



Power And Energy's Breakthrough Fuel Processor Recovers More Than 90 Percent of the Hydrogen From Ethanol

Company demonstrates high energy efficiency using its proprietary membrane technology

For Immediate Release

IVYLAND, Pa./EWORLDWIRE/June 21, 2007 --- Power+Energy, Inc. has developed and demonstrated an energy efficient fuel processor that extracts over 90 percent of the available hydrogen from ethanol using its state of the art palladium alloy membrane reactor technology. The system can be configured to utilize a variety of liquid fuels and deliver the ultra pure hydrogen required for long term operation of a fuel cell. The company intends to offer a range of systems that will process other fuels including E-85, gasoline, methane, propane and diesel. P+E is under contract to the Department of Defense to deliver a 50kW sulfur immune hydrogen separation membrane reactor designed to work with low cost diesel.

Fuel cell commercialization has been limited by the lack of widespread hydrogen infrastructure and the high cost of hydrogen, distribution and storage. P+E's fueling technology will enable fuel cells to operate without dependency on hydrogen availability and without the cost and logistical burdens of hydrogen storage equipment. Liquid fuels have high energy densities and are easy to transport and store. A P+E fuel processor coupled to a PEM fuel cell can more than double the mileage (or work) per gallon of fuel compared to an internal combustion engine. The reduction in fuel consumption will reduce carbon dioxide emissions by at least 50 percent.

The P+E fuel processor is capable of operating with a broad variety of alternative fuels including bio-fuels, ethanol, butanol and bio-diesel. This technology enables significant reductions of oil imports and promote the development of domestic alternative fuels technology. The technology will provide greater incentive for the rapid commercialization of fuel cells for a variety of applications. Other fuel cell applications such as remote power and emergency backup power using fuel cells are ideally supported using liquid fuel storage such as diesel or propane.

P+E is actively working with a number of leading organizations in integrating fuel cell systems. This includes a series of contracts with the Army Research Office (ARO), DARPA, and the Navy (NAVSEA and ONR) to develop hydrogen separation systems for extracting Hydrogen from Methanol, Ethanol and logistic fuels. P+E has delivered hydrogen separation systems to the Navy, Battelle and a number of other industry leaders over the past year. The technology is scaleable from small portable systems (50-500 watts) to power plants in the megawatt range. Applications include portable battery chargers, auxiliary and back-up power systems and remote, off-grid power systems.

Power+Energy, Inc., established in 1993, is a privately held firm based near Philadelphia, Pennsylvania. The company develops and manufactures hydrogen purifiers and separators for fuel cell systems as well as a number of applications including semiconductor fabrication, energy research and laboratory applications. P+E has a worldwide customer base and supplies hydrogen purifiers to producers of semiconductors including most major suppliers of high brightness light emitting diodes (LEDs).

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