A REVIEW ON TECHNOLOGY BASED ON WAVE ENERGY CONVERSION

Dr. Varun Kumar Singh*

*Associate Professor, Department of Applied Science (Chemistry), Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email Id- drvarun.engineering@tmu.ac.in

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ABSTRACT

Ocean waves are a vast, mostly untapped energy resource, and the potential for collecting energy from waves is enormous. Research in this field is motivated by the need to fulfil renewable energy goals, but is relatively immature compared to other renewable energy technologies. This study presents the overall state of wave energy and analyzes the device types that reflect current wave energy converter (WEC) technology, especially concentrating on work being done inside the United Kingdom. The potential power take-off systems are defined, followed by a study of some of the control methods to improve the efficiency of point absorber-type WECs. There is a lack of consensus on the optimum technique of collecting energy from the waves and, while past innovation has typically concentrated on the idea and design of the main interface, issues emerge about how best to optimize the power train. This essay ends with some recommendations of future advancements.

KEYWORDS: Energy, Technology, Power, Resources, Wave Energy.

REFERENCES:

- 1. H. Polinder, M. A. Mueller, M. Scuotto, and M. G. D. S. Prado, "Linear generator systems for wave energy conversion," : https://www.researchgate.net/publication/27342929 Linear, 2007.
- **2.** V. Boscaino, G. Cipriani, V. Di Dio, V. Franzitta, and M. Trapanense, "Experimental test and simulations on a linear generator-based prototype of a wave energy conversion system designed with a reliability-oriented approach," Sustain., 2017, doi: 10.3390/su9010098.
- **3.** Z. Han, Z. Liu, and H. Shi, "Numerical study on overtopping performance of a multi-level breakwater for wave energy conversion," Ocean Eng., 2018, doi: 10.1016/j.oceaneng.2017.12.058.
- **4.** L. Wang, J. Isberg, and E. Tedeschi, "Review of control strategies for wave energy conversion systems and their validation: the wave-to-wire approach," Renewable and Sustainable Energy Reviews. 2018, doi: 10.1016/j.rser.2017.06.074.
- **5.** J. Falnes and A. Kurniawan, "Fundamental formulae for wave-energy conversion," R. Soc. Open Sci., 2015, doi: 10.1098/rsos.140305.
- **6.** M. Takao and T. Setoguchi, "Air turbines for wave energy conversion," International Journal of Rotating Machinery. 2012, doi: 10.1155/2012/717398.
- 7. L. Huang, F. Yue, M. S. Chen, and M. Hu, "Research on a field-modulated linear permanent-

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magnet generator for wave energy conversion," 2017, doi: 10.1109/ICEMS.2017.8056221.

- 8. Z. Y. Zhang, H. X. Liu, L. Zhang, W. C. Zhang, and Q. W. Ma, "Study on the performance analysis and optimization of funnel concept in wave-energy conversion," J. Mar. Sci. Technol., 2018, doi: 10.1007/s00773-017-0504-4.
- 9. T. Konno, Y. Nagata, M. Takao, and T. Setoguchi, "Radial turbine with airflow rectification system for wave energy conversion," 2009.
- 10. N. Vukajlovic, V. Katie, D. Milicevic, B. Dumnic, and B. Popadic, "Active Control of Induction Generator in Ocean Wave Energy Conversion System," 2018, doi: 10.1109/EPEPEMC.2018.8521902.