

Tidal Potential and Plans For The Cook Strait

Once we had spend the day traveling from new Plymouth to Auckland we stopped at a methane plant where some of my classmates and I gave our speeches on aspects of New Zealand's energy industry.

First we have to know that a tidal strength the power that can be captured from the energy in the tides produced by the gravitational pull of the sun and moon. The type of tide a region might experience depends highly on its the geographical location. An so, because of where it is the Cook Strait, located between the north and south islands, is arguably the best site globally to generate tidal energy and is estimated to have an upper limit of 15000 MW, more than what the entire population uses now. Realize that the 94% of New Zealand's Sovereign territory is ocean.

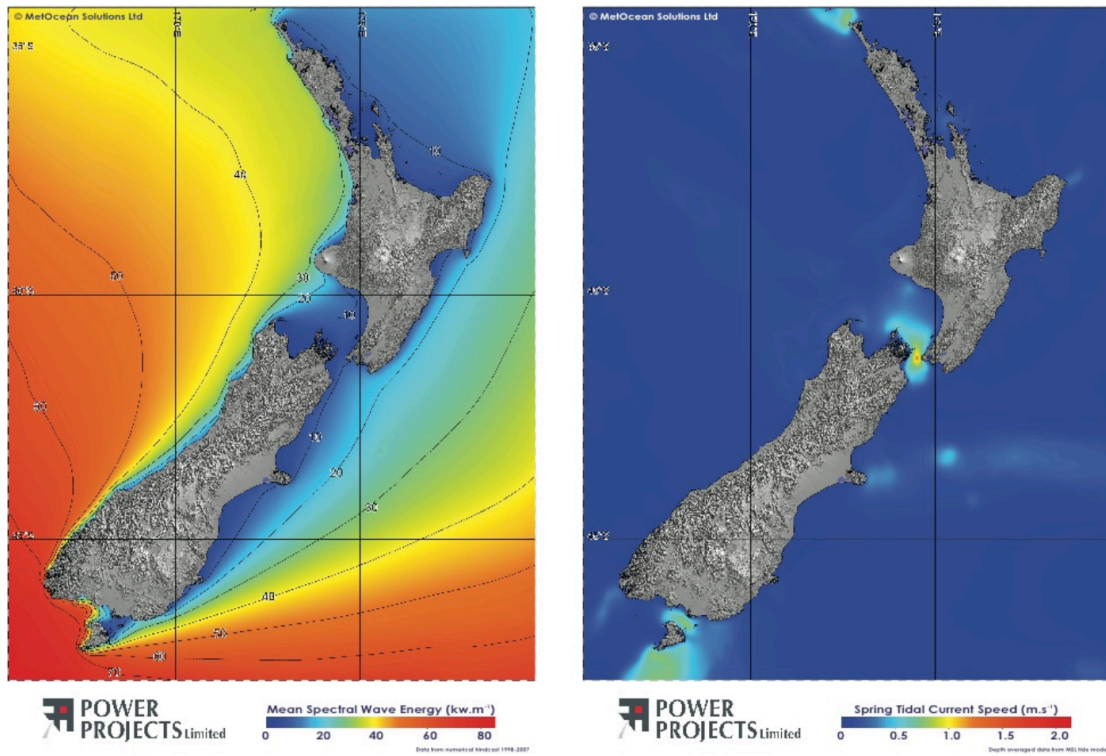
Awatea, the Aotearoa wave and tidal energy association, a New Zealand organization was established in 2006 to accelerate and advocate for the marine energy industry in New Zealand, including research, energy generation, marine services and fabrication. Awatea has plans on having a global marine energy center used as a hub in the cook straight joining the latest technology with researchers and industry involved with the development of the Cook Strait.

As of 2016 a 200mw plant was proposed in Kaipara Harbor One thing stopping installation or implementation of bigger plants is the unknown costs the come with creating generating infrastructure and maintaining it in a place with limited resources but Awatea has plans to make tidal energy a huge proponent of NZ total energy by as early as 2025

There is a competition going on by MetOcean Solutions for proposals for evaluating a number of turbines in parts of the strait from 200 to 2000 mw along with

evaluating environmental impacts and how an installation could impact tides and currents through the strait.

Tidal energy has a bright future in New Zealand and trust me from my time in the water, the waves in New Zealand was really powerful!



Left: Wave resource chart for New Zealand (PPL & MetOcean Solutions 2008), Right: Tidal resource chart for New Zealand (PPL & MetOcean Solutions 2008)