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Energy Dilemma in South Africa

- * Paris climate agreement signed by more 170 countries at the UN headquarters.
- * Southern Africa suffers from intermittent power disruptions as demand outstrips supply and affects economic growth.
- * South Africa is heavily reliant in coal-based power generation system and great strides are made investing in renewable energy through independent power producers.



OWACO

Wave Energy Converter

- * **Wave Energy** is an immense resource that could potentially replace large proportions of electricity produced by Carbon Dioxide emitting coal fired power plants.
- * Wave energy high **energy availability**, **high power density**, predictable and a good prospect can be foreseen for its industrial application.
- * If less than **0.1 % of the renewable energy** within the oceans could be converted into electricity, it would satisfy the present world demand for energy five times over. The maturity of this technology will contribute towards **decarbonising** economies .



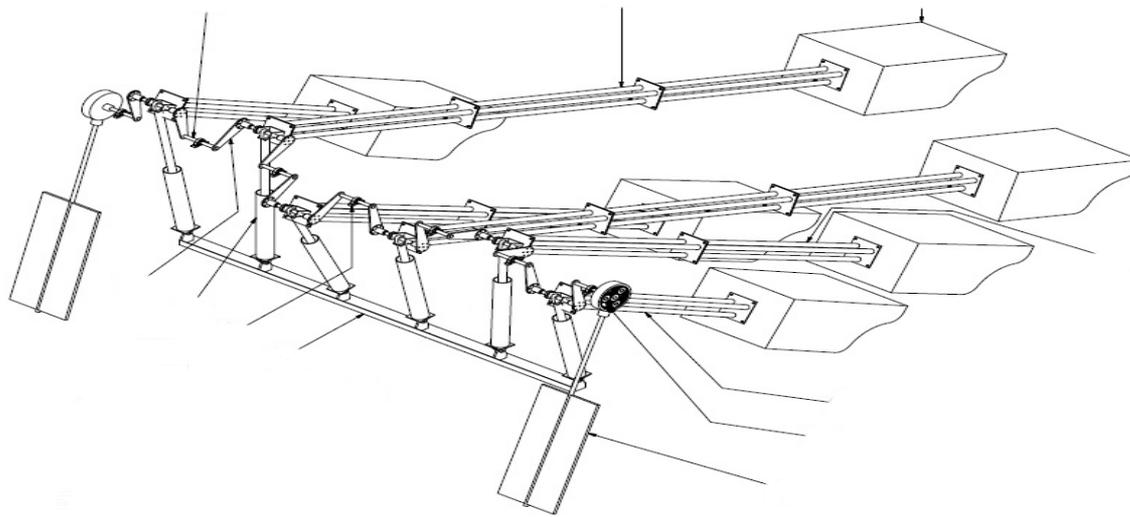
How It Works

Wave Energy Converter

- * OWACO relates to a system for generating power by **harnessing the energy of waves** .
- * a support structure; a plurality of wave energy transducers, each transducer comprising a buoyancy module for harnessing potential energy of the waves, the module is configured to ride upon the waves as they pass through the water; and at least one float lever arm extending from the float;
- * The drivetrain comprises a crank assembly mounted on the support structure and journalled for rotation thereon and the PTO system.
- * A hydraulic motor driven through a speed increment gear system is coupled to the electrical generator.



How It Works Technology



The exploration of wave energy as a renewable energy is proving to be an innovative solution for electricity generation. Key to this technology is its zero fuel function and constant output capability.



Project Progress

- * Completed and tested a laboratory scale prototype for functionality.
- * Environmental Impact Assessment is currently being conducted.
- * Currently developing a scaled unit, a 5kW machine that will be tested in real sea conditions in the east coast of Durban, South Africa.
- * Detailed designs and production for a full scale commercial unit is being conducted.



Future Prospects and possible partnerships

In pursuit of industrialising the South African economy partnership is envisaged in the following areas

- * active feedforward feedback control system, capable focusing and of capturing wave climate data.
- * Manufacturing of umbilical cables sourcing suitable of the power generation sets.
- * Sourcing generation equipment , transformers and associated products.