Sea waves as renewable resource in new energy converter design

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Sea waves are a renewable and inexhaustible resource found in abundance across the planet. But efficiently converting sea wave motion into electrical energy has been challenging, in part due to the difficulty of compensating for the relatively low speeds and irregular movements of ocean waves.

Researchers from the University of Beira Interior in Portugal have designed and simulated a new energy conversion device that addresses both these challenges (i.e., low speed and irregular movements).

Their proposed device consists of a floating body attached to a new type of conversion generator, called an electric linear planar switched reluctance generator (LSRG), which can convert wave energy directly from the wave-induced, up-and-down motion of the device's moving part. In a paper accepted to the American Institute of Physics' *Journal of Renewable and Sustainable Energy*, the authors claim the proposed generator has the advantages of high power density and robustness, as well as easy modeling and construction.

More information: "Design of a new linear generator for wave energy conversion based on analytical and numerical analysis", *Journal of Renewable and Sustainable Energy*.

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