

50kW Combined Heat & Power Generator

Category: CHP
(combined heat & power)

Status:
Under Development,
Equipment Procurement

Proposed Timeline:
2013 & 2014

Project Needs:
Funding - \$50,000 estim.
Student Interns
Project Mentor or Manager
Engine Controller



Project Brief

Description: this project will take an existing 50kW induction generator chassis and control panel (formerly driven by a sterling engine manufactured in Ann Arbor, MI) and we will retrofit it to be driven by a 1.9L Volkswagen TDI diesel engine with a bi-fuel control system. The waste heat from the unit will be captured for a combined heat & power, or CHP, installation.

Aims & Objectives: produce a functional CHP system running on diesel & natural gas to be installed in a campus building HVAC system.

Budget Estimate: over \$100,000 in equipment has already been secured. An estimated \$50,000 is still needed for parts, (including engine controls), installation & student labor.

Resources Available: tools & work space at the CERC and support from original unit manufacturer.



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Equipment Already Procured: 50kW induction generator, chassis, diesel engine, bi-fuel control system, touch-screen HMI display, & power meter.

Deliverables or Outcomes: if successful and approved by OU Facilities Management, the unit will be installed in a campus building to provide heating and electrical power.

Major Tasks:

- select & procure engine controls
- install diesel in chassis
- install engine & bi-fuel controls
- program test & validate the engine controls & operation
- install unit in a campus building



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