

## **C-10: Low cost device to extract wave energy**

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Many different devices have been developed to convert wave energy to electrical energy. Most of them require high initial capital expenditure and still others have operational difficulties.

This paper surveys promising devices to extract energy from ocean waves around Sri Lanka. A device which is suitable for generating about 100W of electricity for a home in a rural coastal village in Sri Lanka has been selected. It is hoped to manufacture the first device costing less than Rs.10,000 and requiring minimum maintenance.

Basically this device is a large float which goes up and down with the approach of waves in the sea near the coast. One end of a long rope is connected to this float. The rope passes through 2 rotating wheels and at the end supports a counterweight. The up and down motion of the float is made to rotate the wheels of the gear box. The gear box is so designed that power is absorbed in both to and fro motion of the rope. The speed of rotation of wheels is increased through a set of gear wheels and the output shaft is connected to an alternator which generates electricity.