DOE Hydrogen and Fuel Cells Program Record	
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Item:

In 2006, the President announced the Advanced Energy Initiative (AEI).

Reference:

http://www.whitehouse.gov/news/releases/2006/01/20060131-6.html

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State of the Union: The Advanced Energy Initiative

- Advanced Energy Initiative
- State of the Union 2006
- en Español

In His State Of The Union Address, President Bush Outlined The Advanced Energy Initiative To Help Break America's Dependence On Foreign Sources Of Energy. The President has set a national goal of replacing more than 75% of our oil imports from the Middle East by 2025. With America on the verge of breakthroughs in advanced energy technologies, the best way to break the addiction to foreign oil is through new technology. Since 2001, we have spent nearly $10 billion to develop cleaner, cheaper, and more reliable alternative energy sources. Tonight, the President announced the Advanced Energy Initiative, which provides for a 22% increase in clean-energy research at the Department of Energy (DOE). The Initiative will accelerate our breakthroughs in two vital areas; how we power our homes and businesses; and how we power our automobiles.

Changing The Way We Power Our Homes And Businesses

The Administration Will Work To Diversify Energy Sources For American Homes And Businesses. Accelerating research in clean coal technologies, clean and safe nuclear energy, and revolutionary solar and wind technologies will reduce overall demand for natural gas and lead to lower energy costs. The President's Advanced Energy Initiative proposes speeding up research in three promising areas:

- **The President's Coal Research Initiative.** Coal provides more than half of the Nation's electricity supply, and America has enough coal to last more than 200 years. As part of the National Energy Policy, the President committed $2 billion over 10 years to speed up research in the use of clean coal technologies to generate electricity while meeting environmental regulations at low cost. To tap the potential of America's enormous coal reserves, the President's 2007 Budget includes $281

million for development of clean coal technologies, nearly completing the President's commitment 4 years ahead of schedule.

- **The President's 2007 Budget Includes $54 Million For The FutureGen Initiative.** The FutureGen initiative is a partnership between government and the private sector to develop innovative technologies for an emissions-free coal plant that captures the carbon dioxide it produces and stores it in deep geologic formations.

- **The President's Solar America Initiative.** The 2007 Budget will propose a new $148 million Solar America Initiative – an increase of $65 million over FY06 – to accelerate the development of semiconductor materials that convert sunlight directly to electricity. These solar photovoltaic "PV" cells can be used to deliver energy services to rural areas and can be incorporated directly into building materials, so that there can be future "zero energy" homes that produce more energy than they consume.

- **Expanding Clean Energy from Wind.** The 2007 Budget includes $44 million for wind energy research – a $5 million increase over FY06 levels. This will help improve the efficiency and lower the costs of new wind technologies for use in low-speed wind environments. Combined with ongoing efforts to expand access to Federal lands for wind energy development, this new funding will help dramatically increase the use of wind energy in the United States.

Changing The Way We Power Our Automobiles

- **We Are On The Verge Of Dramatic Improvements In How We Power Our Automobiles, And The President's Initiative Will Bring Those Improvements To The Forefront.** The United States must move beyond a petroleum-based economy and develop new ways to power automobiles. The President wants to accelerate the development of domestic, renewable alternatives to gasoline and diesel fuels. The Administration will accelerate research in cutting-edge methods of producing "cellulosic ethanol" with the goal of making the use of such ethanol practical and competitive within 6 years. The Administration will also step up the Nation's research in better batteries for use in hybrid and electric cars and in pollution-free cars that run on hydrogen.

- **The Biorefinery Initiative.** To achieve greater use of "homegrown" renewable fuels in the United States, advanced technologies need to be perfected to make fuel ethanol from cellulosic (plant fiber) biomass, which is now discarded as waste. The President's 2007 Budget will include $150 million – a $59 million increase over FY06 – to help develop bio-based transportation fuels from agricultural waste products, such as wood chips, stalks, or switch grass. Research scientists say that accelerating research into "cellulosic ethanol" can make it cost-competitive by 2012, offering the potential to displace up to 30% of the Nation's current fuel use.

- **Developing More Efficient Vehicles.** Current hybrids on the road run on a battery developed at the DOE. The President's plan would accelerate research in the next generation of battery technology for hybrid vehicles and "plug-in hybrids." Current hybrids can only use the gasoline engine to charge the on-board battery. A "plug-in" hybrid can run either on electricity or on gasoline and can be plugged into the wall at night to recharge its batteries. These vehicles will enable drivers to meet most of their urban commuting needs with virtually no gasoline use. Advanced battery technologies offer the potential to significantly reduce oil consumption in the near-term. The 2007 Budget includes $30 million – a $6.7 million increase over FY06 – to speed up the development of this battery technology and extend the range of these vehicles.

- **The Hydrogen Fuel Initiative.** In his 2003 State of the Union address, President Bush announced a $1.2 billion Hydrogen Fuel Initiative to develop technology for commercially viable hydrogen-powered fuel cells, which would power cars, trucks, homes, and businesses with no pollution or greenhouse gases. Through private-sector partnerships, the Initiative and related FreedomCAR programs will make it practical and cost-effective for Americans to use clean, hydrogen fuel cell

vehicles by 2020. The President's 2007 Budget will provide $289 million – an increase of $53 million over FY06 – to accelerate the development of hydrogen fuel cells and affordable hydrogen-powered cars. Through the President's program, the cost of a hydrogen fuel cell has been cut by more than 50% in just four years.

- **America Must Act Now To Reduce Dependence On Foreign Sources Of Energy.** There are an estimated 250 million vehicles on America's highways, and Americans will purchase more than 17 million vehicles this year. It will take approximately 15 years to switch America's automobiles over to more fuel efficient technologies. The sooner breakthroughs are achieved, the better for America.

The President's Advanced Energy Initiative Will Build On The Progress Made Since 2001

Since 2001, The Administration Has Worked To Ensure Affordable, Reliable, Secure, And Clean Sources Of Energy. In 2001, the President put forward his National Energy Policy, which included over 100 recommendations to increase domestic energy supplies, encourage efficiency and conservation, invest in energy-related infrastructure, and develop alternative and renewable sources of energy. Over the past four years, the Administration has worked to implement these recommendations and improve the Nation's energy outlook.

Last Summer, The President Signed The First Comprehensive Energy Legislation In Over A Decade. The Energy Policy Act of 2005 is strengthening America's electrical infrastructure, reducing the country's dependence on foreign sources of energy, increasing conservation, and expanding the use of clean renewable energy.

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