Dear Chairman Nichols, dear Members of the Board,

The California Hydrogen Business Council (CHBC) is very appreciative of the sustained efforts of the ARB to help VW improve their proposed investment plan. It is in that light that the CHBC continues to be disappointed by VW’s sustained resistance to the requests by ARB and stakeholders to develop and commit to an investment plan that is consistent with the consent decree and the State of California’s GHG reduction and electrification priorities.

The CHBC has previously provided comments to the ARB as well as Electrify America concerning the role of hydrogen fuel cell technology in the investment plan. Today’s comments focus on Electrify America’s response to CARB and stakeholder requests to include fuel cell technology in both the public education and outreach as well as the infrastructure portions of the investment plan addendum (Section 7 “Hydrogen Fuel Cell Vehicle Technology”).

Public Education and Outreach

Electrify America states the following:

Electrify America plans to incorporate information on attributes of electric drive vehicles powered by both batteries and hydrogen fuel cells in its Cycle 1 California-specific Brand-neutral Public Education and Outreach activities, as CARB has requested.

In footnote 5, Electrify America then qualifies this with the following statement:

5 The May 24, 2017 letter from CARB equates “brand neutral” with “technology-neutral.” Brand neutral is defined in Appendix C as materials that “do not feature or favor Settling Defendants’ vehicles or services.” It does not reference technology neutrality. Electrify America will incorporate fuel cell technology in its brand-neutral public education efforts where appropriate.

Considering electrification strategies vary among manufacturers, the CHBC disagrees with Electrify America’s interpretation of the definition of brand neutral in Appendix C of the Consent Decree.
If outreach activity focuses exclusively or in large part on certain technologies within the core of the Settling Defendant’s vehicles or services, it clearly favors these vehicles and services, and therefore inherently does not fulfill the definition of “brand neutral.” In addition, the seemingly purposeful vagueness of Electrify America’s statement to include fuel cell technology “where appropriate” gives us great pause and increases our concern of VW’s non-committal approach to this technology.

Therefore, CARB should require that Electrify America have an **objective** metric to determining that all electric drive technologies are promoted in a similar manner, including battery electric, fuel cell electric, plug-in battery and plug-in fuel cell electric technologies.

**Investment in H2 Infrastructure**

Electrify America states:

> Electrify America is focusing its ZEV refueling infrastructure investments on filling the supply-demand gap to serve the greatest need for ZEV refueling.\(^2\)

Unlike plug-in battery EVs, which are mainly charged at home and for which public infrastructure is important for **improving** customer acceptance, FCEVs require infrastructure **in advance** of vehicle deployment since it is the only method for refueling. Electrify America rationalizes their exclusive focus on charging infrastructure with the statement:

> By comparison, the projected supply-demand gap for plug-in electric vehicles (PEVs) through 2020 is more than 90 percent.

Electrify America provides **no evidence** for that assertion, and also claims that no such gap exists for FCEVs. Electrify America attributes the lack of a supply-demand gap for FCEVs from the January 2017 CARB/CEC AB8 Joint Staff Report.\(^3\)

This attribution by Electrify America not only mischaracterizes the CEC/CARB report, but also disregards the important distinction that FCEVs **require infrastructure in advance of vehicle deployment**. While the CEC/CARB Joint Staff Report indicates sufficient H2 fueling capacity (see Table 5 below) through 2020, the more salient point of the Staff Report was a **lack of capacity by 2021** and the need to increase station deployment **prior to this time**.

<table>
<thead>
<tr>
<th>Table 5: Stations, Fueling Capacity, and Projected Fuel Demand</th>
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<tr>
<td><strong>Quantity of Open Retail Stations</strong></td>
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<tr>
<td>Total Nameplate Capacity (kg/day)</td>
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<tr>
<td>FCEV Fuel Demand (kg/day)</td>
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<td>Source: ARB</td>
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It is also important to note that the station numbers used in Table 5 are optimistic as indicated by the fact that according to the California Fuel Cell Partnership, as of June 30, 2017, only 28 out of the 50 retail stations projected for 2017 are operational for retail in California. The CHBC expects this trend to
continue in some form beyond 2017. Therefore, considering a station build-out scenario based on current numbers, the supply-demand gap is expected to occur earlier than 2021, and will become even more pronounced in areas of high utilization. Retail station owners have already seen sporadic shortages of hydrogen at times of high demand at specific stations.

It is important to note that hydrogen fueling station deployment takes time (currently at least 17 months from award to retail opening, with an average of 2 years)\(^iv\), and even using the metrics stated by Electrify America, investments in the first phase of the investment plan would come online right at the time when additional capacity is projected to be needed. Undue delay of station investment will not only affect the willingness of auto manufacturers to deploy FCEVs in the numbers projected in the AB 8 report, but also influence customer acceptance to purchase FCEVs when a lack of fueling stations is foreseeable. This would be entirely detrimental to California’s electrification goals.

In summary, the CHBC is very concerned about the lack of attention given by the VW proposal and supplement with regards to hydrogen fuel cell technology in the areas of infrastructure and education & outreach. In order to reduce the anticipated bottleneck issue for hydrogen fueling stations in relation to FCEV sales, the CHBC urges that CARB require VW to amend the Cycle 1 investment plan by making meaningful commitments towards hydrogen fueling infrastructure investments as well as education and outreach activities. As stated in CHBC’s previous comments, if ARB believes that, despite CHBC’s concerns, requiring VW to revise their investment plan would be detrimental to California’s interests, the CHBC recommends that VW’s investment in battery-only infrastructure be recognized in upcoming zero-emission infrastructure investments by the State, to compensate for the lack of hydrogen investment in this plan. Furthermore, considering Electrify America’s continued misunderstanding of the needs of hydrogen fueling infrastructure in California and VW’s apparent lack of experience in this field, ARB should require VW and Electrify America to coordinate with stakeholders in the hydrogen fuel cell industry, potentially in the form of an advisory council, to close this knowledge gap.

Thank you for your consideration.

Sincerely,

Emanuel Wagner
Assistant Director
California Hydrogen Business Council

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iv p.22, AB 8 Report