

## Scientists Advance Hydrogen Tech Associated Press

Story location: <http://www.wired.com/news/technology/0,1282,62290,00.html>

01:24 PM Feb. 13, 2004 PT

MINNEAPOLIS -- Researchers say they have produced hydrogen from ethanol in a prototype reactor small enough and efficient enough to heat small homes and power cars.

The development could help open the way for cleaner-burning technology at home and on the road.

Current methods of producing hydrogen from ethanol require large refineries and copious amounts of fossil fuels, the University of Minnesota researchers said.

The reactor is a relatively tiny 2-foot-high apparatus of tubes and wires that creates hydrogen from corn-based ethanol. A fuel cell, which acts like a battery, then generates power.

"This points to a way to make renewable hydrogen that may be economical and available," said Lanny Schmidt, a chemical engineer who led the study. The work was outlined in Friday's issue of the journal *Science*.

Hydrogen power itself is hardly a new idea. Hydrogen fuel cells already propel experimental vehicles and supply power for some buildings. NASA has used them on spacecraft for decades.

But hydrogen is expensive to make and uses fossil fuels. The researchers say their reactor will produce hydrogen exclusively from ethanol and do it cheaply enough so people can buy hydrogen fuel cells for personal use.

They also believe their technology could be used to convert ethanol to hydrogen at fuel stations when cars that run solely on hydrogen enter the mass market.

Hydrogen does not emit any pollution or greenhouse gases. But unlike oil or coal, hydrogen must be produced -- there are no natural stores of it waiting to be pumped or dug out of the ground.

The new technology holds economic potential for Midwest farmers, who are leaders in the production of corn-based ethanol.

George Sverdrup, a technology manager at the National Renewable Energy Laboratory, said he was encouraged by the research.

"When hydrogen takes a foothold and penetrates the marketplace, it will probably come from a variety of sources and be produced by a variety of techniques," he said. "So this particular advance and technology that Minnesota is reporting on would be one component in a big system."

The Minnesota researchers envision people buying ethanol to power the small fuel cell in their basements. The cell could produce 1 kilowatt of power, nearly enough for an average home.



**Wired News:** [Staff](#) | [Contact Us](#) | [Advertising](#) | [RSS](#) | [SUBSCRIBE](#)

We are translated daily into Spanish, Portuguese, and Japanese

© Copyright 2004, Lycos, Inc. All Rights Reserved.

Your use of this website constitutes acceptance of the Lycos **Privacy Policy** and **Terms & Conditions**