International Partnerships for the Hydrogen Economy Fact Sheet

"I am proposing $1.2 billion in research funding so that America can lead the world in developing clean, hydrogen powered automobiles"

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

A growing number of countries have committed to accelerate the development of hydrogen and fuel cell technologies in order to improve their energy, environment and economic security. For example, those countries that have made commitments include:

- The United States has committed $1.7 billion for the first five years of a long-term hydrogen infrastructure, fuel cells, and hybrid vehicle technologies development program.
- The European Union has committed up to 2 billion Euros over five years to conduct research and development of renewable and hydrogen energy technologies. This effort is complemented by a hydrogen fuel cell bus demonstration program in nine cities.
- Japan's fuel cell and hydrogen technology research, development and demonstration program has significantly grown since 1995.
- Australia, Canada, Iceland, Italy, the United Kingdom and Singapore have programs focused on hydrogen energy technology. China has organized a program that intends to build and operate fuel cell vehicles. India has initiated work on a hydrogen energy technology roadmap.

These commitments demonstrate that many countries share a common interest in advanced research and development that will support the deployment of hydrogen and fuel cell technologies. International cooperation is vital to efficiently achieve national hydrogen and fuel cell technology program goals, for both transportation systems and stationary applications. Building a safe and efficient world-wide infrastructure for hydrogen production, storage, transport, distribution and use is a multinational task that requires careful planning and cooperation.

Some bilateral and multilateral international hydrogen and fuel cell cooperation exists today. For example, the International Energy Agency helps coordinate hydrogen and fuel cell cooperation on selected topics. One-on-one cooperation between nations fosters opportunities for research and development on specific topics. These relationships offer a solid foundation for building robust and agile international *Partnership* to help advance the world towards a hydrogen economy and make our air significantly cleaner.

The establishment of *International Partnerships for the Hydrogen Economy* is a mechanism to organize and implement effective, efficient and focused research, development and deployment programs that advance hydrogen and fuel cell programs. Functional international *Partnership*s: leverage limited resources; bring together the world's best intellectual skills and talents to solve difficult problems; develop interoperable technology standards; and foster public-private collaboration that can more

easily overcome the technological; financial and institutional barriers that inhibit the development and transition to a cost-competitive; standardized, widely accessible and safe hydrogen economy.

It is envisioned that the *International Partnerships for the Hydrogen Economy* will implement collaborative and cooperative efforts to advance research, development and deployment of hydrogen production, storage, transport and distribution, fuel cell technologies, common codes and standards for hydrogen fuel utilization, and coordination of international efforts to develop a global hydrogen economy.

The ultimate goal of the International Partnership for the Hydrogen Economy is that a participating country's consumers will have the practical option of purchasing a competitively price hydrogen powered vehicle and be able to refuel it near their homes and places of work.

We envision that the *International Partnerships for the Hydrogen Economy* will be successful if the following factors characterize the world's transportation sector:

- Hydrogen powered vehicles are competitive with conventional vehicles.
- The 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.
- An internationally consistent system of safety codes and standards related to hydrogen utilization is developed and adopted.

The specific goals, terms and implementation modalities of the *International Partnerships for the Hydrogen Economy* will be discussed and organized in future meetings.