September 3, 2003

On the Road to Hydrogen
POLICY PRIORITIES OF THE NATIONAL HYDROGEN ASSOCIATION

About the National Hydrogen Association

The National Hydrogen Association is an industry trade membership association of 90 companies and organizations whose mission is to foster the development and use of hydrogen technologies and to promote the use of hydrogen as an energy carrier.

The National Hydrogen Association's Legislative Resolve

NHA Supports the President's Initiative. On March 5, 2003, the members of the National Hydrogen Association passed a resolution to support President George W. Bush's Hydrogen Initiative of $1.2 billion over five years to develop hydrogen infrastructure.

NHA Recognizes the Need for Additional Legislation. In the same resolution, the National Hydrogen Association recognizes the need for additional legislation in support of hydrogen production, storage, utilization, safety, codes and standards and education.

NHA Recommends Incentives for Commercialization. The National Hydrogen Association recommends the use of a number of economic tools to aid market penetration of hydrogen energy technologies, including:

- tax incentives at the *appropriate point during technology development and early commercialization phases.*
- buyer incentives as technologies become available.
- voluntary emission credit trading to manage greenhouse gases.

NHA Supports Transportation, Portable and Stationary Power Applications. The National Hydrogen Association believes a thrust in the area of transportation will provide the largest long term opportunity for commercial application of hydrogen. Portable power applications generally tolerate higher energy costs thereby providing opportunities for early product introduction. Stationary power markets are mid-term opportunities for hydrogen and offer increased efficiencies to the grid.

Drivers to Hydrogen

The primary drivers in the U.S. today for moving toward a hydrogen energy future are:

- National Energy Security
- Environmental Stewardship
- Economic Prosperity

A Focus on Critical Pathways to Commercialization

Hydrogen energy technologies are commercially available today in niche applications where hydrogen's unique benefits bring special value. The National Hydrogen Association believes that the path to commercialization of hydrogen energy systems will only be successful by working together in an industry/ government partnership. Neither group can succeed alone.

- **Transitioning to a Hydrogen Future.** The NHA recognizes the role of domestic fuel resources including coal, nuclear, gasoline natural gas and diesel to transition to a hydrogen economy. In the near-term, a significant portion of hydrogen will be produced from fossil fuel feedstocks. The NHA supports further development aimed at reducing the cost of hydrogen and reducing or eliminating the environmental effects from these methods. The NHA supports technological and economic development of renewable energy technologies and envisions a growing portion of future hydrogen production to come from renewables.
- **Transitioning to Fuel Cells.** A transition to the hydrogen energy future can begin prior to high volume commercial adoption of fuel cells in light-duty vehicles. The near-term commercialization of hydrogen internal combustion engine vehicles and hydrogen/natural gas or hydrogen/electric hybrids allow a platform for hydrogen energy technology commercialization. When fuel cell technology is ready for mass commercialization, it can find its place faster with a hydrogen infrastructure in place.
- **Systems Analysis Coordination**. The government needs to evaluate the societal impact of hydrogen transportation market penetration scenarios. Hence the need for coordinated systems analysis encompassing the three affected entities: vehicles, fuel, and society.

- **Hydrogen Use by the Federal Government**. Federal use of hydrogen energy technologies provides high visibility and an opportunity to educate the public about the benefits of hydrogen. The National Hydrogen Association encourages the Administration to promote the use of hydrogen within federal agencies in order to assist in the development of hydrogen-related business.
- **Safety, Handling and Utilization**. RD&D should be conducted for safety, handling and utilization of hydrogen fuel by the public. These lessons must be incorporated into the development of codes, standards and regulations. Safety must be considered across the board. The federal government must provide implementation training to local/regional governments and reduce the barriers to facility installations.
- **Coordination of Federal Hydrogen Efforts**. The creation of a Hydrogen Interagency Task Force is urged, with participation by the Departments of Energy, Transportation, Defense and Commerce; the National Aeronautics and Space Administration, the Environmental Protection Agency, the National Science Foundation, and the National Park Service.
- **Important Role of Education and Information Dissemination**. Efforts should be initiated to encourage strong community programs to develop, to serve market development needs, and to increase the understanding of all stakeholders. Databases and previous research results should be made available as broadly as possible to promote transfer of knowledge.
- **Need for Demonstration Projects**. Demonstration projects, jointly funded by government/industry partnerships, should be operational in a number of states by 2005. The National Hydrogen Association supports a full and open competition which results in a wide-range of demonstration parameters, requires safety analysis, and provides a broad array of educational and information dissemination opportunities.

The National Hydrogen Association's Commitment

A transition to a future hydrogen energy economy requires commitment from many stakeholders. The membership of the National Hydrogen Association encompasses these stakeholders which have made a commitment to hydrogen. The NHA is committed to:

- developing viable pathways to a hydrogen economy,
- building consensuses,
- acting as a catalyst in the development of codes and standards,
- advocating partnerships,
- advising government agencies on policies and demonstrations,
- offering guidance on R&D programs to achieve technical objectives,
- serving as a clearinghouse for educational information, and
- maintaining objectivity in our role in the transition to a hydrogen economy.

In the coming decade, the National Hydrogen Association will continue to share its vision of a world powered by clean, inexhaustible energy sources—through hydrogen. This vision, which represents a commitment by the organizations of the National Hydrogen Association, can help shape national and international energy policy, thus paving the way to a global hydrogen economy.

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For more information, please contact the National Hydrogen Association, 1800 M St., NW, Suite 300, Washington, DC 20036. 202/223-5547. Please visit us on the internet at: www.hydrogenus.org