



Hydrogen and Fuel Cells in a Stimulus Package

Using authorities already passed by Congress in the *Energy Policy Act of 2005* (EPAct 05), and the *Energy Independence and Security Act of 2007* (EISA 07), hydrogen and fuel cells can help create jobs while decreasing oil consumption and emissions. With an investment of \$1.1 billion in FY 2009-10 in low carbon infrastructure development, materials handling and transportation, over 22,000 permanent jobs could be created (1). Investments in the early market stages of advanced technologies satisfy the basic needs of a stimulus package—get funding to work during FY 09, and begin to remedy some longer term structural problems by moving toward a green energy economy.

Extensive analysis done by the National Research Council, the Energy Information Administration and the National Hydrogen Association shows how hydrogen and fuel cells create opportunities for substantial decreases in greenhouse gas, tailpipe emissions and oil consumption in transportation, buildings, and communications (1).

Actions to Take Now

1. Hydrogen Infrastructure Tax Credit

H.R. 805, H.R. 5746, and S. 2129 advocate an effective tax credit to stimulate private sector investment in hydrogen infrastructure necessary to support hydrogen use in applications including industrial equipment (e.g. forklift trucks), stationary power generation, and transportation. Clusters of public fueling demands can be supplied by newly designed stations. Construction could begin within a year on many sites within the US. A 30% tax credit for alternative refueling property was included in *EPAct 05*; however, that was capped at \$30,000 per station. Depending on the application, hydrogen stations often cost more than \$1 million per station (due to current low volumes) so the existing formula does not work for hydrogen technology. Accordingly, it is recommended that the cap be eliminated for hydrogen refueling property. The specific requested change to existing tax code is highlighted below.

Title 26 (A) (1) (a) (iv) (B)

Section 30C. Alternative Fuel Vehicle Refueling Property Credit is amended as follows:

(b) Limitation – **except in the case of Hydrogen Refueling Property**, the credit allowed under section (a) with respect to any alternative fuel vehicle refueling property shall not exceed –

(1) \$30,000 in the case of property of a character subject to an allowance for depreciation; and

(2) \$1,000 in any other case.

2. Federal and State Procurement of Hydrogen Technology

As authorized in *EPAct 05* Sections 781-3, make monies available to federal and state agencies to facilitate procurement and use of hydrogen fueling infrastructure and energy conversion devices (i.e. fuel cells and hydrogen internal combustion engines) for applications including: back-up power, primary power, industrial equipment, combined heat and power, and transportation applications. In the case of state agencies, these agencies should have flexibility to disburse funds to private sector partners through competitive grants in support of regional and state hydrogen highway initiatives.

Clusters of hydrogen supply and public refueling stations for multiple uses could lead the way for near term materials handling equipment, transit buses and fleets of light duty vehicles. Several states, particularly California, have designed “hydrogen highway” concepts to enable the growth of near zero carbon transportation solutions.

The General Services Administration, for instance, manages the largest single-owner vehicle fleets in the world, while the National Weather Service operates numerous communications towers. DoD has immediate needs for hydrogen and fuel cell equipment in several missions. The Katrina Commission convened by the Federal Communications Commission recommended that cellular systems acquire eight hours of backup power; a ruling is pending. In *EISA 07*, Sec. 131 has related authority to improve vehicle technology with hydrogen and fuel cell hybrids, including grant programs for state and local governments. There are opportunities for a variety of near term applications and infrastructure.

In FY 2009-10, \$700 million for Secs. 782, 783 and 131 should be included in the Department of Energy, Department of Defense and Department of Commerce budgets for cost-shared purchases of hydrogen and fuel cells.

3. Public Transit: Hydrogen Buses and Fueling Infrastructure

Utilizing authority provided in the *SAFETEA-LU Bus and Bus Facilities* program, fund the FTA for competitive grants to transit agencies and other users to support the purchase and operation of market-ready hydrogen buses and related fueling infrastructure. Reflecting current economic conditions, grants under this program should be fully-funded (versus cost-share) to ensure industry participation.

In FY 2009-10 \$400 million to DoT for transit buses.

- (1) *Green Recovery*, Center for American Progress, 9/08
Transitions to Alternative Transportation Technologies, National Research Council, 8/08
The Impact of Increased Use of Hydrogen on Oil Consumption and CO₂, Energy Information Administration, 8/08
The Hydrogen Energy Transition, Industry Task Force, NHA, 9/08
Employment Effects of a Transition to a Hydrogen Economy, Report to Congress (EPAct Sec. 1820), DoE, 7/08