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Emanuel Wagner | Deputy Director

Mary Nichols
 Chair
 California Air Resources Board
 1001 I ST
 Sacramento, CA

October 26, 2018

CHBC Comments on Electrify America’s Cycle 2 Proposed Investment Plan

Dear Chair Nichols:

The California Hydrogen Business Council (CHBC)ⁱ appreciates the opportunity to submit comments to the California Air Resources Board (ARB) regarding Electrify America’s (EA’s) Cycle 2 Investment Plan.

The ARB and the State of California continue to be pioneers in the development and deployment of clean energy technology. The hydrogen and fuel cell industry would not be where it is today without the commitment and support of California’s agencies, the governor’s office and the legislature.

The CHBC is disappointed that once again EA has ignored the need for investment in hydrogen infrastructure and urge ARB to work with EA address this shortfall and require EA to submit a revised plan that shows a balanced investment in ZEV infrastructure in support of California’s climate and energy goals.

California is committed to a zero-emission transportation future. In that future, only two options are available, battery technology and fuel cell technology.

The commitment of \$20M per year for light duty hydrogen fueling infrastructure is vital, but in comparison, charging infrastructure funding under SB 350, ARFVTP, and Electrify America’s Cycle 1 investment plan exceeds \$1B, notwithstanding investments by local and regional entities in charging stations.

With that focus, California’s transportation electrification future will be dependent on a single solution with no alternative for the State if battery technology cannot meet the expectations for full replacement of combustion technology in the transportation sector.

Therefore, we urge that ARB direct EA to revise the current plan and reissue a new plan that fully balances smart investments and creates parity for both ZEV technology options.

FCEVs are the only zero-emissions technology option that has the ability to fully replace internal combustion engine vehicles by providing similar range, refueling time and duty cycle profile across all light, medium and heavy-duty vehicle platforms. FCEVs are commercially available, ready to scale up. In California, hydrogen fuel for transportation is already 38% renewable, independent of the time of day of fueling or charging. Furthermore, the members of the Hydrogen Council are committed to work with stakeholders to achieve the goal to provide 100% decarbonized hydrogen for transportation by 2030.ⁱⁱ

We reiterate our concern that by focusing all investments on charging infrastructure buildout, VW, through EA's investment decision, will continue to reap an unintended benefit of having its settlement funds disproportionately reward the ZEV technology it is focused on. CHBC believes strongly that ARB needs to assure that the settlement money in totality is equitably used to fund a balanced portfolio of zero emission vehicle technologies.

In this Cycle 2 plan, EA provides a faulty narrative arguing that infrastructure investment in hydrogen is not needed. EA states that

"the California Energy Commission and CARB recently found in their joint '2018 Annual Evaluation of Fuel Cell Electric Vehicle Deployment & Hydrogen Fuel Station Network Development' that this additional support would be sufficient to meet the needs of hydrogen fuel cell vehicle drivers, writing 'due to the anticipated acceleration in hydrogen fueling network growth, sufficient fueling capacity and coverage should be available by 2025 to enable FCEV deployments at a rate of two to three times greater than currently-reported plans'."

This may have only been applicable if the Legislature approved the Governor's budget request to allocate an additional \$72 million to hydrogen infrastructure deployment in Fiscal Year 2018/2019. **Since the Assembly failed to approve this funding plan in 2018, no additional funding will be available in the near term.** Therefore, additional funding is still needed to provide the scale up needed to provide a better station network. EA could fill the void left by the unsuccessful funding request from the Governor.

EA also reported that the lack of hydrogen funding in this plan was due to the lack of requests by industry to invest that met EA's criteria. However, in the conversations with EA, it became apparent that EA did not have an understanding of the hydrogen and fuel cell sector and that they were uncertain about their interest as well as investment opportunities in this industry.

We believe EA should review its investment modeling for hydrogen fueling stations due to the new capacity credit under the Low Carbon Fuel Standard for hydrogen fueling, as far as regulations allow. This capacity credit may enable investments in larger stations that support medium and heavy-duty hydrogen fueling. In combination with HVIP, which also includes funding for stations as well as heavy-duty vehicles, several up front and long-term revenue sources are available for station developers. The CHBC would be very willing to coordinate efforts for EA to clearly communicate the results of EA's analysis to our station and infrastructure developers and enable 1:1 engagement for direct investment partnerships, especially to develop infrastructure supportive of light, medium and heavy duty FCEVs.

Finally, we reiterate our comments from April 7, 2017, on EA's Cycle 1 planⁱⁱⁱ:

“The CHBC believes that VW should allocate an appropriate portion of the investment to hydrogen fuel cell electric vehicle options and specifically proposes that the following be considered in the current and future VW investment plan cycles:

- Expansion of the developing **hydrogen fueling station network** and supporting infrastructure to enable drivers throughout the state to travel for long distances in FCEVs, and to support the emerging market for hydrogen-fueled transit and freight vehicles.
- Funding of **public outreach** efforts aimed at making the public in California fully aware of, and comfortable with, hydrogen FCEV's, infrastructure and associated technologies.
- Fuel cell powered **transit buses**, shuttle and other transport vehicles, fully capable of the performance, range and rapid fueling requirements for these markets while providing clear benefits to disadvantaged communities, which are more reliant on public transport options.
- Fuel cell powered **goods movement and freight transport vehicles**, fully capable of meeting the performance, weight and volume requirements for their markets. Fuel cell powered heavy duty Class 8 trucks greatly benefit disadvantaged communities that are impacted most by mobile source air pollution along freight corridors.
- Hydrogen production that enables primary renewable energy development, including multi-megawatt power-to-gas systems.
- Development of the above hydrogen infrastructure in ways that further the Green Cities Vision.
- Deployment of hydrogen fueling stations that enable ZEV's for the 40% of Californians living in multi-family dwellings.
- Support for large-scale renewable hydrogen production facilities to enable cost-effective zero carbon fuel for FCEVs.”

The CHBC looks forward to working with the ARB and Electrify America as this process continues.

Thank you for your consideration!

Best,



Emanuel Wagner
CHBC Deputy Director

ⁱ The California Hydrogen Business Council (CHBC) is a California industry trade association with a mission to advance the commercialization of hydrogen in the energy sector, including transportation, goods movement, and stationary power systems to reduce emissions and dependence on oil. The views expressed in these comments are those of the CHBC, and do not necessarily reflect the views of all of the individual CHBC member companies. Members of the CHBC include Air Liquide; Advanced Technologies U.S. LLC.; Alameda-Contra Costa Transit District (AC Transit); American Honda Motor Company; Anaerobe Systems; Arriba Energy; Ballard Power Systems, Inc.; Bay Area Air Quality Management District (BAAQMD); Beijing SinoHytec; Black & Veatch; BMW of North America LLC; California Air Resources Board (CARB); California Fuel Cell Partnership; CALSTART; Cambridge LCF Group; Center for Transportation and the Environment (CTE); Coalition for Clean Air; Community Environmental Services; CP Industries; DasH2energy; Eco Energy International, LLC; EcoNavitas; ElDorado National – California; Energy Independence Now (EIN); EPC - Engineering, Procurement & Construction; Ergostech Renewal Energy Solution; EWII Fuel Cells LLC; FIBA Technologies, Inc.; First Element Fuel Inc; FuelCell Energy, Inc.; GenCell; General Motors, Infrastructure Planning; Geoffrey Budd G&SB Consulting Ltd; Giner ELX; Gladstein, Neandross & Associates; Greenlight Innovation; GTA; GTM Technologies, LLC; H2B2 USA; H2Safe, LLC; H2SG Energy Pte Ltd; Hexagon Lincoln; Hitachi Zosen Inova ETOGAS GmbH; HODPros; Hydrogen Law; Hydrogenics; Hydrogenious Technologies; HydrogenXT; HyET - Hydrogen Efficiency Technologies; Hyundai Motor Company; ITM Power Inc; Ivys Inc.; Johnson Matthey Fuel Cells; KORE Infrastructure, LLC; Life Cycle Associates; Linde North America Inc; Longitude 122 West, Inc.; Loop Energy; Millennium Reign Energy; Mitsubishi Hitachi Power Systems

Americas; Montreux Energy; Motive Energy; Natural Gas Fueling Solutions (NGFS); Natural Hydrogen Energy Ltd.; Nel Hydrogen; Neo-H2; Neuman & Esser USA, Inc; New Flyer of America Inc; Next Hydrogen; Noyes Law Corporation; Nuvera Fuel Cells; Pacific Gas and Electric Company - PG&E; PDC Machines; Planet Hydrogen Inc; Plug Power; Politecnico di Torino; Port of Long Beach; Powertech Labs, Inc.; Primidea Building Solutions; Proton OnSite; RG Associates; Rio Hondo College; Rix Industries; Sacramento Municipal Utility District (SMUD); SAFCell Inc; Schatz Energy Research Center (SERC); Sheldon Research and Consulting; Solar Wind Storage LLC; South Coast Air Quality Management District; Southern California Gas Company; Strategic Analysis Inc; Sumitomo Corporation of Americas; Sumitomo Electric; Sunline Transit Agency; T2M Global; Tatsuno North America Inc.; Terrella Energy Systems Ltd; The Leighty Foundation; TLM Petro Labor Force; Toyota Motor Sales; Trillium - A Love's Company; University of California, Irvine; US Hybrid; Valley Environmental Associates; Vaughan Pratt [Individual]; Verde LLC; Vinjamuri Innovations LLC; Winkelmann Flowform Technology; WireTough Cylinders, LLC; Zero Carbon Energy Solutions.

ⁱⁱ <http://hydrogencouncil.com/our-2030-goal/>

ⁱⁱⁱ See “Comments of California Hydrogen Business Council on Volkswagen Group of America’s California ZEV Investment Plan: Cycle 1” April 7, 2017