

# CWSF 2012 - Charlottetown, Prince Edward Island



## Adrian Au, Nathan Heuvel

### Exhaustive Energy

**Challenge:** Innovation

**Category:** Intermediate

**Region:** Rideau-St. Lawrence

**City:** Front of Yonge, ON, Cardinal, ON

**School:** Brockville Collegiate Institute

**Abstract:** The modern automobile is very inefficient, with losses of energy throughout the vehicle. We constructed a Tesla bladeless turbine which would be powered by the exhaust of a car to recover some of this lost energy. We then measured how the application of this turbine would effect the performance of the engine when the former was used to drive an electric generator.

### Biographies

Adrian - I am 14 years old and in grade 9 at the Brockville Collegiate Institute (BCI) in Brockville, Ontario. In my spare time I enjoy constructing electrical devices eg. electrical circuits. I also like to construct mechanical and robotical devices. I enjoy all my different classes at school, especially math and science. If I go to university I would like to take classes in mechanical and electrical engineering. This is my first science fair project with a partner and my third time participating in my regional and Canada wide science fair. I was interested in a specific type of turbine known as a Tesla turbine because it operates in a much different...

Nathan - My name is Nathan Heuvel. I ride and rebuild dirt bikes/allterrain vehicles and tinker with electronics. My current projects are rebuilding a 1977 100cc motor bike. My past projects were rebuilding a 82cc dirt bike and rebuilding a pocket bike. I wish to build an electric car and a gasifier motor bike. Unlike other kids I do not get an allowance so if I want money I have to earn it myself. I work very hard to make the money I need for my projects. Any spare time I have I use on my projects, I find tinkering fun. I love green energy and environmental gadgets. One of my favorite things to do is science fair; for the last 2 year I made it to Cana...

### Awards

### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Nuclear Waste Management Organization	\$300
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 300