Report Questions Bush Plan for Hydrogen-Fueled Cars

By MATTHEW L. WALD

WASHINGTON, Feb. 5 — President Bush's plan for cars running on clean, efficient hydrogen fuel cells is decades away from commercial reality, according to a report by the National Academy of Sciences.

Promoting the technology in his State of the Union address a year ago, Mr. Bush said a hydrogen car might be available as the first vehicle for a child born in 2003. On Monday, the Energy Department included $318 million for both fuel cells and hydrogen production in its 2005 budget. "Hydrogen is the next frontier; a hydrogen economy is where the world is headed," said Spencer Abraham, the secretary of energy.

The Bush administration anticipates mass production of hydrogen cars by 2020. But the academy study, released Wednesday, said some of the Energy Department's goals were "unrealistically aggressive."

Fuel cells produce electricity by putting hydrogen through a chemical process, rather than burning, and their exhaust consists solely of water and heat. Some scientists think they have great promise, not only because they are clean, but also because the hydrogen can be produced from solar or wind power, thus reducing oil imports and the emission of gases that cause global warming.

But the least-expensive methods of hydrogen production use fuels like coal or natural gas, and those create pollution, experts say. Hydrogen is also difficult to ship and store. In addition, power from fuel cells is far more costly than the same amount of power from a gasoline engine.

"Real revolutions have to occur before this is going to become a large-scale reality," said one of the report's authors, Dr. Antonia V. Herzog, a staff scientist at the Natural Resources Defense Council. "It very possibly could happen, but it's not a sure thing."

The report said battery-powered cars or hybrid cars, which use gasoline and electric motors, could turn out to be better choices. And over the next 25 years, the effects of hydrogen cars on oil imports and global-warming gas emissions "are likely to be minor," the report said.

A second pessimistic assessment came from Joseph J. Romm, the chief Energy Department official in charge of conservation and alternative energy in the Clinton administration. His book "The Hype About Hydrogen" will be published this spring.

"Fuel-cell cars will not be environmentally desirable for decades, because there are better uses for the fuels you can make the hydrogen out of," Mr. Romm said in a telephone interview.
Most hydrogen produced today is made from natural gas, he said, and using that gas to make electricity, and thus replace coal-based electric plants, would do more for the environment than using the gas to make hydrogen to replace gasoline. He said society would get more energy from a cubic foot of natural gas burned in a modern gas-powered electric plant than if it was converted to hydrogen.

Mr. Romm also said there is currently no way to deliver the hydrogen to vehicles. "People who want to build 'hydrogen highways' and drive a hydrogen car in 10 or 15 years on a mass scale, are just kidding themselves," he said.

The Bush administration has shifted emphasis from a Clinton-era program to develop hybrid cars into a far more ambitious, long-term project to commercialize fuel cells.

Mr. Abraham, the energy secretary, said he had recently been host of a meeting of energy ministers from around the world, and they agreed that fuel cells offered promise for reducing pollution and dependence on imported energy. "I see it as not only a wise investment for America," Mr. Abraham said, "but really where the world is heading."