



National Hydrogen Association

2/27/09

The Honorable Steven Chu
Secretary of Energy
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Secretary Chu,

On behalf of the over 90 members of the National Hydrogen Association, we are writing to urge you to ensure that hydrogen and fuel cell research and early market deployment activities in the Department of Energy (DOE) receive a substantial share of funding under the *American Recovery and Reinvestment Act of 2009* (ARRA 09). DOE has an historic opportunity to craft an enduring, balanced public investment strategy that gets funding to work immediately on solving major problems in our energy economy. As a primary stakeholder in the hydrogen community, we at NHA have for many years supported DOE's hydrogen and fuel cell programs. Our membership spans automobile manufacturers, utilities, energy companies, national laboratories, startups, research institutions and universities, plus varied organizations like the U.S Postal Service and NASA.

Background Congress has given the Department substantial flexibility to allocate the \$2.5 billion appropriated for applied research, development, demonstration and deployment in the Office of Energy Efficiency and Renewable Energy (EERE), and another \$1.6 billion in the DOE Science program for advanced energy research. Up to \$1.25 B of this amount has not been allocated by ARRA, leaving the Secretary with considerable discretionary authority to productively invest these funds. Significant progress has been made by the DOE hydrogen and fuel cell programs in increasing efficiency and lowering projected costs on major subsystems.

For ARRA, it is important to concentrate its new resources on moving forward applications that have emerging markets. DOE already has considerable authority to react quickly—from the *Energy Policy Act of 2005* (Title VII, Vehicles and Fuels and Title VIII, Hydrogen) and the *Energy Independence and Security Act of 2007* (Subtitle B—Improved Vehicle Technology; Subtitle D—Energy Storage for Transportation and Electric Power).

In the Office of Fossil Energy, significant gains have been made with solid oxide fuel cells for distributed generation, while the original configuration of FutureGen included experiments in coproduction of electricity and hydrogen from a variety of coals, while capturing and storing all the produced carbon dioxide.

With our strong support, these offices have made significant technical progress over the last few years in proving that hydrogen and fuel cells offer a critical component of the domestic, oil-free, high efficiency, very low emissions domestic industries we all seek. The House also passed by overwhelming votes in 2006 (416-6) and 2007 (408-8) the H-Prize Act, which is Sec. 654 of the *Energy Independence and Security Act of 2007* (EISA 07).

Recommendations The stimulus bill gives priority to projects that are ready to go, have significant economic multipliers and begin to make key changes in our energy economy. In Division B of the ARRA 09, a new tax credit for hydrogen refueling infrastructure highlights our belief that early market applications are among the critical public investments we are seeking. We believe these are premium public investments. You also have an opportunity to more closely integrate and streamline these cooperative activities.

A. **Funding** Arising in **Secs. 781 - 783 (under Subtitle F—Federal and State Procurement)** of the *Energy Policy Act of 2005* (EPAAct 05), the Market Transformation program, managed by the Hydrogen and Fuel Cell Program team, has made considerable progress on Federal early market activities despite very minimal funding. Congressional intent was to have the Secretary cofund early market applications for hydrogen and fuel cells in all Federal agencies, and in selected states. This was authorized at \$450 million for FYs 2006-10. The DOE has found significant demand for fuel cell products at a variety of federal agencies, and EERE has initiated several cooperative working relationships with them.

Furthermore, it has established a structure that can move projects forward within 60 days of receiving funding. These activities will have immediate impact on job creation, energy efficiency and carbon mitigation. We recommend that \$350 million be devoted to cooperative funding through the Secretary's Interagency Task Force from Sec. 806 of EPAAct 05. Cooperative work between EERE's hydrogen, fuel cell, H-Prize, alternative vehicle pilot grants, transportation electrification and Clean Cities programs will ensure efficient use of funds.

Looking across the ARRA, funding for other agencies implies the opportunity for first rate cooperative ventures intended by Congress under Secs. 781 - 3—specifically:

- a. Department of Agriculture buildings and facilities (auxiliary and backup power, \$8 million (M); Rural Utilities Service grants (bioenergy from waste water and waste disposal, \$12 M)
- b. Dept. of Commerce National Telecommunications and Information Administration (auxiliary and backup power, \$8 M); National Institute of Standards and Technology scientific and technical research and services (enhance important work on hydrogen and fuel cell storage materials, membranes, distribution, codes and standards and blended fuel mixtures, \$20 M); Federal Bureau of Investigation (communications backup power, \$10 M); National Oceanic and Atmospheric Administration research and facilities, acquisition and construction (auxiliary and backup power for the National Weather Service \$22 M)
- c. Dept. of Defense restorations and modernization; energy efficiency, technology demonstrations and research + National Guards (clean commercial refueling stations and materials handling equipment, Wearable Power pre-commercialization, electric drive hydrogen fuel cell buses, distributed generation, auxiliary and backup power, fleets, \$98 M)
- d. Dept. of Homeland Security communications and security systems and the Coast Guard (auxiliary and backup power, \$35 M)
- e. General Services Administration (green buildings, clean distributed generation, auxiliary and backup power, materials handling, \$54 M)

- f. Dept. of Transportation, Federal Transit Administration fuel cell bus program and Supplemental Discretionary Grants for a National Surface Transportation System, Federal Aviation Administration, High Speed Rail and Intercity Rail—enhance the electrification of transportation, electric drive hydrogen fuel cell buses, electric drive hydrogen locomotives and hydrotrains, and clean auxiliary and backup power, \$35 M
- g. Dept. Of Labor worker training in new markets for advanced energy technologies, \$5 M
- h. Dept. of Health and Human Services construction and renovation of facilities, clean auxiliary power, \$8 M
- i. Military Construction and Veterans Affairs—all Services, clean auxiliary and backup power, materials handling, electric drive hydrogen fuel cell buses, \$35 M.

B. The Secretary's authority in these areas is further assured in **Secs. 131-136 of the EISA 07—Subtitle B, Improved Vehicle Technology**, which calls for a wide range of transportation electrification applications, utilizing fuel cells, hybrids, etc. in materials handling, airports, truck stops, ports, auxiliary power and ancillary infrastructure. Competitive grants to states and localities, a domestic conversion grant program, and an advanced vehicles manufacturing incentives program are all authorized.

These grants would appear to require a cost share (EPAct 05, Sec. 988) with states and localities, but one of the main goals of the ARRA is to aid state and local governments in every possible way. **Sec. 988 (c)(2) (42 USC 16352), however, permits the Secretary to waive cost shares for Demonstration and Commercial Application.** We would certainly encourage you to do so, thereby enabling the flow of productive resources.

Up to \$450 million was authorized through FY 2012, but none has been requested. The ARRA 09 offers a great opportunity. We recommend that DOE also invest \$350 million in these areas for FYs 2009-10:

- a. California Air Resources Board: Hydrogen Highway, clusters of multiple use refueling infrastructure, distributed generation, materials handling at airports, electric drive hydrogen fuel cell intercity transportation, low carbon fuels, \$100 M
- b. Long Beach and Los Angeles port authorities, Weststart/Calstart: clean auxiliary power for idling reduction, municipal electric drive hydrogen fuel cell buses, ancillary infrastructure, \$75 M
- c. South Coast Air Quality Management District: clusters of multiple use refueling infrastructure from renewable hydrogen, materials handling at manufacturing and distribution centers, distributed generation, \$75 M
- d. New York Power Authority, New York Energy Research and Development Authority: clusters of multiple use refueling infrastructure, materials handling at manufacturing and distribution centers, electric drive hydrogen fuel cell buses, \$100 M

C. The DOE Request for Information (RFI) issued in February 2009 for early market transformation with hydrogen and fuel cells will gather detailed comments from industry by

March 31st, allowing key program designs for ARRA funding. We believe that this will be an excellent means of designing the type of quick-reaction program that ARRA intends. Projects reviewed and found worthwhile in previous Funding Opportunity Announcements (FOAs), but passed over for lack of funds, are also ready to go with minimal notice.

D. Fuel cells and hydrogen storage for Smart Grid, zero emission coal based programs and building efficiency programs must not be overlooked. Their distributed nature, fuel flexibility and efficiency make hydrogen fuel cells ideal technologies for these activities.

E. Research and Development in EERE, Science, ARPA-E, smart grid: renewable hydrogen supply \$40 M; H-Prize prototype, components for nonprecious metal catalysts in PEM, \$6.5 M; commercially feasible solar/algae biohydrogen production (ARPA-E), \$10 M; renewable hydrogen grid storage to dampen variability, \$30 M; pilot emission free hydrogen production from coal: \$25 M.

We ask you to expedite the flow of economic recovery funds and other dollars to those hydrogen and fuel cell projects that can stimulate our economy now and in the future. Doing so will help preserve jobs, continue key research and development programs and fund projects slated for quick deployment. We applaud the productive role that the Department has played to help private industry advance fuel cell and hydrogen technologies. These public-private partnerships have created an enviable track record of service and cooperation which we hope will continue.

Thank you for your interest. We hope you will be able to incorporate many of our concepts into DOE's spending plans that are being sent to the Office of Management and Budget and the Energy and Water Development Appropriation Subcommittees. We look forward to working with you to strengthen the balanced advanced energy programs the DOE has been so capably pursuing.

Sincerely,



F. Jerome Hinkle
Vice President, Policy and Government Affairs

CC. Senator Byron L. Dorgan
Senator Robert F. Bennett
Representative Peter J. Visclosky
Representative Rodney P. Frelinghuysen