

***U.S. Senate Briefing  
Washington, DC  
March 5, 2010***



***Solving the Market's Dilemmas—Energy  
Infrastructure for Fuel Cell Electrics***

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# *Today*

- ▶ *Moving ZEVs from labs to markets*
- ▶ *Preparing to realize large payoffs from quality public investments in RD&D*
- ▶ *Markets now for stationary & backup power, forklifts, buses; ARRA funding; Secs. 781-3 EPA Act 05 market transition*
- ▶ *Technologies for vehicles and fueling are well developed—US, Germany, Japan, China?*
- ▶ *Successful, joint industry/DOE Technology Validation program*



# *Legislative Opportunities*

- ▶ ***ZEVS deploying soon in CA, CT, NY, NJ, HI—  
14 ZEV states***
- ▶ ***Jobs—grants under EISA Sec. 131 (c): Near  
Term Transportation Sector Electrification,  
“ancillary infrastructure”***
- ▶ ***Tax Credits***
  - ***H.R. 805, S. 2129, H.R. 5746, S.774 (Sec. 303);  
ARRA Sec. 1123 30% to \$200 k through 2010***
  - ***Propose extensions of Sec. 1123 (add H2 fuel), FCV  
to 2016; expand Sec. 1603 grants in lieu of TCs***



# *Energy Bill*

- ▶ ***American Clean Energy Leadership Act of 2009 (ACELA), S. 1462 as framework***
  - **Clean Energy Development Bank (CEDA)**
  - ***Enhance ACELA—H.R. 3246 (heavier H2&FC hybrid vehicles), H.R. 3585 (renewable H2 storage and market development). H.R. 3525 (private activity bonds expanded to include ZEVs, low carbon fuel supply, fueling infrastructure (reviewed in 12/09 Cantwell hearing)***



# *Job Impacts*

- ▶ ***Fueling infrastructure grants: \$100 M, ~ 4,000 direct and indirect jobs over 2 years; 30 stations 2010, 100 stations 2010-2012***
  - ***Tax credits: cap \$175 M for fueling, equipment manufacture, siting, hydrogen as a fuel ~ 11,600 direct and indirect jobs through 2016***
  - ***Cost-shared state and private investments of ~ \$580 M, associated economic activity of \$2 B, net positive tax revenues from all sources ~ \$425 M, recovering > 2.4 times the cost of the TCs***
  - ***Builds foundation for new industry—DOE shows upwards of 675,000 net new jobs by 2050***



# ***FY 11 DOE Budget Request***

- ▶ ***Congress largely restored deep cuts in H2&FC RD&D budget in FY 10***
- ▶ ***Despite a seeming “understanding” on the importance of a balanced portfolio for transportation options, recognition of big progress on technology and cost—FY 11 EERE program cut 24%***
- ▶ ***Continuity critical—we propose for EERE, FE, Science and NE a total of \$380 M, vs FY 2010 appropriated \$316 M***
- ▶ ***DOE FY 11 request is \$268 M***



# *Strategic Value*

- ▶ *Remedy poor U.S. fuel diversity—2008: 72% imports, Xportation uses 78%*
- ▶ *1/3 of carbon emissions are from Xportation sector*
- ▶ *Shift toward a more domestic resource base*
- ▶ *Very wide range of feedstocks, methods to make H2*
- ▶ *Lower international security maintenance—large budget and diplomatic costs*
- ▶ *Grow new domestic primary and supplier industries*
- ▶ *U.S oil import bill \$2-\$6 T in next ten years*
- ▶ *Fuel and feedstock concentrated in vulnerable areas*
- ▶ *Fuel demand slowly growing, but price highly volatile*
- ▶ ***NEED EVERY OPTION TO GET OFF OIL + BRAVE INVESTMENT BANKERS***