

## **Comment 1 for State Alternative Fuels Plan (ab100707) - Non-Reg.**

First Name: Steve

Last Name: Heckerorth

Email Address: steve@renewables.com

Affiliation:

Subject: BEVs ignored

Comment:

Battery electric vehicles offer by far the best way to limit emissions yet they are almost ignored in the state alternative transportation fuels plan.

The overall efficiency of PVs charging EVs is 60 to 2,000 times more efficient than internal combustion vehicles burning biofuels - when efficiency is measured from Sun to Wheel.

Hydrogen (H<sub>2</sub>) is much lighter than air and it must be contained in order to keep it from escaping the Earth's atmosphere, unless it is bound up in water or hydrocarbon molecules. The strong bonds that hold these molecules together take a significant amount of energy to break apart to extract H<sub>2</sub>. Once the hydrogen is extracted more energy is needed to compress it into a container that is small enough to store on a vehicle. In order for a fuel cell vehicle to go 200 or 300 miles on a tank, the H<sub>2</sub> must be stored in metal hydrates or at 10,000 psi in very heavy containers. Even after more than 20 years of development, fuel cell vehicles still cost close to a million dollars each and don't last very long or go very far. Finally, it takes about 4 times more renewable energy to drive a fuel cell vehicle than it does to charge the batteries in an electric vehicle to go the same distance. This is like the difference in fuel economy between a Hummer and a Prius. How can the state still support fuel cell vehicles when 96% of all H<sub>2</sub> is extracted from fossil fuel and they cost an order of magnitude more than EVs?

The numbers for battery cost in the plan are too high and the numbers for the price of fuel are way too low.

Go back to the drawing board and make EVs the center piece of the plan.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2007-11-13 21:51:51

No Duplicates.

## **Comment 2 for State Alternative Fuels Plan (ab100707) - Non-Reg.**

First Name: Sherry

Last Name: Boschert

Email Address: sherry.boschert@gmail.com

Affiliation: San Francisco Electric Vehicle Assoc.

Subject: Alternative Fuels Plan report biased

Comment:

A persistent bias in favor of hydrogen in the proposed State Alternative Fuels Plan Report defies logic and could once again distract the ARB from fair treatment of more-realistic alternative fuels.

The Plan suggests that use of plug-in hybrids and biofuels would be cleaner than scenarios with hydrogen fuel-cell vehicles, but the plan largely ignores battery electric vehicles (BEVs). A detailed study for the California Energy Commission by consultants TIAX LLC found that BEVs reduce overall greenhouse gas emissions by 68% compared with conventional cars using the existing electric grid, compared with a 54% reduction from hydrogen fuel-cell cars, if a hydrogen infrastructure existed. Buses, too, are cleanest if they're electric, the study adds.

The Alternative Fuels Plan uses wildly inflated cost estimates to dismiss BEVs yet accepts much, much higher costs for the hydrogen scenarios. CARB should reject this biased premise.

This bias appears in other ARB-associated projects:

ARB-funded studies of plug-in hybrids starting soon at the University of California's Berkeley and Irvine campuses are comparing them with conventional hybrids and with hydrogen fuel-cell cars – but not with battery electric cars. That makes no sense, especially at a time when several major automakers are expressing interest in resuming production of electric cars. The ARB should provide state-owned electric cars for the studies, if necessary, for complete comparisons.

In February 2008 the ARB will revise the Zero Emission Vehicle program. The current ARB staff proposal gives automakers the same credits for three hydrogen fuel-cell cars as for four BEVs. The ARB should insist on one-to-one technological neutrality. Treat hydrogen and electric vehicles equally, and let the market decide.

Sherry Boschert, president  
San Francisco Electric Vehicle Association

Attachment: 'www.arb.ca.gov/lists/ab100707/2-ab1007carb11-07.doc'

Original File Name: AB1007CARB11-07.doc

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No Duplicates.

## **Comment 1 for State Alternative Fuels Plan (ab100707). (At Hearing)**

First Name: Marc

Last Name: Geller

Email Address: Non-web submitted comment

Affiliation:

Subject: Plug in America

Comment:

Please see attached.

Attachment: [www.arb.ca.gov/lists/ab100707/3-ab1007com0001.pdf](http://www.arb.ca.gov/lists/ab100707/3-ab1007com0001.pdf)

Original File Name: ab1007com0001.pdf

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No Duplicates.

## **Comment 2 for State Alternative Fuels Plan (ab100707). (At Hearing)**

First Name: Bill

Last Name: Magavern

Email Address: Non-web submitted comment

Affiliation:

Subject: Sierra Club

Comment:

Please see attached.

Attachment: [www.arb.ca.gov/lists/ab100707/4-ab1007com0002.pdf](http://www.arb.ca.gov/lists/ab100707/4-ab1007com0002.pdf)

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No Duplicates.