

CONTEXT

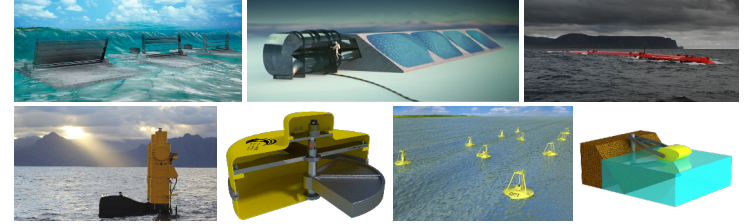
Marine Renewable Energy



National Power Grid and the Blue Economy



Marine Energy Harvesting Technologies



can power

by way of

What?

Technology Readiness Level (TRL) - How ready a technology is

Technology Performance Level (TPL) - How well a technology performs (under technical, economic, social, environmental, ecological, and safety considerations)

Why?

TPL supports developers by identifying potentially problematic areas early.

TPL helps identify the best technology development trajectory (green is better than orange).

TPL provides investors with guided expert judgement of the promise of a technology.

TPL helps select, and drive convergence to, the most promising technologies.

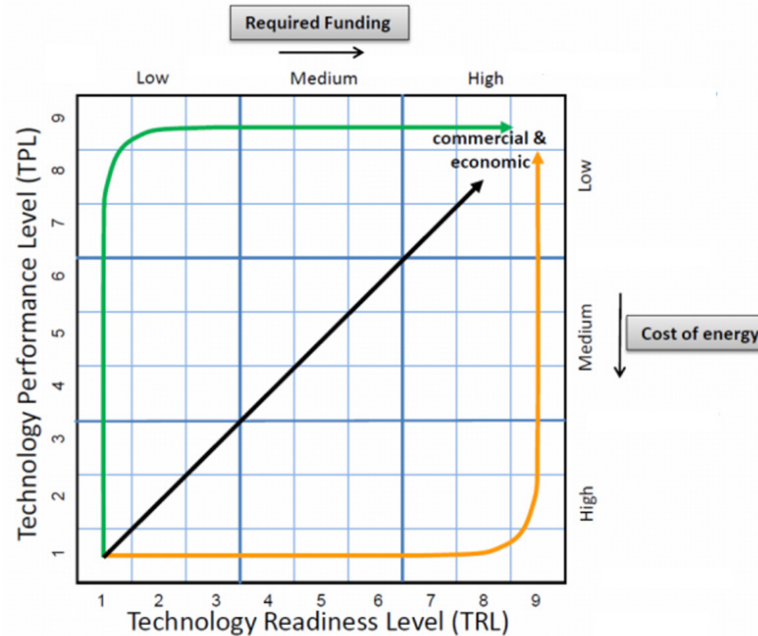
How?

In partnership with industry and international collaborators, a TPL assessment methodology for grid-connected applications has been developed wherein metrics under 7 different categories have been formulated, weighted based on their relative relevance, and combined to yield a composite score.

The methodology has been implemented in an Excel Tool. A public-facing TPL Assessment Web Tool will be released this year.

PROJECT OVERVIEW

TPL	Characteristics
9	Competitive with other energy sources without special support mechanism.
8	Competitive with other energy sources given sustainable support mechanism.
7	Competitive with other renewable energy sources given favorable support mechanism.
6	Majority of key performance characteristics & cost drivers satisfy potential economical viability under distinctive and favorable market and operational conditions.
5	In order to achieve economical viability under distinctive and favorable market and operational conditions, some key technology implementation improvements are required.
4	In order to achieve economical viability under distinctive and favorable market and operational conditions, some key technology implementation and fundamental conceptual improvements are required.
3	Minority of key performance characteristics & cost drivers do not satisfy potential economic viability.
2	Some of key performance characteristics & cost drivers do not satisfy potential economic viability.
1	Majority of key performance characteristics & cost drivers do not satisfy, and present a barrier to, potential economic viability.



Source: Weber, Jochem. ICOE 2012

Technology Performance Level Assessment: Wave Energy Converters