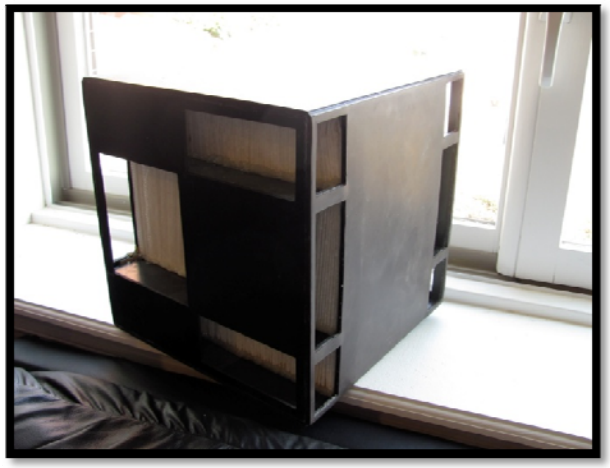
ENERGY WALL:
Triple Purpose Cores Produced by Automated Ultrasonic Manufacturing Process

Impact: Traditional total ventilation recovery systems utilize rotating wheels, but have a history of discontinued use due to their energy demand, contribution to poor air quality, and exhaust air cross-contamination. Energy Wall LLC innovative ceramic membranes allow heat and water vapor in, while blocking CO_2, nitrogen, oxygen, and particulate matter. The systems are also passed the UL 900 fire/smoke tests, and reduce spore viability up to 82%. Energy Wall is low maintenance, has no moving parts, and actively cleans the air of bacteria and mold growth, resulting in superior indoor air quality.

Project Overview: The Energy Wall team plans to build an ultrasonic bonding and folding machine to efficiently manufacture the Energy Wall systems. The new machine will capably manufacture a 12'x12" core every 15 minutes. The team will then install the fully automatic total energy recovery systems into two beta sites on Penn State University's campus, where they will be monitored by the university's Department of Energy and Mineral Engineering. This project has the potential to save a building up to 25% in energy costs located in virtually any climate type, help it contribute to up to five additional LEED points for new construction, and provide better indoor air quality for the building occupants. If accepted nationwide, Energy Wall could positively impact all residential, commercial, industrial, and transportation end-use sectors. This project builds off the previous success of a GBA Product Innovation Grant received by Energy Wall in June 2008.



GBA Product Innovation Grant Amount: $100,000

Leadership Team: Energy Wall's team is lead by Dustin Eplee, *CTO, Energy Wall*; with the assistance of Scott Herr and Kenneth Butcher. Energy Wall is the manufacturer of an innovative membrane technology for high efficiency ventilation air recovery equipment. The University partner is Dr. Jeffery Brownsen; *Assistant Professor of Energy and Mineral, Pennsylvania State University*; and Dr. William Bahnfleth, *Ceramics Engineer, Pennsylvania State University*.

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