



**HYDROGEN FUEL INITIATIVE**  
**Research and Development Funding in the President's 2006 Budget**

The Hydrogen Fuel Initiative (HFI) seeks to scientifically support industry efforts to develop practical and cost-effective technologies for producing, distributing, and using hydrogen to power automobiles. Widespread use of hydrogen fuel-cell vehicles would make the United States much less dependent on foreign sources of energy. The 2006 Budget for HFI is \$260 million, \$35 million (16 percent) greater than the FY 2005 level. The Initiative remains on track to meet President Bush's five-year, \$1.2 billion commitment to hydrogen research and development announced in his 2003 State of the Union address.

<b>Program</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Dollar change</b>	<b>Percent change</b>
	<b>Enacted</b>	<b>Enacted</b>	<b>Budget</b>		
Department of Energy					
Hydrogen production program	81	94	99	5	5%
Fuel Cells	64	75	84	9	12%
Hydrogen from Coal	5	17	22	5	29%
Nuclear Hydrogen Initiative	6	9	20	11	122%
Science (basic research)	0	29	33	4	14%
Department of Transportation					
RSPA and NHTSA (standards)	1	1	2	1	100%
<b>Total</b>	<b>157</b>	<b>225</b>	<b>260</b>	<b>35</b>	<b>16%</b>

The HFI focuses on development of technologies for the production, storage and delivery of hydrogen, and fuel cell technologies. Specifically, it supports research on safe and effective hydrogen storage systems; affordable hydrogen fuel cells for consumer automobiles; and hydrogen production and distribution from renewable energy, coal, nuclear energy, and biomass. The HFI complements the Administration's FreedomCAR initiative, which focuses on developing other advanced automotive technologies (e.g., power electronics, batteries, lightweight materials) used in hydrogen-powered fuel cell vehicles and gasoline-electric hybrid vehicles. The OSTP-led Hydrogen R&D Interagency Task Force serves as the mechanism for collaboration among the eight federal agencies that fund hydrogen-related research and development.

By spurring increased hydrogen technology development efforts among private-sector, state and international stakeholders, the HFI has already contributed to significant technological advances. For example, in 2004, the cost of a fuel cell system was 38 percent lower than in 2002. Costs still need to be reduced by a factor of four, however, for fuel cells to compete with internal combustion engines.

The 2006 Budget for HFI includes \$20 million, an \$11 million (122 percent) increase over FY 2005, in funding for the Nuclear Hydrogen Initiative. This initiative will conduct the R&D on enabling technologies, demonstrate nuclear-based hydrogen production technologies, and study potential hydrogen production schemes to support the President's vision for a future Hydrogen economy.

The 2006 Budget also includes \$33 million for fundamental research within the Department of Energy's Office of Science. This research seeks to overcome key scientific and technical hurdles in hydrogen production, storage, and conversion, by seeking revolutionary breakthroughs in areas such as non-precious-metal catalysts, high-temperature membrane materials, multifunctional nanoscale structures, biological and photoelectrochemical hydrogen production, and precision manufacturing processes.