

COOK STRAIT TIDAL POWER POTENTIAL & PLANS



**Photo of a Wind Farm at Raglan, NZ*

While on our way to New Plymouth, NZ I talked about the tidal power potential that is found on the Cook Strait which falls in between the north and south islands of New Zealand. First, we need to state what tidal power is. Tidal power is obtained by capturing the energy in the tides produced by the gravitational pull of the Sun and Moon. The type of tide you might be looking at depends highly on the geographical location. The Cook Strait in NZ is an exceptional location due to having tidal flows that are among the strongest in the world. Reasons for this are tidal resonance

and the fact that the tides rise and fall opposite to each other producing tidal currents that can reach up to 5 knots.

In April of 2008, the first consent for the installation of tidal turbines on the strait was approved. With a cost of \$10 million for the whole project. Further research has been done, and it is estimated that the Cook Strait has the potential to generate up to 12 GW of power, more than one and a half times the required power by the whole country.

Plans in New Zealand regarding tidal energy are currently overlooked by AWATEA. AWATEA is the national association for the representation of industry and research interests in marine energy and its uses. Its primary purpose is to accelerate the development of the marine energy industry. The Kaipara Harbor, one of the largest harbors in the world, works as a channel that leads to the Tasman Sea. Its also unique geography has caught the attention because of its potential for underwater turbines. Although, there is still a lot of debate regarding the environmental impacts caused by this type of activity.



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