

## CWSF 2007 - Truro, Nova Scotia



### Oliver Hatheway, Darren Rodenhizer

#### The Economizer: Harnessing Waste Heat Using a Stirling Engine

**Division:** Health Sciences / Automotive

**Category:** Senior

**Region:** South Shore

**City:** Bridgewater, NS, New Germany, NS

**School:** Park View Education Centre

**Abstract:** The purpose of this project was to explore multiple technologies in order to harness wasted heat energy in a novel way. This was accomplished by constructing a Gamma Stirling Engine, which runs on a temperature differential. The engine converted heat to kinetic energy, then into electrical energy. The engine was then incorporated into an automobile design. In conclusion, it is possible to harness heat-energy.

#### Biographies

Oliver - My name is Oliver Hatheway, and I am from Bridgewater, a town about an hour's drive from Halifax, Nova Scotia. This is my second year at CWSF. My hobbies are piano, surfing, wake boarding, sailing, running, hockey and snowboarding. I run cross country and track & field at my high school, as well as play on the varsity hockey team, and also will be a member of the jazz band and combo next year, playing the piano. I am also a full I.B. diploma candidate. My community activities consist of teaching sailing at the local yacht club, and volunteering at my church as an altar server. Notable awards consist of the bronze medal my partner and I won at...

Darren - I am a member of athletic clubs such as the division one hockey and soccer teams at my school. I am also involved in school clubs such as the Robotics East club, and I am a co-president and founder of the school science club. I am involved in my community in various ways. I have participated in a Curl for Cancer event, in which I raised money through fundraising, and I also canvass for the Canadian Cancer society every year. I am also an active member of my church, where I enjoy serving food during meal events. In the summer, I work as a swimming instructor, and play summer soccer for the Valley United tier one soccer club as a goaltender. I ...

#### Awards

#### Value

Petro-Canada Peer Innovation Award - Senior - Atlantic Sponsor: Petro-Canada	\$200
Honourable Mention - Automotive - Senior Sponsor: AUTO21	\$100
<b>Total</b>	<b>\$300</b>