



## Water Provides an Ocean of Opportunity for Clean Energy

As researchers continue their search for new sources of clean energy, their attention has turned to the Gulf Stream. Rushing at 8.5 billion gallons per second, the Gulf Stream represents a potential non-stop flow of new energy.

**Florida Atlantic University** researchers plan to test a small turbine later this year. They say that the currents could one day be used to produce as much power as 10 nuclear plants and supply one-third of Florida's electricity.

The university received a \$5 million grant from the state in hopes of developing technology that big energy companies can utilize to offer clean efficient energy. As of now, there are currently no commercial projects directed toward ocean currents.

"We can produce power 24/7," said Frederick Driscoll, director of the university's Center of Excellence in Ocean Energy Technology.

Researchers hope that while the initial cost to begin the process may be high, the currents will allow for a cheaper source than fossil fuels. But many things remain unknown, such as the "Cuisinart effect" by which the spinning blades could pulverize the creatures of the ocean.

David White of the Ocean Conservatory said that due to the lack of actual testing in the ocean, the environmental effects are currently unknown.

"We understand that there are environmental trade-offs, and we need to start looking to alternative energy and everything should be on the table," he said. "But what are the environmental consequences? We just don't know that yet."

Federal Energy Regulatory Commission spokeswoman Celeste Miller said that they have issued 47 permits for ocean, wave and tidal energy projects. However, most of these permits only allow researchers to study an area's potential rather than apply equipment.

"It's the best location in the world to harness ocean current power," Driscoll said of the 30 mile wide Gulf Stream.

As an alternative, on the West Coast, researchers are looking at waves as a possible way to generate energy. For example, Canada-based Finavera Renewables has received a FERC license to test a wave energy project in Washington state, which will include four buoys that could generate enough energy to power 700 homes.

Roger Bedard of the Electric Power Research Institute said the organization found that these projects could only be able to supply about 6.5 percent of modern electricity needs.

"We've got a limited amount of flat sandy bottom on the Oregon Coast where we can put out pots and where we can fish, and the wave energy folks are telling us they need the same flat, sandy bottom," said Nick Furman, executive director of the Oregon Dungeness Crab Commission. "It's not the 10-buoy wave park that has the industry concerned. It's that if it's successful, then that park turns into a 200- or 400-buoy park and it just keeps growing."

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