

# ROBOTIC JUGGLER™ WAVE ENERGY CONVERTER

VASSILIOS VAMVAS

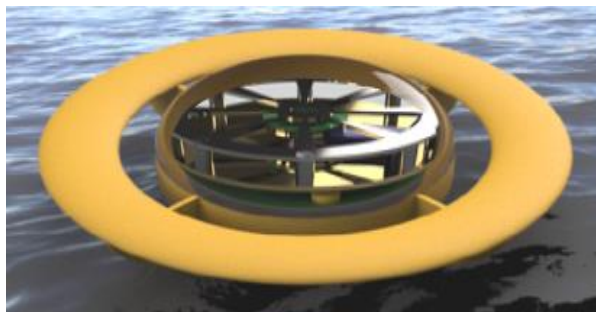
Founder & CEO Enorasy LLC, 7 Davis Rd, Bedford MA, vassosvamvas@enorasy.com

Enorasy LLC is the inventor and developer of the Robotic Juggler™ (RJ) ocean wave energy converter (WEC). The RJ WEC utilizes an eccentrically rotating turbine/generator to capture wave energy and convert it directly to electricity. Its hull, which has the shape of an oblate spheroid with circular symmetry, encloses the entire power production mechanism, maintaining it completely “dry”. RJ is constructed by conventional materials and components only. The robotic aspect of the device enables the turbine to carry out 360° rotations per wave, in multiple wave environments, while the geometric characteristics of the hull are limited to surround and support the PTO. Wave tank testing of a scaled prototype shows that a 1MW rated RJ corresponds to a 20m diameter hull with an average height of 4m. The combination of the turbine’s continuous 360° rotations with the small hull size reduces the current state-of-the-art WEC LCOE by an order of magnitude. The U.S. DOE honored RJ with “Merit” in a recent EERE/FOA competition and characterized the device as “unique and innovative” with the potential to “advance WECs in the MHK industry into a major source of renewable energy”.

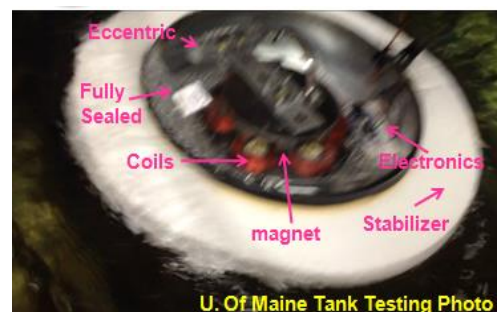
U.K.’s Energy Technology Institute (ETI) has reported that “(wave energy) needs drastic innovation”, as it is “ten times more expensive than other low carbon alternatives”. (<http://www.eti.co.uk/programmes/marine>). RJ not only exceeds ETI’s LCOE requirements but also provides with robustness, durability and easy transportation to power production locations, in addition to low CAPEX and OPEX, minimal maintenance and eco-friendliness.

Enorasy LLC is committed to “unlock” ocean wave energy and extract substantial power for the grid and underwater defense applications.

Optionally, RJ’s power output can be directly supplied to Enorasy’s novel HRSSG™ (Heat Recovery Storage Steam Generator), part of a new breed of Combined Cycle Power Plants (CCPPs) with revolutionary flexibility, start-up times, efficiency and low carbon footprint, which enhance CCPPs’ new role in the contemporary energy mix.



ROBOTIC JUGGLER™



U. Of Maine Tank Testing Photo  
RJ PROTOTYPE DURING TANK TESTING