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Hydrokinetic Power

The Electric Power Research Institute recently completed a mapping and assessment of hydrokinetic resources in rivers of the continental United States. The assessment, part of an effort by the U.S. Department of Energy to characterize U.S. hydrokinetic waterpower resources including river, wave, tidal, ocean thermal, and ocean current, found that these undeveloped river resources could provide 3 percent of the nation's annual use of electricity.

The assessment analyzed 71,398 river segments across the 48 contiguous states and additional river segments in Alaska. It yielded a total theoretical resource estimate of nearly 1,400 terawatt-hours per year for the continental United States, which is equivalent to approximately 25 percent of annual U.S. electricity consumption.

River hydrokinetic generation produces electricity from the flow of water in rivers without the use of man-made structures to impound or divert water flow, as is the case with conventional hydropower. River impoundment or diversion in addition to habitat alteration and impaired movement of migratory fish are important environmental concerns constraining development of conventional hydropower. With hydrokinetic projects, many of these environmental impacts are reduced or eliminated. These environmental advantages are big reasons behind the interest in generation with alternative, relatively immature hydrokinetic technologies.

To date, six firms hold 55 Federal Energy Regulatory Commission preliminary permits for inland river hydrokinetic projects. Free Flow Power holds 38 of these preliminary permits with a combined, proposed capacity of 4,200 megawatts. All but one of these proposed projects are on the Mississippi River. Northland Power Mississippi River holds 12 preliminary permits on the Mississippi River with a combined, proposed capacity of 809 megawatts. The Issaquena County Board of Supervisors holds one preliminary permit for a proposed, 5-megawatt project on the Mississippi River in the state of Mississippi.

Despite the environmental advantages, hydrokinetic projects face a challenging environmental review process. Environmental review of waterpower projects and stakeholder expectations evolved in the context of existing conventional hydropower. Existing, conventional hydropower facilities undergoing relicensing have a reliable revenue stream and a 30- to 50-year environmental track record to fund and inform environmental review. For hydrokinetic projects, funding and empirical information about environmental impacts are scarce because the technology does not have a long history of performance data upon which to draw and the projects are not yet operational.

Electricity Pricing – June 18, 2013 Com Ed Average LMP Electric Price

Time Period	Average per Kwh
June, 2012	\$.03089
July, 2012	\$.04303
Aug, 2012	\$.03112
Sep, 2012	\$.03034
Oct, 2012	\$.02829
Nov, 2012	\$.03327
Dec, 2012	\$.03081
Jan, 2013	\$.03111
Feb, 2013	\$.03219
Mar, 2013	\$.03665
April, 2013	\$.03821
May, 2013	\$.03501
Jun 1–Jun 17, 2013	\$.03066

Extended Temperature Forecast:

Chicago Area

	Tue	Wed	Thu	Fri	Sat
High	71	73	77	82	80
Low	55	58	69	68	63

