

California Energy Commission  
Dockets Office, MS-4  
**RE: Docket No. 10-ALT-1**  
1516 Ninth Street  
Sacramento, CA 95814-5512

March 25, 2011

Dear Sir/Madam,

Next Hydrogen Corporation hereby submits the following comments on the 2011/2012 Investment Plan for your consideration:

- The CEC's projections project a large need for green hydrogen supply options in 2015-2017 timeframe:
  - o 50,000 hydrogen-fuel vehicles,
  - o if we assume an average per vehicle requirement of, e.g., 0.65 kg hydrogen per day,
  - o then the hydrogen supply requirement is more than 30 tonnes/day,
  - o which implies a minimum renewable hydrogen supply requirement of 10 tonnes/day.
- While this may seem a daunting supply challenge, there is no need to erode the renewable standard for hydrogen.
- Next Hydrogen Corporation's large-scale water electrolyser can provide cost-effective solutions for production of large amounts of renewable hydrogen. Each of our compact, packaged water electrolyzers can provide up to 1 tonne/day of hydrogen from renewable electricity; of course, multiple units can be used to address larger requirements.
- The pathway analysis data clearly show that renewable hydrogen is essential to achieve ultimate objectives of GHG policy. Next Hydrogen Corporation proposes a solution of renewable hydrogen through renewable hydrogen-electricity networks, which can provide emission free hydrogen, while concurrently increasing penetration of renewable electricity in California grids. Our solution is also scalable to meet the fuel requirements of 2015 estimated from Table 11 to be 30 tons per day. No other source of renewable hydrogen can scale like this, and continue to grow beyond to meet longer term requirements.
- The CEC needs to get away from "pairing renewables and electrolysis" and consider the integrated energy system where grid connected resources can be tied to one another. This is done for green power marketing and could be done with renewable hydrogen with the same effect. While the hydrogen will be expensive to start, it will create an enormous demand for new green power capacity which can be managed using the storage capacity of the hydrogen fuel system in a renewable hydrogen electricity network. The CEC will also need to open up the distribution system to be able to blend renewable hydrogen from renewable electrolysis into the supply and deliver it through the existing fueling station network. If the distribution system

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is not opened up, then California will be granting an effective monopoly to SMR hydrogen suppliers.

Further, we would like to request a minor correction in wording: based on the pathway graphs "SMR hydrogen (FCV) can reduce emissions to not by 56%" of California RFG conventional vehicle. On a GHG basis of course SB 1505 compliant SMR will be challenged by diesel hybrids making the 30% renewable standard necessary to show any benefit. We assume in these calculations that emissions of the liquifier have been taken into account for renewable sources such as landfill gas as they will be significant in making these comparisons.

Given the urgency to act and the need to clearly communicate a path forward, as was done by California mandating specific ZEV vehicle technologies (hydrogen, battery electric) we submit that CEC need to mandate renewable electrolysis to ensure the value-benefits of these vehicles are fully realized.

We would be pleased to provide further information to the CEC upon request.

Yours truly,

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