

Wavegen

“We chose Flowmaster, as our fluid systems simulation package, due to its versatility, ease of use and its ability to successfully integrate with our current 3D - CAD and CFD design packages. Flowmaster has also given us the ability to link to a mooring simulation package, completing the Wavegen design Suite”

Henry Jeffery, Design & Development Engineer, Wavegen Design Group

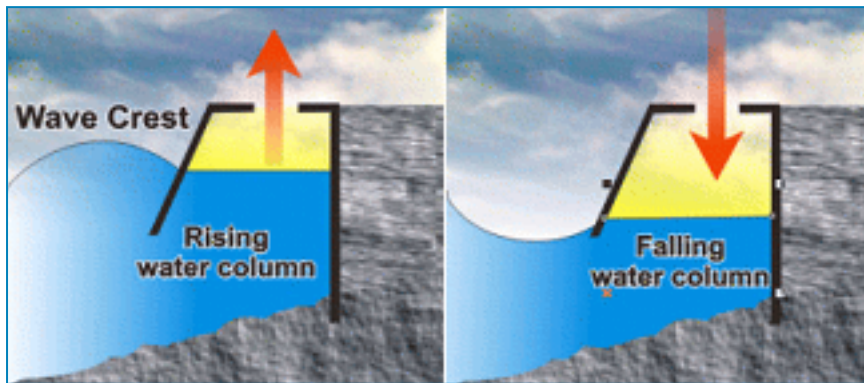
Wavegen - Harnessing the Power of the Ocean with Flowmaster.

As world leaders of commercial wave powered electrical generation technology, Wavegen are pioneers in research, development and manufacture of several innovative marine powered systems. They offer a range of energy modules to enable their clients to exploit the unlimited wave energy resources in the shoreline, near shore and offshore environments.

In collaboration with Queen's University of Belfast, Wavegen has developed LIMPET, a modularised 500kW shoreline device. The collaborative effort now focuses on the installation of a 500kW device to be located on the Scottish Island of Islay followed closely by international island installations. In 1995 this company installed the world's first ever 2MW wave energy module.

Wavegen uses the Oscillating Water Column (OWC) principle in its wave power plants, capturing waves with a combination of Wells Turbines and induction generators to convert the captured pneumatic power into electricity.

To fully exploit its market position, Wavegen were looking for a simulation tool that could quickly and easily simulate the enhanced control of the turbine feed system for the development of a new range of high-pressure water driven generator systems.



Principle of the oscillating water column

The LIMPET (Land Installed Marine Powered Energy Transformer) is a second-generation 500kW shoreline Wave Energy Collector located off the west coast of Scotland.



250kW Wells Turbine rotor assembly showing the fixed blades

Flowmaster was selected due to its flexibility with the utilisation of COM enabling the simulation of varying pitch feed valves, which compensate for fluctuating feed pressure. The addition of the new Flowmaster mechanical components will also enable the simulation of the high-pressure pumps drive mechanism.

www.wavegen.co.uk