considering a new port facility to support the construction and deployment of these turbines.

This evolving industry not only holds promise for energy generation but also for environmental and economic developments as it progresses toward more efficient and sustainable production methods.