The International Partnership for the Hydrogen Economy (IPHE)

U.S. Department of Energy

Why Hydrogen? It's abundant, clean, efficient, and can be derived from diverse domestic resources.

Biomass

Hydro

Wind

Solar

Geothermal

Nuclear

Oil

Coal

Natural Gas

With Carbon Sequestration

HIGH EFFICIENCY & RELIABILITY

H_2

ZERO/NEAR ZERO EMISSIONS

Transportation

Distributed Generation

President Bush Launches the Hydrogen Fuel Initiative

"Tonight I am proposing $1.2 billion in research funding ….

"With a new national commitment, our scientists and engineers will overcome obstacles to taking these cars from laboratory to showroom so that the first car driven by a child born today could be powered by hydrogen, and pollution-free.

President George W. Bush
2003 State of the Union Address
January 28, 2003

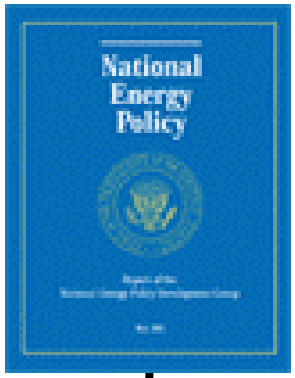
President's Hydrogen Fuel Initiative Complements FreedomCAR

On January 9, 2002, Energy Secretary Abraham announced the FreedomCAR Partnership

FreedomCAR (Cooperative Automotive Research) is a partnership between DOE and the U.S. Council for Automotive Research, a cooperative endeavor among DaimlerChrysler, Ford, and GM to conduct pre-competitive, high-risk, high-payoff research into advanced automotive technologies.

By catalyzing the simultaneous development of both the hydrogen-fueled vehicles through FreedomCAR, and the necessary hydrogen production and refueling infrastructure through the President's Hydrogen Initiative, government leadership will help advance commercialization of hydrogen fuel cell vehicles and infrastructure by 15 years, from approximately 2030 to 2015.

FreedomCAR and Hydrogen Fuel Initiative Timeline

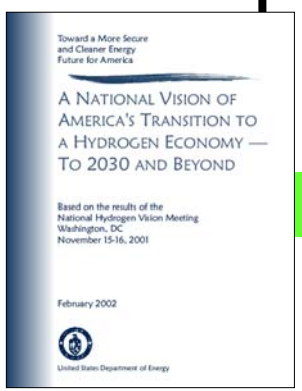


The President's Hydrogen Initiative

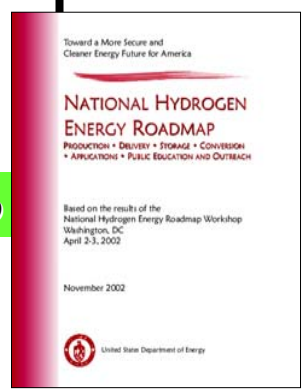
FreedomCAR

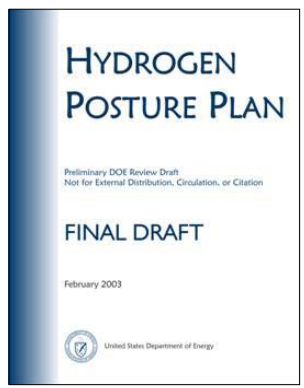
FUTURE GEN

May '01 | November '01 | January '02 | November '02 | January '03 | February '03 | November '03



Hydrogen Vision and Roadmap





IPHE Ministerial

National Commitments

United States
Committed $1.7 billion for the first five years of a long-term hydrogen energy technology and infrastructure development program.

European Union
Committed up to € 2 billion to long-term research and development of renewable and hydrogen energy technologies.

Japan
Fuel cell and hydrogen technology research, development, and demonstration program has tripled in size since 1995.

Initiated Roadmaps and Programs:
Australia, Brazil, Canada, China, France, Germany, Iceland, India, Italy, Republic of Korea, Russia, United Kingdom

IPHE Vision

"The vision of the International Partnership for the Hydrogen Economy is that a participating country's consumers will have the practical option of purchasing a competitively priced hydrogen power vehicle, and be able to refuel it near their homes and places of work, by 2020."

Secretary of Energy Spencer Abraham,
April 28, 2003

Partnership Goal

Efficiently organize, evaluate and coordinate multinational research, development and deployment programs that advance the transition to a global hydrogen economy.

A Successful Partnership will:

- Bring together the world's best intellectual skills and talents to solve difficult problems;
- Develop interoperable technology standards;
- Develop policy and technical guidance while leveraging resources to advance hydrogen and fuel cell technology development and deployment;
- Foster large-scale, long-term public-private cooperation to advance hydrogen and fuel cell technology and infrastructure development;
- Address emerging technical, financial and policy issues and opportunities.

Successful Partnerships in Transportation Sector

- Hydrogen-powered vehicles are competitive with conventional vehicles.
- Price and availability of hydrogen are competitive with conventional fuels.
- Hydrogen fuel is conveniently available to hydrogen vehicle drivers, based on improved fueling and storage infrastructure.
- Hydrogen energy storage technologies will allow personal transportation systems to operate at the same levels of safety, performance and range as today's gasoline powered vehicles.
- Internationally consistent system of safety codes and standards related to hydrogen utilization is developed and adopted.

Partner Characteristics

1) Substantial, long-term resource commitments to hydrogen and fuel cell technology research and development activities,
2) Well-defined vision and national strategy to advance technology deployment and infrastructure development, and
3) Commitment reflected in policies and strategies that effectively advance private sector development of a hydrogen economy.

IPHE Terms of Reference

1. IPHE Terms of Reference (TOR) builds on the success of the Carbon Sequestration Leadership Forum

2. TOR is a non-binding agreement that is the basis for IPHE operations

3. Draft TOR is currently being reviewed.

IPHE Terms of Reference

Draft Operating Structure:

Planning Committee

- Will govern the overall framework, policies and procedures of the IPHE, periodically review the program of collaborative activities, and provide direction to the Secretariat.

Implementation Committee

- Will review the progress of collaborative projects; identify promising directions for research, development, demonstration, and commercial use; provide technical assessments for policy decisions, pursue international codes and standards and safety protocols.

Liaison Committee:

- Will meet with interested international stakeholders to share information on IPHE activities and to develop advice and counsel.

IPHE Ministerial

November 19, 2003

- Public/Private Dialogue and Technology Exposition

November 20, 2003

- Secretary Abraham delivers keynote address
- Statements by partner country Ministers
- IPHE signing ceremony

November 21, 2003

- IPHE Committee meetings

For More Information:

www.eere.energy.gov/hydrogenandfuelcells/partnerships.html

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