

## So What? Offshore Wind Resource Potential

Offshore wind is emerging as a promising renewable energy resource for a many reasons. The strongest, most consistent winds are offshore and in relative proximity to the shore. Wind as a fuel is both cost-free and emission-free. The U.S. Department of Energy (DOE) estimates that the wind resources along U.S. ocean and Great Lakes coasts are capable of providing 900,000 megawatts (MW) of electricity—almost enough energy to power the entire country ([U.S. Ocean Wind Collaborative](#)). The Multipurpose Marine Cadastre (MMC) provides access to wind potential datasets that can help users select a renewable energy wind resource site in the ocean.

But why should planners consider offshore wind resource potential when determining ocean use sites?

1. **Wind energy is the main focus.** The [MMC](#) can be used to investigate suitable locations for offshore wind energy generation. The offshore wind resource potential dataset identifies areas of high wind energy that would be ideal wind farm locations. The MMC wind resource dataset provides estimates of average annual wind speeds at 90m above the sea surface, the approximate hub height for offshore wind mills. These values are estimates for planning purposes. Once potential offshore wind sites are identified, developers will install a meteorological tower to verify these estimates by collecting on site measurements.
2. **Suitability analysis with multiple factors.** Wind resource potential may seem like the most important dataset, but it needs to be considered along with a variety of other datasets when making siting decisions and requesting approval. For example – bathymetry, marine jurisdictions, navigation routes, and existing infrastructure also need to be considered for various reasons. Comparing wind resource potential to other data sets can help identify potential conflicts and alternatives. A new suitability tool is being developed in coordination with [ESRI](#) that will make those comparisons easier; it will allow users to enter criteria (wind speed, bathymetry, and distance from navigation routes) and will find the most suitable site based on those criteria.

**Quick Caveats.** This dataset describes the wind energy potential (wind speeds) at heights of 90m above the water, the average height of a wind mill. After choosing a site, wind speeds need to be measured for verification; wind energy potential will depend on the season and the day due to changes in weather. Read the metadata for more details.