Million-dollar Wave Energy Research Project in Australia

The Australian Federal Minister for the Environment, the Hon Greg Hunt MP, has announced that alongside the University of Western Australia (UWA), Carnegie WaveEnergy Limited (Carnegie) will soon start investigating the optimal number, size, arrangement and location of wave energy converters in order to minimise the cost of installation and infrastructure while maximising power output. The project, which has been supported by AUD994,000 in funding from the Australian Renewable Energy Agency (ARENA), aims to reduce the cost of wave energy converters.

To achieve this, the following outcomes will be produced:

1. New design guidelines and tools for how to optimally place wave energy arrays along coastlines.
2. Guidelines and tools to identify and design optimal secondary mooring line systems.
3. A probabilistic foundation design method for wave energy converters.
4. An integrated approach using the three points above to optimise wave energy array location and arrangement optimising power output, while minimising foundation cost.

Carnegie chief technology officer, Jonathan Fievez, said the research will focus on the interactions between wave energy, convertor location, array configuration, bathymetry and geotechnical characteristics to reduce costs. The outcomes of this project will then be applied to the development of Carnegie's CETO 6 technology.

Advantage Over Other Renewables

Mr Fievez added that despite the fact wave energy possesses unique characteristics that offer an advantage over other renewables, the production cost remains significantly higher. One effect of this study will be to optimise foundation placement and use with the aim of reducing the overall cost of foundations for CETO projects.

Detailed agreements for this Project are expected to be finalised and signed over the coming months.

Carnegie is also working with UWA's Centre for Offshore Foundations Systems on a separate Australian Research Council (ARC) linkage project to research and develop more efficient anchoring systems. Both projects leverage UWA's capability for developing and proving innovative anchoring solutions for offshore applications.