

# CWSF 2017 - Regina, Saskatchewan



## Paul Drakos

### The 'Helical Water Coil': A Residential and Commercial Thermoelectric Generator

**Challenge:** Innovation

**Category:** Intermediate

**Region:** Bay Area

**City:** Oakville, ON

**School:** Hillfield Strathallan College

**Abstract:** My "Helical Water Coil" uses Thermoelectric Generation to produce electricity from wasted heat energy. Previously, I demonstrated that my original "Water Coil" could generate electricity through the temperature differential existing in hot and cold water lines. Through further study and evolution, my current design can power DC blower motors used in furnaces and hot water tanks and can be incorporated into rechargeable battery back-up systems.

#### Biography

My name is Paul Drakos. I am a grade 9 honours student at Hillfield Strathallan College in Hamilton, Ontario. I enjoy playing basketball and golf and am a member of my school's Student Council, Model United Nations team and grade 9 band. I have always had a keen interest in science and engineering. My project is a continuation from last year in which I demonstrated the ability to produce electricity from the temperature differences existing in our commercial and residential water lines. I have continued to work on my prototype "Water Coil" and have enjoyed the scientific process of improving my overall design. My evolved "Helical Coil" design is now able to produce more electricity and demonstrates significant potential in our efforts to develop greener technologies. Working on my device has taught me a lot about the scientific process and increased my understanding of the value of trial and error. My advice to future candidates is to choose a topic that interests them and to not be discouraged by an initial design that doesn't perform as well as anticipated.

#### Awards

#### Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$2 000