

The Contribution of Environmental Siting and Permitting Requirements to the Cost of Energy for Marine and Hydrokinetic Devices

Reference Models #1, #2 and #3

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Summary

Responsible deployment of marine and hydrokinetic (MHK) devices in estuaries, coastal areas, and major rivers requires that biological resources and ecosystems be protected through siting and permitting (consenting) processes. Scoping appropriate deployment locations, collecting pre-installation (baseline) and post-installation data all add to the cost of developing MHK projects, and hence to the cost of energy. Under the direction of the U.S. Department of Energy, Pacific Northwest National Laboratory scientists have developed logic models that describe studies and processes for environmental siting and permitting. Each study and environmental permitting process has been assigned a cost derived from existing and proposed tidal, wave, and riverine MHK projects. Costs have been developed at the pilot scale, and for commercial arrays.

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