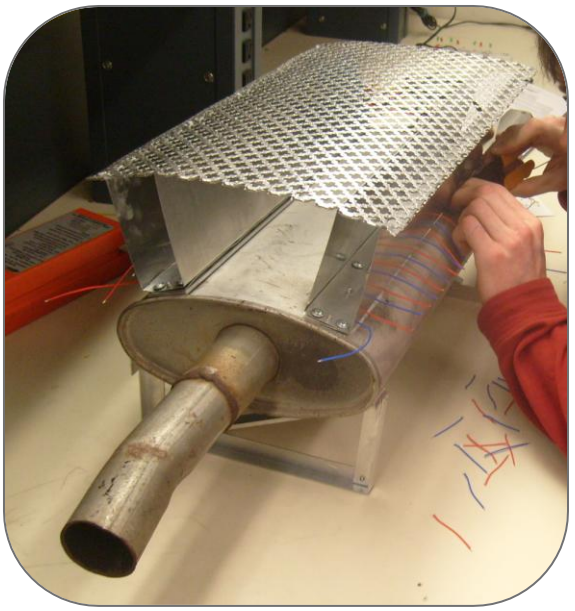
T.E.C.H.xhaust

Thermo**E**lectric **C**onverter for **H**eat

Extraction of Energy Resources from Automobile Waste Heat

Energy Problem

Energy from burning fossil fuels is not utilized to its full potential. **60% of global energy available from burning fossil fuels is wasted as heat**.



TeamHEAT Solution

TECHxhaust is a portable, practical, and green device which generates electricity from waste heat. TECHxhaust converts a vehicle's waste heat through a simple modified muffler device in the exhaust system.

Advantages of TECHxhaust:

- Low purchase and installation costs
- TECHxhaust increases the energy extracted from fuel in vehicles
- TECHxhaust has no moving parts: simple to manufacture, highly durable, maintenance free, and requires no modifications to the vehicle.
- **TECHxhaust consumes no additional fuel.**
- TECHxhaust's estimated COGS is $250 with a sale price of $400.

Market Opportunity

- There are approximately **260 million registered vehicles** on national highways.
- The **Obama administration has appropriated more than $6.3 billion** to increase energy efficiency.
- For harvesting energy at low-temperature heat, the current **competition is very limited**
- A **green label and competitive advantage**.
- Markets:
  - TECHxhaust is a green alternative for every muffler replaced during routine maintenance, projected at 1 in 5 vehicles every year.
  - TECHxhaust will evolve as a standard option in a new car just like an air conditioner.
  - TECHxhaust can be installed in commercial trucking fleets

TECHxhaust technology developed by TeamHEAT has broad applications for **any** waste heat source from fossil fuel combustion. TECHxhaust is an immediate, viable, and profitable application of TeamHEAT's research into the individual, commercial, and industrial potentials of heat energy harvest. Power plants, steel mills, cement kilns, laudromats, and many other heat sources are future markets for TECHxhaust.

TeamHEAT

TeamHEAT is an interdisciplinary team with experience in electrical, mechanical, economic, and business specialties.

Project Lead	Jonah Rankin	CE '11
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Our Competitive Advantage

	T.E.C.H.xhaust	Alternator
Easy to install	⚡	
Consume zero gasoline	⚡	
No carbon emission	⚡	
Payback over time	⚡	
Broad applications	⚡	