

U.S. Unveils Technology For Pollution-Free Cars

WASHINGTON (CNN) -- Researchers have developed a chemical process using gasoline that could lead to fuel-efficient and virtually pollution-free electric cars that don't need bulky batteries and can refuel at conventional gas stations.

In a news briefing Tuesday, Energy Department Secretary Federico Pena called new technology -- a fuel cell operating on gasoline -- "real evidence of President Clinton's belief that we can develop new, clean technologies that help our economy and our environment at the same time."

The technology was announced by the Energy Department and Arthur D. Little Co., a Boston-based energy consulting firm whose team of researchers achieved the breakthrough over five years of fuel-cell research in conjunction with a government weapons lab.

According to the Energy Department, the fuel cell can achieve double the fuel economy of current automobiles, cutting emissions of greenhouse gases in half. It can also run on ethanol, methanol, natural gas or other fuels, Pena said, promoting the use of alternative energy sources.

Energy Secretary Federico Pena explains why the development is important. He predicted a vehicle using the process could be on the road within just over a decade.

"The economic and market impact around this new capability is without precedent," said Charles LaMantia, chairman of Arthur D. Little. He said the next step is to attract investors "to bring this new technology to market."

A spokesman for Chrysler Corp., which has worked with the research team, said costs would have to be cut drastically for the engine to compete with current cars. Even mass-produced, the technology would cost \$30,000 per car now compared with \$3,000 for conventional cars.

The development, first reported Tuesday by The New York Times, is one of many initiatives under way to develop fuel cells that would replace the combustion engine in automobiles and to power other motors.

The fuel cell technology uses an electro-chemical process that converts hydrogen and oxygen into energy. It has never been difficult to get the oxygen, which comes from the air. But the search for a practical way to obtain hydrogen molecules was more difficult.

Bentley said the major breakthrough in his team's research was developing a way to separate hydrogen from carbon in gasoline, a fuel in which the two molecules are tightly bound. This would enable a fuel-cell electric car to use the existing network of gasoline stations and not be encumbered by heavy batteries that limit automobile range, he said.

After hydrogen is separated from the gasoline, the fuel is left with carbon dioxide, which is released into the air.

Bentley said Arthur D. Little will work with Plug Power, a developer of fuel cells, and several automakers -- including Chrysler and General Motors Corp. -- to pursue commercial development of the technology.

He estimated that a prototype vehicle could be available within five years and commercial production as early as 2005. "This has the simplicity of the burner in your furnace at home. There are not a lot of moving parts, there aren't any complex controls," Bentley said in an interview.

A number of companies, including the Big Three automakers and major oil companies such as Exxon Corp., have been involved in fuel cell research, believing the technology is key to developing the next generation of highly efficient motors without heavy reliance on fossil fuels.

Various types of fuel cells have been developed, including ones that derive hydrogen from such fuels as methanol, ethanol or natural gas. Last week, Toyota Co. announced it soon will sell a hybrid electric car that would use a small gasoline engine to recharge the battery. Toyota says that its technology also doubles gasoline mileage.

The Associated Press contributed to this report.