



On the Road to Hydrogen
Policy Priorities

National Hydrogen Association

January 13, 2004

NHA Membership

- Over 80 Members
- Diverse Membership
 - Large Companies
 - Small Businesses
 - Universities, Institutions, National Labs
- Dedicated to commercializing hydrogen-related energy systems

Drivers to Hydrogen



- National Energy Security
 - Use of Domestic Resources
 - Distributed Energy Systems
- Environmental Stewardship
 - Emission Free
- Economic Prosperity
 - Worldwide Technology Leadership

Role of the NHA

- Draw Upon Diverse Membership
 - Strengthen the Commitment to Hydrogen
 - Maintain Objectivity in Policy Development
- Provide Forum
 - Consensus Building
 - Facilitating Development Partnerships
 - Advising Government Agencies
 - Policies
 - R&D Programs
- Clearinghouse for Educational Info

NHA Commitment and Proposition

- Broader, More Intense Hydrogen Program
 - Demo Every Aspect of Hydrogen Infrastructure and Use
- Will Work with Government and Others
 - Facilitate, Host Workshops
 - Develop Teams
 - Carry Out Activities
- Explain the Value to Policymakers, Partnering Agencies, Citizens
- Share Vision of Clean, Inexhaustible Energy Sources through Hydrogen in a Global Economy

Transition to a Hydrogen Future

- Recognizes Near-term Role of Fossil Fuel Resources
 - Supports R&D to Reduce Costs and Eliminate Environmental Impact
- Supports Technological and Economic Development of Renewable Energy Technologies
- End Point
 - Diverse Portfolio of Hydrogen Generation Technologies and Feedstocks
 - As Much from Renewable Energy as Practical
 - Long Term Use of Fossil and Nuclear if Environmental Damage & Security Issues are Addressed
 - Society and Markets Will Determine Energy Mix

Production & Uses - 1

- Breakthroughs Are Needed
 - Renewable Energy Production
 - High Density Storage for Transportation
 - High Efficiency Electrolysis of Water
 - Reduction of Environmental Impact of Conventional Fuels

Production & Uses - 2

- Hydrogen Opportunities Not Limited to Fuel Cells
 - Include ICEs, Turbines
- Portable Power Provides Early Opportunities to Smaller Markets
 - Tolerate Higher Energy Costs
- Stationary/Distributed Power Is Important
 - Large Greenhouse Gas Reductions Possible
 - Remote with Renewable Sources
 - Home and Business Power and Heat

Production & Uses - 3

- Transportation Provides Largest Long Term Opportunity
 - Will Drive Creation of Hydrogen Infrastructure
 - Big Environment and Security Impacts
 - Engages the Public
 - Buses and fleets nearer term than cars

Commercialization

- Here Today in Niche Markets
 - Space
 - Industrial Applications
- Developing Hydrogen as Viable Affordable Energy Carrier Requires Support to Achieve Societal Goals
- Government Has Charter to Protect the Common Interest
 - Cannot Force Technology Change
 - Does Have the Staying Power

Commercialization

- Industry Has Expertise and Financial Resources
 - Stockholders Demand Short-Term Returns
- Fuel Cells Provide Higher Energy and Environmental Value Over Longer Term
 - Infrastructure Transition and Public Acceptance Can Begin with ICEs and Hybrids

Critical Pathways

- Coordinated Systems Analysis
 - Vehicles, Fuel Supply and Society
- Government as Early Purchaser
- RD&D of Safety, Handling and Utilization and Incorporating Results in Codes & Standards and Training
- Interagency Coordination and Incentive Within Agencies
- Education and Information Dissemination
- Widespread Demonstrations by 2005

Hydrogen Policy

- Supports State of the Union Hydrogen Fuel Initiative
- Supports President's FreedomCar, FutureGen and IPHE Initiatives
- Need Economic Incentives and Tax Policies, Not Mandates for Market Penetration
 - Including Voluntary Emission Credit Trading

State Hydrogen Initiatives

California	<ul style="list-style-type: none">•California Hydrogen Business Council•California Fuel Cell Partnership
Florida	<ul style="list-style-type: none">•Florida Hydrogen Partnership
Hawaii	<ul style="list-style-type: none">•Natural Energy Laboratory of Hawaii (NELHA) Gateway Project
Indiana	<ul style="list-style-type: none">•State Hydrogen Roadmapping Project

State Hydrogen Initiatives (cont.)

Maine	<ul style="list-style-type: none">•Hydrogen Energy Center – State Membership Organization
Michigan	<ul style="list-style-type: none">•Ad Hoc Hydrogen Rules Committee•NextEnergy
New Mexico	<ul style="list-style-type: none">•New Mexico Hydrogen Business Council
New York	<ul style="list-style-type: none">•NYSERDA State Hydrogen Roadmapping Project

DOE Hydrogen Procurements

- Hydrogen Generation from Electrolysis
- Hydrogen Research and Development
- Renewable Energy Development on Tribal Lands
- Hydrogen Production and Delivery Research
- Controlled Hydrogen Fleet and Infrastructure Demonstration and Validation Project
- “Grand Challenge” For Basic and Applied Research In Hydrogen Storage
- Research, Development and Demonstration of Micro CHP Systems for Residential Applications
- Hydrogen Education Development

2004 Annual Conference and Hydrogen Expo USA *A Clean Energy Choice*

- April 26-30, 2004
- Renaissance Hollywood
- Los Angeles, California
- “Hydrogen Week in Hollywood”
 - Investors Forum
 - Hydrogen Fundamentals Workshop
 - Teacher Training Workshop
 - Hydrogen Infrastructure Analysis Conference
 - Labor and Jobs Conference
 - Student Participation and Contest Awards
 - Tours

National Hydrogen Association

How to Contact Us

Visit NHA on the Web at:

www.HydrogenUS.org

Conference Information

www.HydrogenConference.org

Safety and Codes and Standards Info

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