

## **Eltron Research & Development and Eastman Chemical Company Team for Joint Development and Pilot Testing of Membrane System for Hydrogen Production and Carbon Capture**

*Advanced Technology Enables Cost Effective Carbon Capture for Clean Power and Chemicals*

**BOULDER, Colo. and KINGSPORT, Tenn., August 4, 2010** – Eltron Research & Development, Inc. and Eastman Chemical Company announced today that they have signed a joint development agreement for the scale up and pilot testing of Eltron’s advanced membrane system for hydrogen separation and carbon dioxide (CO<sub>2</sub>) capture. The \$8 million development project is sponsored by a cooperative agreement from the U.S. Department of Energy.

Eltron’s novel metallic membrane system extracts pure hydrogen from a mixed gas stream. The high purity hydrogen can be used for clean power generation, chemicals synthesis, and other applications. The membrane system retains carbon dioxide at high pressure. Eltron’s membrane technology offers the potential to considerably reduce the capital and operating costs of producing industrial hydrogen in conjunction with CO<sub>2</sub> capture and storage.

The technology has been under development in Eltron’s lab for eight years, supported by significant funding from the U.S. Department of Energy’s (DOE) Office of Fossil Energy and their National Energy Technology Laboratory. Eltron’s membrane system comprises proprietary membrane materials, equipment and associated processes. Upon successful demonstration, the complete technology package will be made available to industry through Eltron’s licensing program.

The joint development and scale-up effort is underway and scheduled to culminate in a pilot demonstration in 2012 at Eastman’s coal gasification facility in Kingsport, Tennessee. According to Greg W. Nelson, senior Vice President and Chief Technology Officer at Eastman, “Eastman is pleased to participate with Eltron and the U.S. Department of Energy in this important project. Eltron’s technology offers the potential to increase sustainability of hydrogen generation and greenhouse gas capture while reducing costs, and that’s good for the industry and the environment.”

“Advanced hydrogen and carbon separation technologies, designed to reduce cost and maximize efficiency, are critical for economical power from coal with carbon capture,” said Dan Driscoll, Technology Manager at DOE’s National Energy Technology Laboratory. “DOE and Eltron have collaborated for several years to develop an advanced hydrogen separation membrane which now appears ready for larger scale testing. It’s extremely encouraging to have the involvement and support of a new industrial partner, Eastman. In the next development step, a new hydrogen-separation module will be tested on syngas from the Eastman coal gasifier in Kingsport, Tennessee. If successful, this technology could help enable the production of ultra-clean, coal-based power.”



“This project is about clean energy, national technology leadership and energy independence,” said Eltron’s President, Paul Grimmer. “We are extremely pleased to have Eastman join the development effort with their extensive experience as a global leader in industrial gasification.”

**Eltron Research & Development Inc.**

Eltron is a leading R&D organization with a 30-year history of providing technology solutions to the energy and chemicals industries. Eltron’s staff of 50 scientists and engineers has generated over 70 patents based on technology developed at the company’s world class research facility in Boulder, Colorado. For more information, visit [www.eltronresearch.com](http://www.eltronresearch.com).

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**Eastman Chemical Company**

Eastman’s chemicals, fibers and plastics are used as key ingredients in products that people use every day. Approximately 10,000 Eastman employees around the world blend technical expertise and innovation to deliver practical solutions. The company is committed to finding sustainable business opportunities within the diverse markets it serves. A global company headquartered in Kingsport, Tenn., USA, Eastman had 2009 sales of \$5 billion. For more information, visit [www.eastman.com](http://www.eastman.com).

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