



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

Name(s) Ruchir Baronia	Project Number 35650
Project Title Harnessing the Power of Wind Turbines on Moving Vehicles	
Objectives/Goals The objective is to efficiently generate energy by taking advantage of wind resistance using wind turbines on moving vehicles, and to find the optimal position, optimal speed, and the optimal incline for generating maximum energy on moving vehicles. Methods/Materials A mini wind turbine was placed above the vehicle (using moon roof) to generate wind energy, and the energy generated was recorded using a multimeter as the car drove from 20-40 mph, the test was repeated at different inclines (uphill, downhill, and flat road), and finally the whole test was repeated twice using different sides of the vehicle (using vehicle windows). Results Energy was efficiently generated in all trials, and the turbine on the top of the vehicle at the highest speed going downhill was able to produce the most energy. Conclusions/Discussion I found out that the maximum amount of energy was generated by placing wind turbine on the top of the vehicle going downhill. However, when vehicle goes uphill maximum energy was generated on the sides. This experiment and its results can be used to generate energy using vehicle motion. My experiment can also be utilized to control the speed of the vehicle while generating energy at the same time e.g. during downhill movement of a vehicle, wind turbines can be used to control the speed and generate energy at the same time.	
Summary Statement Generating energy using wind resistance during vehicle motion	
Help Received My dad bought supplies and both of my parents drove me multiple times to perform this experiment.	