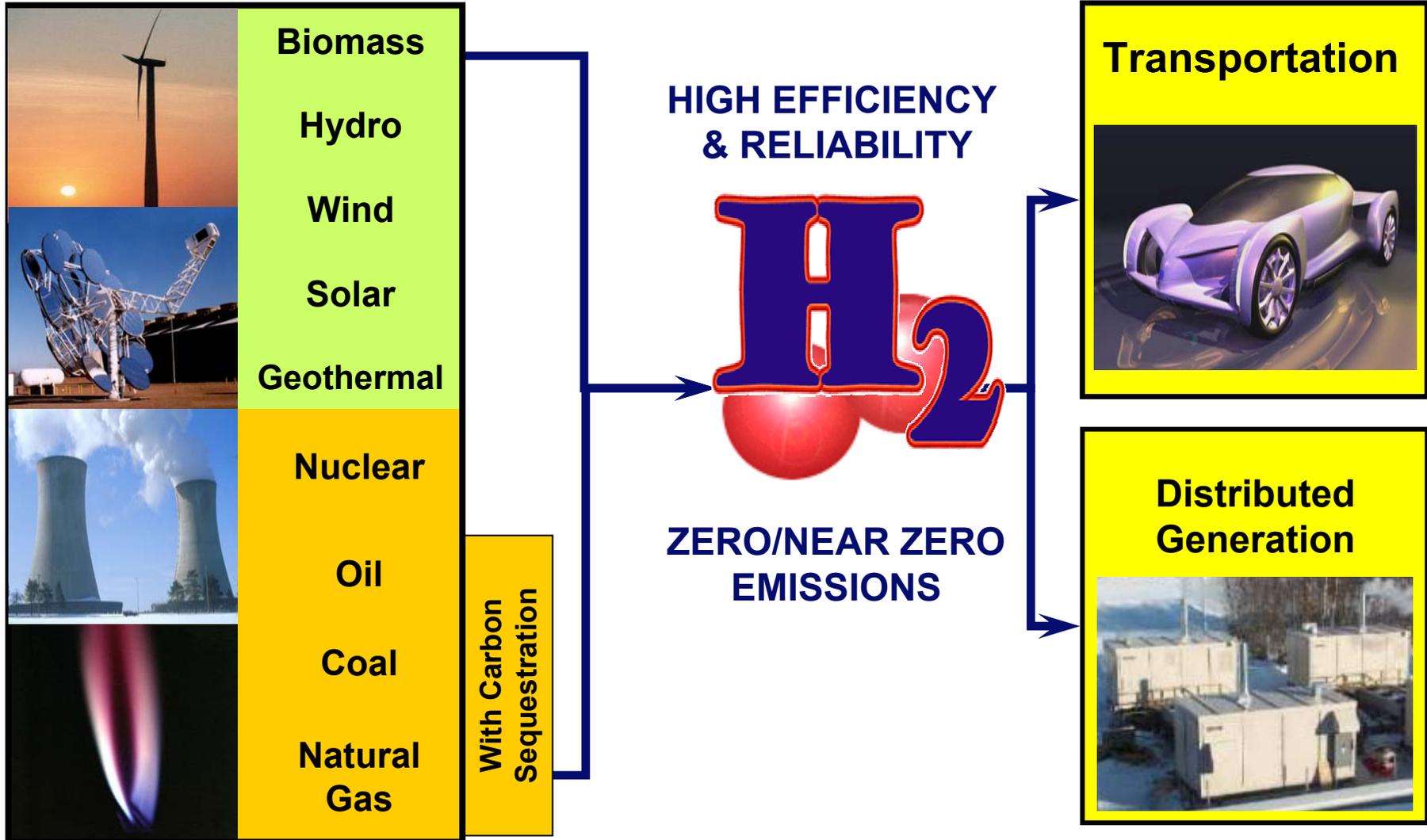




**International Partnership
for the Hydrogen Economy**

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





National Commitments

United States

Committed \$1.2 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 since 1995.

Canada

Completed a fuel cell commercialization roadmap in March 2003; currently \$40 million per year of federal support for hydrogen programs.

Initiated Roadmaps and Programs:

Australia, Brazil, China, France, Germany, Iceland, India, Italy, Republic of Korea, Norway, Russia, United Kingdom

President Bush Launches the U.S. 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**

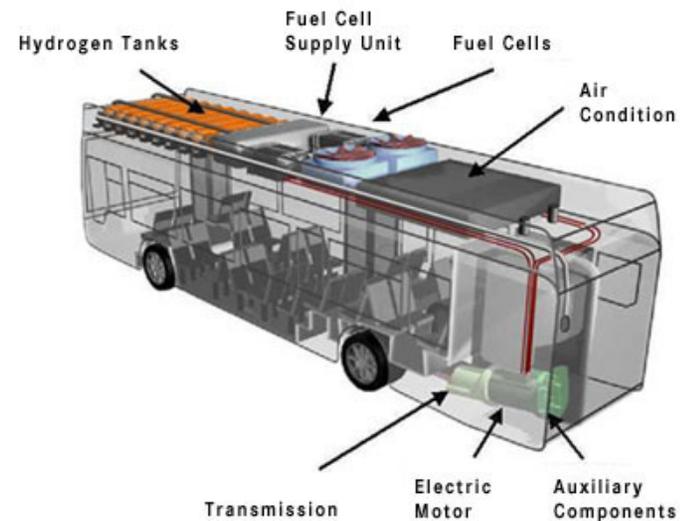
European Union Initiative



The European Union has dedicated over €2 billion to hydrogen and fuel cell research activities, and is establishing a European Technology Platform to coordinate member state initiatives.

Through the **Clean Urban Transport for Europe Program (CUTE)**, the European Commission is allocating €18.5 million to support 9 European cities in introducing hydrogen into their public transport system.

27 fuel-cell powered buses, running on locally produced hydrogen, will show that zero emission public transport is possible when ambitious political will and innovative technology are combined.



Citaro fuel cell bus prototype which will be the basis for the bus fleet used in the fuel cell bus project.

Japan's Hydrogen Program

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

Japanese Manufacturer's Fuel Cell Vehicle prototypes



TOYOTA



HONDA



NISSAN



Compact FCV. Daihatsu Move



TOYOTA/HINO FC BUS2.

India's Hydrogen Program



India is developing a hydrogen roadmap that will identify pathways forward for its transportation and electricity sectors.





IPHE Goal

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



IPHE Ministerial

The IPHE Ministerial was held November 19-21, 2003 in Washington DC, USA.

- Signing of the Terms of Reference
- 700+ delegates and participants representing approximately 30 countries
- Public-Private Dialogue Sessions
- IPHE Committee meetings

IPHE Partners



Russian Federation



USA



Canada



Iceland



Japan



South Korea



China



India

IPHE Partners' Economy:

- Over \$35 Trillion in GDP, 85% of world GDP
- Nearly 3.5 billion people
- Over 75% of electricity used worldwide;
- > 2/3s of CO₂ emissions and energy consumption

United Kingdom



France



Germany



Italy



Australia



Brazil



Norway



European Community



IPHE Terms of Reference



- 1. IPHE Terms of Reference (ToR) builds on the success of other multilateral agreements and partnerships.**
- 2. ToR is a non-binding agreement that is the basis for IPHE operations**
- 3. 16 Partners signed the IPHE ToR on November 20, 2003 at the IPHE Ministerial**



IPHE Operating Structure:

Steering 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 and Liaison Committee

- Will review the progress of collaborative projects; identify promising directions for research, development, demonstration, and commercial use; provide technical assessments for policy decisions, develop international codes, standards and safety protocols; and maintain communications with the private sector and other stakeholders



Committee Chairs and Vice-Chairs

Steering Committee:

Chair: US

Vice-Chairs: Canada, India, Italy, and Japan

Implementation and Liaison Committee:

Co-Chairs: Germany and Iceland

Vice-Chairs: Brazil, European Commission, and
Russia

For More Information, contact the IPHE Secretariat at the US Department of Energy



Robert Dixon
Board of Directors
Energy Efficiency and Renewable Energy
U.S. Department of Energy
202/586-1394
robert.dixon@ee.doe.gov

Tom Gross
Board of Directors
Energy Efficiency and Renewable Energy
U.S. Department of Energy
202/586-1394
tom.gross@ee.doe.gov

Michael Mills
Liaison to the Board of Directors
Energy Efficiency and Renewable Energy Office
U.S. Department of Energy
202/586-6653
michael.mills@ee.doe.gov

Christopher Bordeaux
Office of Hydrogen, Fuel Cells & Infrastructure Technologies
Energy Efficiency and Renewable Energy
U.S. Department of Energy
202/586-3070
christopher.bordeaux@ee.doe.gov

Larisa Dobriansky
Deputy Assistant Secretary
Policy and International Affairs
U.S. Department of Energy
202/586-1524
larisa.dobriansky@hq.doe.gov

On the Web:

www.usea.org/iphe.html

[www.eere.energy.gov/hydrogenandfuelcells/
partnerships.htm](http://www.eere.energy.gov/hydrogenandfuelcells/partnerships.htm)