

Generation of Electrical Power from Ocean Waves

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Problem Definition

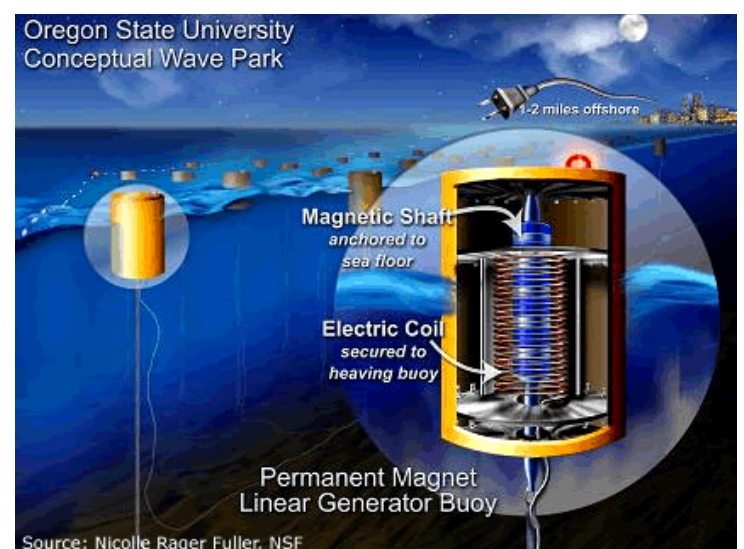
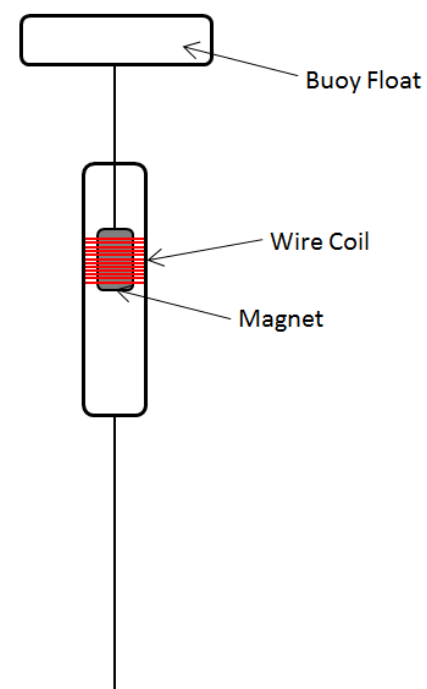
- Ocean current can be used to generate electrical power.
- USA has more than 12,000 miles of coastline that could be used for power generation.
- Power from ocean current, also referred to as tidal power, could be a better solution than wind or solar energy.
- We don't have constant wind or continuous sunlight to give us consistent power. Tidal power, on the other hand, could be used to generate power 24/7 – ocean current doesn't stop. Why not use it?

Solution Specifications

- Operation Description:
 - The casing that holds the wire coils is tied to the floor of the ocean.
 - The magnet is attached to the buoy by a rod that slides up and down.
 - This movement of the magnet through the coils generates electrical energy.
- Component Specifications
 - '35' ft of 28 gauge coated wire.
 - 'Rare Earth' magnet
 - PVC pipes

Competitive Analysis

- Oregon State University is researching this type of electrical power generation.
- My model shows that this method doesn't generate the greatest amount of power (compared to wind, solar, and hydro- power). And currently, it isn't really efficient.



Future Improvement Ideas

- More wire
- Stronger/Larger magnet
- Longer period

