U.S.ARMY Net Zero

Energy Water Waste

Oregon National Guard Exploring Uncharted Territory in Wave Energy

The Oregon National Guard (ORNG) is conducting a study to determine the feasibility of developing wave energy converters (WEC's). One option could be wave energy buoys that would double as Surface Danger Zone (SDZ) boundary demarcation and warning devices. Several different types of WEC's are being reviewed for use and compatibility in the area of ocean approximately 4-square nautical miles that borders Camp Rilea Armed Forces Training Center in Warrenton, Oregon. Ideally, once the appropriate sea trails and other testing have been completed, a few devices could be installed to provide up to 1.5MW of capacity for the electricity needs of training site.

The ORNG also plans to utilize the Army Compatible Use Buffer (ACUB) program in order to establish a Renewable Energy Corridor around the SDZ.

The rising and falling of the waves causes the buoy to move freely up and down. The resultant mechanical stroking is converted via a power take-off to drive an electrical generator. The generated power is transmitted ashore via an underwater power cable

Contribution to Net Zero

U.S.ARMY NET Zero

Current Scorecard Metrics

- *Energy Intensity Reduction: 13.0%*
- *Renewable Energy Use: 2.0%*
- *Green Buildings: 100.0%*

Wave Energy Trust attesting, "The Oregon coastline is among the few places in the world that possess the four key elements necessary to tap into wave energy today: an abundance of energy generated by ocean waves border to border, internationally recognized experts leading the effort to develop the technologies to capture and convert wave power, the ability to supply that power to the grid, and sea ports ready to build, maintain and deploy wave energy conversion devices."

Future plans could include additional wave energy devices and even offshore wind energy capable of providing 10-50 MW of capacity for the needs of the community.