

## Design and fabrication of power generating treadmill

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### **ABSTRACT**

This paper aims to take advantage of treadmill's wasted electrical energy during a person's workout and utilize the energy for charging electrical appliances. The energy expended on a treadmill during the exercise is all wasted. In order to take advantage of the wasted energy, it could be harnessed by a power generator and stored in a battery bank. The electrical energy generated during the exercise on the treadmill could be utilized to power electronic devices and appliances. The attached power generation machine will not interrupt a person's workout flow and it can be attached to any treadmill due to its friendly design. Wasted energy is harnessed in this research by a non-traditional manner of using shaft and wheel method. A multi-meter is used to measure the voltage and current and power is then calculated from the readings recorded. Tests have shown that the prototype machine is able to fully charge a 3096 mAh smartphone in 135 minutes and the phone could be fully charged for 2 charging cycles. This power generating machine is showing a good implementation for the Sustainable development Goals (SDG's).

### **KEYWORDS**

Energy harvesting; Power generator; Treadmill; Using wasted energy

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