



## Wave Energy Converter (WEC) Barrier

### The Problem

The high energy density of surface seawater, with a density approximately 830 times that of air, makes wave energy, an attractive energy source. There are currently a number of different strategies to convert wave energy to electricity. These are deployed offshore, nearshore or onshore. However, such devices suffer from one or more limitations, such as, low efficiency, high deployment cost, high maintenance cost and susceptibility to damage during heavy weather.

### The Solution

A novel capability to capture the vortex flow inside the breaking wave to be focused and rectified into a smooth/fast flow, which makes power conversion efficiency better. The wave energy converter unit is integrated at the end of a tapered duct formed inside a concrete caisson. This allows more waves to be captured and turned into energy. Also, installation is made easier/safer since the turbine can be first mounted on the concrete caisson before the caisson is put onto the seabed.

### Applications

- Coastal Wave Energy Conversion
- Tsunami Barrier

### Benefits

- Higher wave energy conversion
- Safer to install and maintain
- WEC protected from storms

### Keywords

WEC, wave energy converter, ocean energy, alternative energy, tsunami barrier

### Opportunity

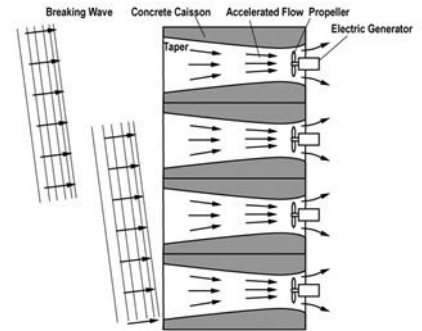
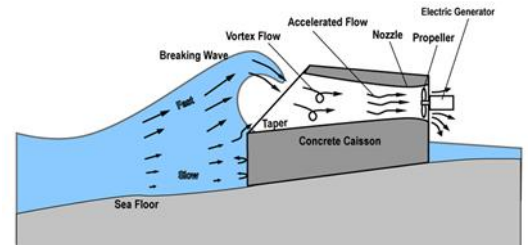
- Licensing

### Patent Pending

### For more information

Business Development/Technology Licensing Section

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Wave Energy Converter integrated with concrete caisson