

Design Research Experiment

To make a good turbine, we found that incremental changes can drastically affect the final power output. A variety of factors contributed to the functionality of a turbine, including wind speed, blade pitch, blade span, and tip chord. Higher wind speed (m/s) generated more energy (watts). Additionally, there is a narrow range of the optimal blade pitch, and more or less than that is not as ideal. Blade span does not significantly affect power production, and there is a relatively large optimal range for blade span. The smaller the tip chord was, the more power was produced. However, the tip chord did not vary the power output significantly.