Testimony of
Gary M. Slovin / Mihoko E. Ito
on behalf of
The Alliance of Automobile Manufacturers

DATE: February 4, 2014

TO: Representative Chris Lee
Chair, Committee on Energy & Environmental Protection

Representative Clift Tsuji
Chair, Committee on Economic Development & Business

Submitted Via EEPtestimony@capitol.hawaii.gov

RE: **H.B. 2658 – Relating to Fuel Cell Electric Vehicles**
Hearing Date: Thursday, February 6, 2014 at 8:40 a.m.
Conference Room: 325

Dear Chair Lee, Chair Tsuji and Members of the Committees,

On behalf of the Alliance of Automobile Manufacturers ("Alliance") we submit this testimony in support of H.B. 2658.

The Alliance is a trade association of twelve car and light truck manufacturers including BMW Group, Chrysler Group LLC, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche, Toyota, Volkswagen Group of North America, and Volvo.

The Alliance is in **strong support** of H.B. 2658, Relating to Fuel Cell Electric Vehicles. The Alliance members have invested billions of dollars over many years in efforts to develop vehicles that will operate on alternative fuels. Much progress has been made with the successful development of vehicles that will operate on electricity, hydrogen fuel cells and biofuels.

H.B. 2658 would provide to owners of hydrogen fuel-cell vehicles the same benefits now provided under state law to the owners of electric vehicles. We find that these incentives do help to persuade potential buyers of alternative fuel vehicles to go forward and purchase such vehicles. We also feel that having these incentives in place may help to

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Gary M. Slovin
Mihoko E. Ito
Tiffany N. Yajima
Jennifer C. Taylor

1099 Alakea Street, Suite 1400
Honolulu, HI 96813
(808) 539-0840

persuade automakers to allocate a greater number of hydrogen fuel cell cars to Hawaii as they become available.

While it is correct that very few hydrogen fuel cell vehicles are available in Hawaii at this time, hydrogen is one of the fuels of the future, and we believe you can expect to see such vehicles available in the near future. We believe it would be helpful to have these incentives in place prior to the time the vehicles arrive in Hawaii in significant numbers.

For the aforesaid reasons we support this legislation and respectfully request that the committees pass this measure.

Thank you for the opportunity to testify on this bill.

HOUSE COMMITTEE ON
ENERGY AND ENVIRONMENTAL PROTECTION

February 6, 2014

House Bill 2658 Relating to Fuel Cell Electric Vehicles

Chair Lee and members of the House Committee on Energy and Environmental Protection, I am Rick Tsujimura, representing General Motors LLC (GM).

General Motors supports House Bill 2658 Relating to Fuel Cell Electric Vehicles for the same reasons articulated in the testimony submitted by the Alliance of Automobile Manufacturers. We firmly believe that the same incentives should be applied to all alternative fueled vehicles.

Thank you for the opportunity to present this testimony.

HB2312
Submitted on: 2/4/2014
Testimony for EEP on Feb 6, 2014 08:40AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Javier Mendez-Alvarez	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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HB2658
Submitted on: 2/4/2014
Testimony for EEP on Feb 6, 2014 08:40AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Ed Wagner	Individual	Support	No

Comments: Dear EEP/TRN Committee members, I'm not sure that your definition of a fuel cell vehicle is entirely correct. "Fuel cell electric vehicle" means a zero—emission electric vehicle that uses a fuel cell to convert hydrogen gas and oxygen into electricity to charge onboard batteries and power an onboard electric motor to propel the vehicle. According to the following article, a hydrogen fuel cell takes hydrogen and generates electricity from it while the car is running. In effect, a hydrogen fuel cell is a kind of battery that makes electricity on the fly. http://auto.howstuffworks.com/electric-cars-vs-hydrogen-fuel-cell-cars.htm In other words, I think the fuel cell runs the electric motor directly. However, an auxiliary battery is charged by car deceleration to provide additional power for instrumentation, head and tail lights and provide extra power for acceleration. The fuel cell does not charge a battery; deceleration charges the battery. I suggest you do further research into a more complete and correct definition for this bill. http://www.toyota-global.com/innovation/environmental_technology/technology_file/fuel_cell_hybrid.html Three car manufacturers are bringing fuel cell cars to market next year. I would not waste my money on a hybrid or EV because they are just bridge technologies to the ultimate hydrogen fuel-cell cars. Remember too that hydrogen is a byproduct of geothermal energy production so Hawaii will have an abundant supply of hydrogen to fuel those vehicles. We should not waste too much more money and effort on EV charging stations when hydrogen cars are arriving in 2015. Honda http://automobiles.honda.com/honda-fcev Hyundai http://www.greencarcongress.com/2013/11/20131121-fcvs.html Toyota doesn't see a market for electric vehicles (EVs), but it does see value in continued hybrid production and upcoming hydrogen fuel cell technology. http://www.dailytech.com/Toyota+Passing+Over+EVs+for+More+Hybrids+Hydrogen+Fuel+Cell+Vehicles/article33471.htm Regards, Ed Wagner Mililani

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LATE

HADA testimony in STRONG SUPPORT
of HB2658
Relating to Fuel Cell Electric Vehicles

Presented to the House Committee on Energy & Environmental Protection and the House Committee on Economic Development & Business

At the joint-committee hearing to be held
8:30 a.m. Thursday, February 6, 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 and Tsuji, Vice Chairs Thielen and Ward, and Members of the Committees:

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

In our association's continuing support of the State's clean energy goals, HADA offers the association's STRONG SUPPORT of HB 2658 –a bill which proposes parking exemptions, HOV lane use, registration and required parking spaces in public accommodation.

This measure also requires a procurement priority for fuel cell vehicles.

HADA applauds legislative leaders for consideration of this measure. However, for the new HFC 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."

Other measures (including HB 450) seek to remove this fueling station barrier for Hawaii.

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Continuing our quote from the *Automotive News* story :

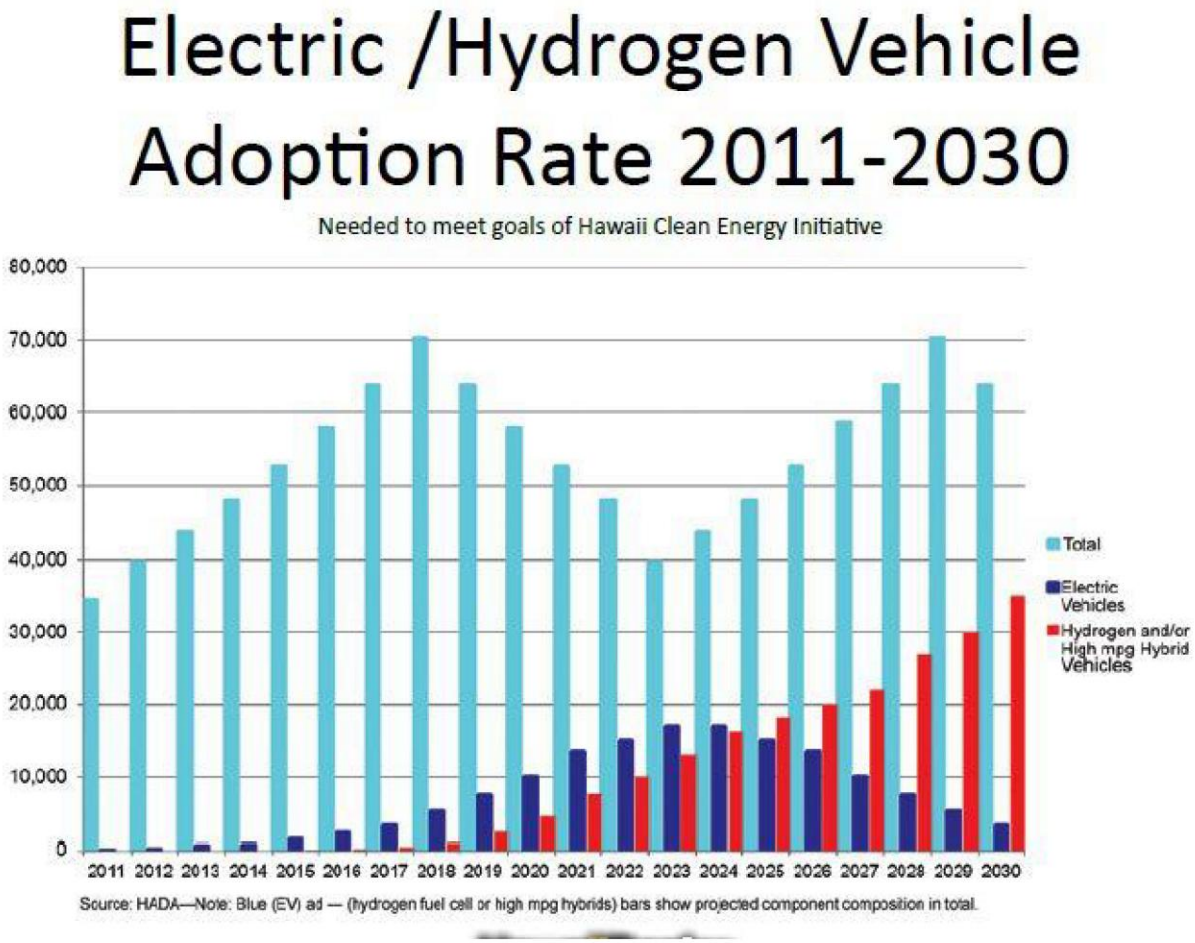
- "….(California's) energy commission has earmarked $28.6 million for new facilities.

- Toyota and BMW last month announced a fuel cell production alliance, and last week 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)

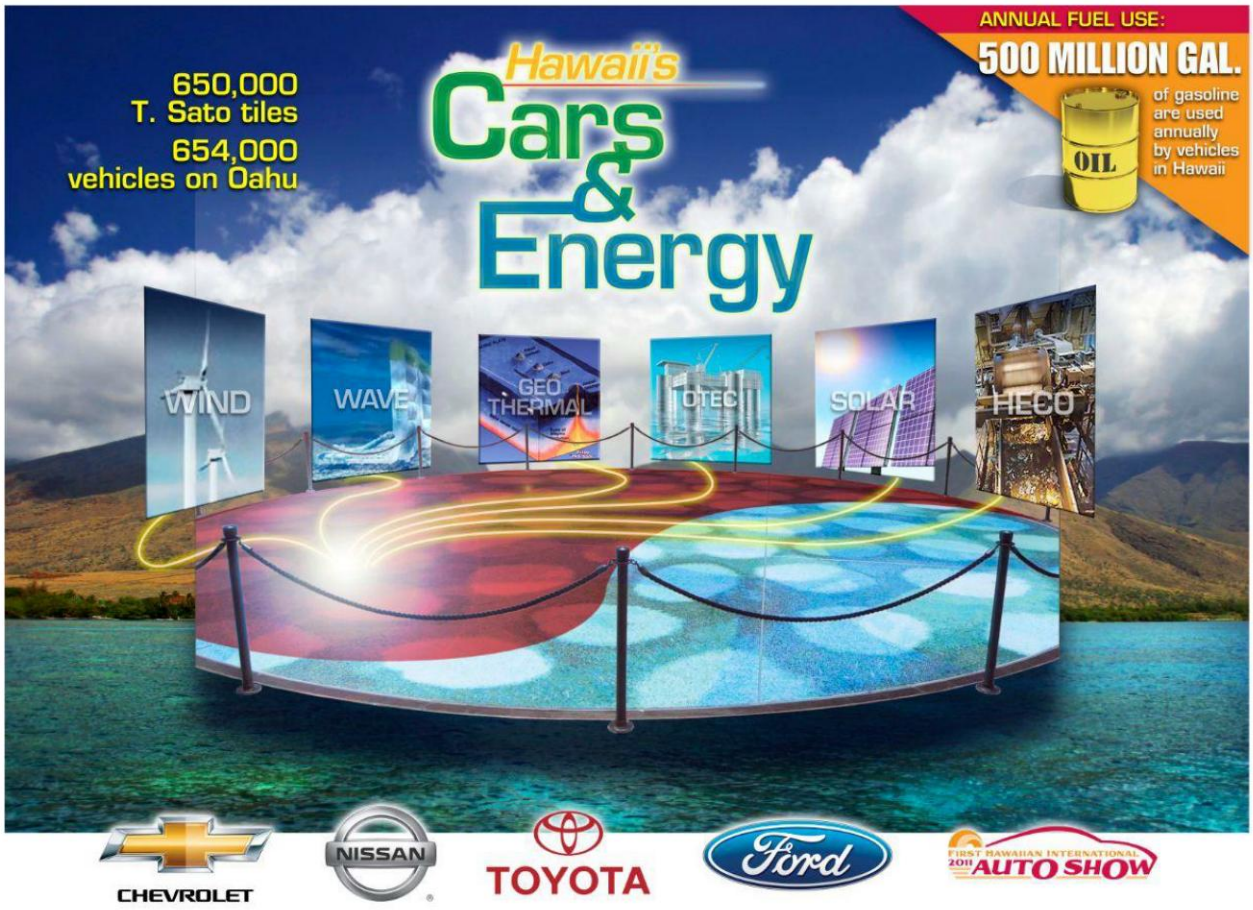
HADA developed the following uptake rate of renewable fuel vehicles which is needed to meet the goals of the Hawaii Clean Energy Initiative.



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.

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.



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This bill provides some early indication that Hawaii is preparing for HFC vehicles. Providing benefits for early adopters will encourage early uptake of these vehicles.

With the passage of this bill, these 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 HFC 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.

Some use of the current barrel tax for this purpose would put Hawaii on the path to becoming an early hydrogen fuel cell market for these emerging vehicles.

With all these considerations in mind, HADA urges sending an early signal to automakers, federal policy makers, and others, that Hawaii is preparing for the hydrogen economy. We encourage the joint committee to pass HB2658.

Respectfully submitted,
David H. Rolf, on behalf of the members of the Hawaii Automobile Dealers Association.
PH: 808 593-0031 Email: drolf@hawaiidealer.com

--please also information following relating to "The Chart" on page 3 (needed HFC uptake rates) ---

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.