

(August 7, 2008) Hydrogen van 'as good as any car that runs on gas'

General Motors displays transportation of the next decade

August 7, 2007 By Guy Tridgell Staff writer

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The answer to soaring gas prices and global warming was as plain as the odorless, colorless gas powering the bright-blue minivan Monday at the Illinois Institute of Technology.

General Motors, at the request of U.S. Rep. Dan Lipinski (D-3rd), of Western Springs, picked the South Side campus to showcase its HydroGen3 vehicle -- a concept car that runs on hydrogen fuel cells. The minivan is a prototype for the company's next wave of vehicles that run on alternative fuels, expected to arrive at a showroom near you within the next decade.

After taking a spin, Lipinski was sold.

"The performance is as good as any car that runs on gasoline," Lipinski said. "All you have to do is press the forward button or the backward button and hit the accelerator."

But it will be economics more than performance that puts the cars in driveways -- especially in the Chicago area, home to the highest gas prices in the country.

How it works

The HydroGen3 is equipped with a tank that holds three kilograms of compressed hydrogen made in the United States.

When the gas is mixed with oxygen filtered from outside the vehicle, two things are produced: electricity and water.

The electricity powers the car.

The water comes out of the tailpipe in the form of vapor -- no harmful greenhouse gases that cause the Earth to cook.

Matthew Atwell, a fuel cell vehicle engineer for GM, said the engine's temperature reaches a maximum of 175 degrees. An engine that runs on gas can get to 2,700 degrees, he said.

"It's a sign of efficiency," Atwell said. "A lot of efficiency in most cars is lost to heat."

The result is a vehicle that achieves roughly 60 miles to the gallon -- about twice as much as most cars on the road today.

Atwell said the goal is to sell HydroGen3's offspring for the same price as other vehicles in its class.

The biggest roadblock?

Accessibility to hydrogen.

No infrastructure is in place to distribute the stuff to the motoring public. Retrofitting gas stations with hydrogen pumps undoubtedly would cost billions of dollars.

As vice chairman of the House Science and Technology Committee, Lipinski is hoping that changes with increased demand.

He said \$2.3 billion in grants for alternative energy research was included in a bill that cleared the House last week. All the major automobile manufacturers already are working on vehicles that run on hydrogen, Lipinski said.

"It is much closer than people realize," he said. "Most people still think it's science fiction."

Also on display at IIT was a 2007 Ford F250 that runs on diesel, but relies on hydrogen to power the heater, air conditioner and radio while idling. Chicago's Department of Aviation hopes to use the pickup truck, designed at IIT, on the airfield of O'Hare International Airport.