The Hydrogen Transition

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U.S. Department of Energy
Natural Resources Canada
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Program Committee

Barry McNutt (Chair), David Greene, Jack Johnston,
Marianne Mintz, Peter Reilly-Roe, Phil Patterson,
Dan Sanchi, Lee Schipper, and Dan Sperling

Hosted by the Institute of Transportation Studies, University of California, Davis
under the auspices of Energy and Alternative Fuels Committees, Transportation Research Board

Welcome: Barry McNutt, U.S. Department of Energy

SESSION I: Keynote Session
UNTANGLING POLITICS, BUSINESS, AND THE PUBLIC INTEREST

What are the business, political, and societal goals for pursuing a transportation "hydrogen transition"? What are the short term opportunities and policy needs and how do they relate to long term plans and goals? What roadmaps, strategies, and other organizing frameworks can be used in thinking about this transition?

Chair: Dan Sperling, University of California, Davis
Larry Burns, Vice President, General Motors
David Garman, Assistant Secretary, U.S. Department of Energy
Taiyou Kawai, General Manager, Fuel Cell System Development Center, Toyota Motor Corporation
Roy Wilson, Vice Chair, South Coast AQMD

SESSION II
LESSONS LEARNED

What lessons have been learned from the past 25 years of technology development, investment, regulation, and policy with respect to new fuels and vehicles? Is hydrogen different?

Chair: Peter Reilly-Roe, Natural Resources Canada.
Bernard Robertson, Vice President, DaimlerChrysler
Tom Cackette, Deputy Executive Officer, California Air Resources Board
Mark Gainsborough, Shell (Invited)
Barry McNutt and Dave Rodgers, U.S. Department of Energy
Jonathan Rubin, University of Maine

SESSION III
HYDROGEN RESOURCE REALITIES

Conventional natural gas supplies in OECD countries are limited and renewable sources of hydrogen are expensive. What are the best long-term resource options, and what does that imply for near term hydrogen production and distribution options? Will hydrogen come from fossil fuels into the foreseeable future? Will carbon sequestration be a requirement?

Joan Ogden, Princeton University
Richard Doctor, Argonne National Laboratory
Gene Nemanich, ChevronTexaco

SESSION IV

RETHINKING HYDROGEN INFRASTRUCTURE AND MARKETS

Hydrogen vehicles and fuel will not compete on cost with gasoline and diesel fuels and ICEs for a very long time–unless vehicles are designed and marketed differently, and fuel distribution systems are restructured.

A. Vehicle Markets

Chair: Barrry McNutt, U.S. Department of Energy
KG Duleep, Energy and Environmental Analysis
Ken Kurani, University of California, Davis
David Hermance, Toyota

B. Hydrogen Infrastructure

Chair: Marianne Mintz, Argonne National Laboratory
Steve Bernow, Tellus Institute
Bob Miller, Air Products and Chemicals
Mark Paster, U.S. Department of Energy
Peter Teagen, TIAX (Invited)
Chip Schroeder, Proton Energy

SESSION V

MAKING THE BUSINESS CASE IN AN EVOLVING TRANSITION

How and where might automotive and energy companies invest initially? How sensitive are these investment decisions to government policy? What are the links to other sectors of the economy, and even to other energy investments?

Chair: Jack Johnston, ExxonMobil
Carol Battershell, BP (invited)
Ben Knight or David Raney, Honda
Scott Miller, Synovate
Tom White, U.S. Department of Energy
Jeffrey Cooke, ConocoPhillips

SESSION VI

Broader Perspectives

Should the policy focus extend beyond narrow hydrogen and fuel cell issues to address broader goals of reducing GHG emissions and oil use? What can we learn from public policies and initiatives that changed automobile characteristics, other than alternative fuels? Are ongoing activities and experiences outside the U.S. relevant to North American debates about hydrogen and fuel cell polices?

Chair: Jason Mark, Union of Concerned Scientists
John DeCicco, Environmental Defense
Drew Kojak, National Commission on Energy Policy
Lee Schipper, EMBARQ, World Resources Institute

SESSION VII

Policy Options and Instruments

What is the role of different levels and branches of government (research, demonstrations, incentives, regulations, other policy)? When uncertainty dominates, what policies make sense? Are there models for successful policy intervention of this magnitude and duration? Timing issues– what to do now and what to do later?

Speakers

George Anderson, Deputy Minister, Natural Resources Canada
Phil Sharp, Former Congressman, National Commission on Energy Policy
David Hawkins, Natural Resources Defense Council
Steve Chalk, U.S. Department of Energy
David Greene, Oak Ridge National Laboratory