

Cassandra Horton
Hydropower vs. Wind Power

The purpose of my experiment was to see if Hydropower or Wind Power is more efficient. These results could assist engineers in their design requirements when choosing an alternative energy source and construction workers determine what to build. To do this I designed and built my own waterwheel and wind turbine. After assembling my waterwheel and wind turbine it was time to do the actual experiment. I connected a multimeter to each contraption and measured the amps and voltage for each. I did three trials for both the wind turbine and waterwheel. The original power force of the water pump was 24.00 watts. In the first trial the waterwheel produced 0.17 watts of electricity resulting in an efficiency of 0.71%. The second trial resulted in a 0.9% efficiency with the waterwheel producing 0.22 watts. Lastly, the waterwheel produced 0.21 watts with an efficiency of 0.88%. As for the wind turbine, the original power of the fan was 31.25 watts. In the first trial the wind turbine produced 0.036 watts leading to an efficiency of 0.11%. 0.037 watts were produced during the second trial. This automatically led to an efficiency of 0.12%. In the third and final trial 0.036 watts were created, causing an efficiency of 0.12%. For all the trials the waterwheel proved to be more efficient. Therefore, hydropower is more efficient than wind power. I would like to thank my stepfather, Ed, for helping me build the waterwheel and wind turbine.