HADA testimony in SUPPORT
Of HCR106
RENEWING THE STATE OF HAWAII'S COMMITMENT TO CLEAN ENERGY BY IMPLEMENTING HYDROGEN-BASED ENERGY INFRASTRUCTURE THROUGHOUT THE STATE

Presented to the House Committee on Energy & Environmental Protection
at the public hearing to be held
8:35 a.m. Tuesday, March 25, 2014
in Conference Room 325, Hawaii State Capitol

by the Members of the Hawaii Automobile Dealers Association
Hawaii's franchised new car dealers

Chairs Lee, Vice Chair Thielen, and Members of the Committee:

I am David Rolf, representing the members of the Hawaii Automobile Dealers Association (HADA)—Hawaii's franchised new car dealers. The association is in support of HCR 106 which encourages Hawaii agencies to renew their commitment to the Hawaii Hydrogen Initiative which seeks to develop infrastructure to provide renewable hydrogen to power fuel cell vehicles.

To be commercially viable, however, a bridge to the "renewable hydrogen" goal, may require use of hydrogen obtained from natural gas.

The key to hydrogen becoming practical as a means of propelling motor vehicles is developing a source for hydrogen that will produce 5-nines (99.999% pure hydrogen) at the rough equivalence of $4/gallon gasoline.

Some hydrogen fuel cell vehicles are already being marketed in California. Hyundai has taken a leadership position. Several manufacturers plan to roll out their Fuel Cell Electric vehicles shortly thereafter in 2017.

In our association's continuing support of the State's clean energy goals, HADA offered the association's STRONG SUPPORT of SB2196 –a bill which proposes to re-establish the energy systems development special fund, which was repealed on June 30, 2013. This fund can assist in the development of infrastructure for (Hydrogen) Fuel Cell Electric vehicles.

HADA applauds legislative leaders for consideration of all measures that will promote the use of hydrogen.

We all know that for the new Fuel Cell Electric vehicles to arrive, new fueling facilities must also arrive on relatively the same time line in Hawaii—creating a chicken and the egg concomitant rollout of hydrogen fuel cell product and the hydrogen fueling stations.

A February 4, 2013 *Automotive News* story by David Sedgwick and Gabe Nelson reports that "the biggest barrier to the technology may be the lack of fuel stations."

This measure seeks to help address this hydrogen fueling station barrier for Hawaii.

Continuing our quote from the *Automotive News* story :

- "….(California's) energy commission has earmarked $28.6 million for new facilities.

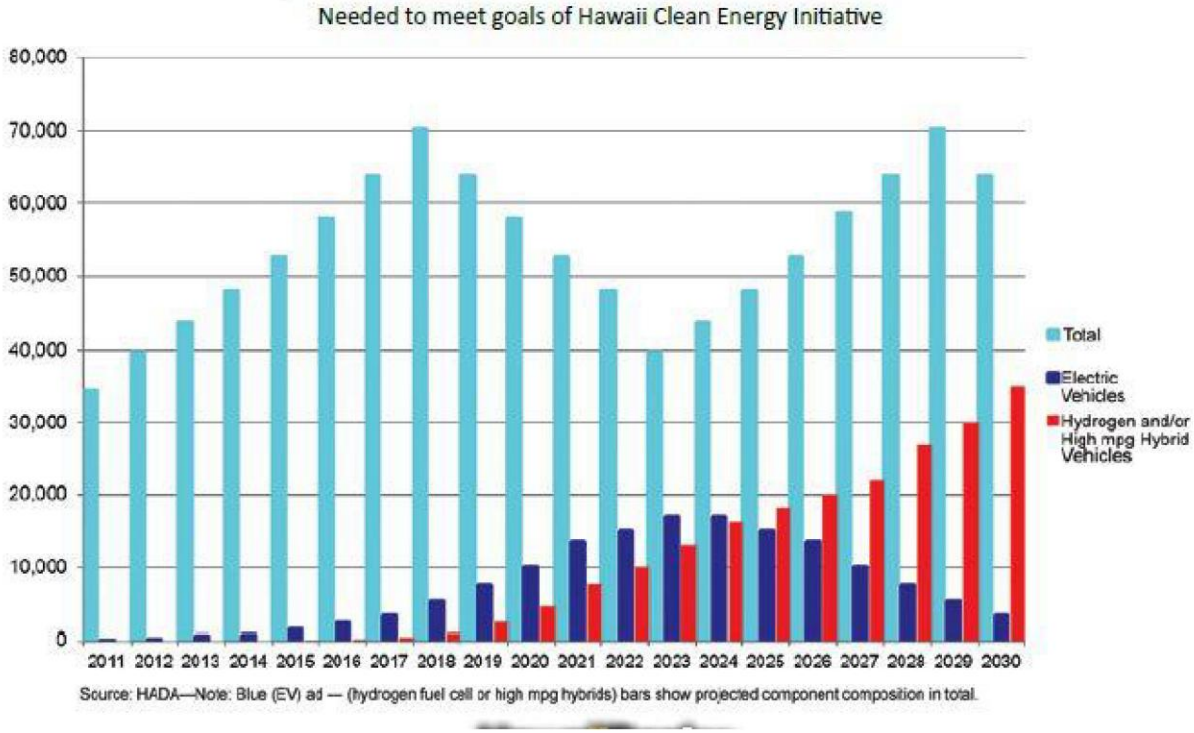
- Toyota and BMW recently announced a fuel cell production alliance, and Daimler, Ford, and Nissan said they would join to develop a line of affordable fuel cell cars for sale as early as 2017.

- 'We can't deploy them (HFC vehicles) to consumers unless they have a place to refuel,' said Steve Ellis, Honda's U.S. Manager of sales and marketing for fuel cell vehicles.'"

(Source: *Automotive News* "Fired up for fuel cells," Feb. 4, 2013)

HADA developed the following uptake rate of renewable fuel vehicles which is needed to meet the goals of the Hawaii Clean Energy Initiative.

Electric /Hydrogen Vehicle Adoption Rate 2011-2030

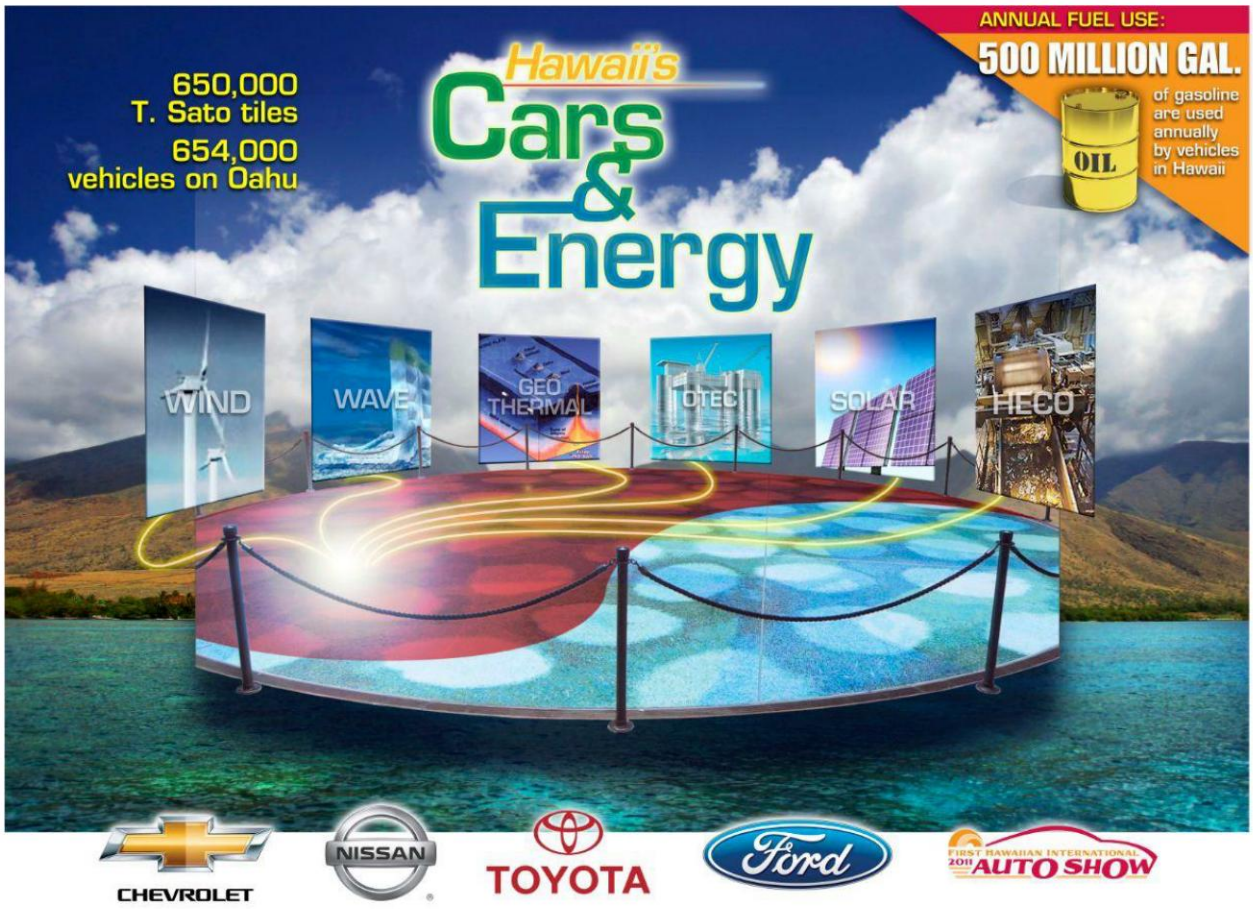


The hydrogen fuel cell car can be considered to be part what is known as the electrification of the car – a transformation to renewable energy that is taking place in the retail auto industry.

The electrolysis process utilizing Hawaii's abundant renewable energy resources—separates hydrogen from its oxygen molecule to create hydrogen gas. In the fuel cell vehicle the hydrogen is reunited with oxygen creating an electric current that powers a car's electric motor, with the by-product being H_20 from the tailpipe.

Hydrogen can also be obtained by processing natural gas. Currently this method produces hydrogen that is more affordable than the electrolysis method –if the latter method in Hawaii requires the use of electricity at the current rates.

HADA produced the following chart to show how use of Hawaii's abundant renewable energy resources in vehicles, along with fuel-efficiency in gas vehicles, can reduce fossil fuel usage on Hawaii's roadways. Thereby draining the 500-million-gallon oil barrel, representing the state's annual fossil fuel usage in transportation, to 150 million gallons a year, in a little under 20 years.



Hawaii is preparing for (Hydrogen) Fuel Cell Electric vehicles

Many benefits will be awaiting these early adopters.

A key factor, of course will be availability of hydrogen fuel. "Five nines"-- 99.999% is the term used in the industry for purity levels needed. This is costly to produce.

We understand that if electric power is made available, from currently-curtailed energy producers in off-peak hours, like from those power producers using wind energy, or geothermal energy, then hydrogen plants can use electrolysis of water to produce significant amounts of five nines hydrogen. Current estimates indicate that if power is purchased in the 7-cent per kilowatt hour price range then a kilogram of hydrogen can be produced at a cost that favorably compares to gasoline. Some say a kilogram can propel a Fuel Cell Electric vehicle for about 40 miles—twice the distance of a 20 mpg gasoline car, at about twice the price for of a gallon of gas. Two times the distance at two times the cost of a gallon of gas makes hydrogen available in rough parity with the gasoline price.

All this, of course, relates to the capability to obtain inexpensive electricity. Or, to see the State assist in developing hydrogen fueling stations with accompanying photovoltaic cell arrays which produce enough power for the electrolysis process.

With all these considerations in mind, HADA urges sending an early signal to automakers, federal policy makers, local agencies and others, that Hawaii is preparing for the hydrogen economy. We encourage the committee to pass HCR 106.

Note: please also see following information relating to "The Chart" on page 2 which illustrates the needed hydrogen fuel cell electric vehicle uptake year-by-year to fulfill the goals of the Hawaii Clean Energy Initiative.

It's known as

THE CHART

...and it reflects HADA's view of what uptake is necessary to hit the goals of the HCEI

THE CHART, as it has become known, shows that HADA has incorporated almost all the ideas presented at the State Energy Forum's Transportation Working Group meetings and DBEDT's Transportation Working Group meetings over the years. Dealers anticipate a slightly slower rate of private vehicle adoption growth going forward over the 20-year period (2011-2030) because of 1) slightly higher transit use from a train's operation 2) higher bicycle use from the addition of bike lanes 3) higher car sharing from the introduction of ZIPCAR and other such sharing 4) higher car-pooling because of traffic congestion 5) higher housing density in the Honolulu urban core necessitating fewer cars per household, etc.

The attached chart is used by many planners—including shipping companies, banks, finance and insurance product sellers, even the state legislature to help figure out expected tax revenues — because new car sales are a key indicator of GET revenues.

THE CHART reveals what will be required in market uptake of renewable fuel vehicles, we believe, in order to meet those goals.

Use of the barrel tax ($1.05 / barrel) for its intended purpose — the development of renewable energy so as to meet the goals of the Hawaii Clean Energy Initiative-- is needed. Public policy that directs these funds to these efforts would move things forward in meeting the goals of the HCEI.

Respectfully submitted,
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HCR106
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Submitted By	Organization	Testifier Position	Present at Hearing
Brad Parsons	Individual	Support	No

Comments:

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