

<b>Project Number:</b>	648
<b>Category:</b>	Design/Construction of Fixed Bottom Turbines
<b>Date:</b>	November 2010
<b>Subject:</b>	Offshore Wind and Ocean Energy Installation Cost Estimation in the U.S. Outer Continental Shelf
<b>Performing Activity:</b>	Energy Research Group, LLC
<b>Principal Investigator:</b>	M. Kaiser
<b>Contracting Agency</b>	Bureau of Safety and Environmental Enforcement
<b>Summary:</b>	The purpose of this project was to establish a methodological framework to assess the installation and decommissioning costs for offshore wind projects and to parameterize these models to better understand these costs to assist BOEM and other agencies in determining bonding requirements. The researcher also developed a decommissioning cost estimate for the Cape Wind project.
<b>Key Findings:</b>	<ul style="list-style-type: none"> <li>• There are significant number of spread vessels available in the U.S., but a small number of liftboats and jack-up barges are already active in other markets. The Jones Act constraints may spur newly built vessels in the U.S.</li> <li>• Typical vessel day rates are presented.</li> <li>• Using a reference class approach, typical installation costs range from \$360,000 to \$1,080,000 per MW. Engineering model cost estimates for installation range from \$200,000 to \$550,000 per MW.</li> <li>• Decommissioning costs are about half of the installation costs, based on the engineering model. Leaving cables and scour protection in place reduces costs by about 15%.</li> <li>• The felling option for decommissioning significantly reduces costs.</li> <li>• Future estimates of decommissioning costs are dependent on vessel daily rates, which are highly uncertain.</li> </ul>
<b>Recommendations:</b>	<ul style="list-style-type: none"> <li>• Bonding requirements for offshore wind farms should be determined on a case-by-case basis using the models presented in the report, rather than typical unit costs.</li> </ul>
<b>Subsequent Studies/Activities:</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Report Link:</b>	<a href="#">AA</a>