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Statement of
RICHARD C. LIM
Director
Department of Business, Economic Development, and Tourism
before the
SENATE COMMITTEE ON WAYS AND MEANS
Thursday, April 4, 2013
10:30 p.m.
State Capitol, Conference Room 211

in consideration of
HB 450, HD1, SD1

RELATING TO HYDROGEN FUELING STATIONS.

Chair Ige, Vice Chair Kidani, and Members of the Committee.

The Department of Business, Economic Development & Tourism (DBEDT) provides comments on HB 450, HD1, SD1 which directs DBEDT to establish hydrogen (H_2) fueling station demonstration projects in each county with at least 170,000 residents, funded and operated through public and private partnerships, over a five year period. Based on the resident criteria, this measure applies to Honolulu and Hawaii County and intends to leverage renewable energy sources to produce H_2 and dispense it through H_2 fueling station technology.

Currently, the Hawaii Center for Advanced Transportation Technologies (HCATT) and the Hawaii Natural Energy Institute are already partnered in similar H_2 demonstration projects with the U.S. Air Force and the State of Hawaii at Joint Base Pearl Harbor-Hickam and with various partners in Hawaii County. Accordingly, because of the resources and expertise necessary to carry out such an endeavor, and after consultation with the High Technology Development Corporation (HTDC), we respectfully propose these amendments below to 1) name the High Technology Development Corporation in the bill, as they are the agency overseeing HCATT and existing hydrogen projects and 2) add language to ensure appropriate design and implementation of a demonstration project.

Thank you for the opportunity to offer these comments on HB 450, HD1, SD1 with these proposed amendments.

SECTION 1. (a) The high technology development corporation shall establish a hydrogen fueling station demonstration project in counties with a population of not less than one hundred seventy thousand residents. The demonstration project shall be funded and operated through public and private partnerships established by the high technology development corporation with other state or county agencies and private entities. The project shall be for a five-year period beginning on July 1, 2013, and terminating on June 30, 2018.

(b) In establishing and operating the demonstration project, the high technology development corporation shall grant preferences to suppliers, distributors, and producers of hydrogen produced from renewable sources of energy and consult with existing projects to determine the design and implementation of the demonstration project.

(c) The high technology development corporation shall adopt rules pursuant to chapter 91, Hawaii Revised Statutes, to implement this Act.

(d) The high technology development corporation shall submit an annual report, including any proposed legislation, to the legislature not later than twenty days prior to the convening of the regular sessions of 2014 to 2018.

SECTION 2. There is appropriated out of the general revenues of the State of Hawaii the sum of $3,500,000 or so much thereof as may be necessary for fiscal year 2013-

2014 and the same sum or so much thereof as may be necessary for fiscal year 2014-2015 for the establishment of hydrogen fueling station demonstration projects.

The sums appropriated shall be expended by the high technology development corporation for the purposes of this Act.

SECTION 3. This Act shall take effect on July 1, 2050.

SENATE COMMITTEE ON
WAYS AND MEANS

April 4, 2013

House Bill 450, HD1, SD1 Relating to Hydrogen Fueling Stations

Chair Ige and members of the Senate Committee on Ways and Means, I am Rick Tsujimura, representing General Motors LLC (GM).

General Motors (GM) would like to express strong support for House Bill 450, HD1, SD1 which is intended to establish a hydrogen fueling station demonstration project. This proposal comes at a critical time, as we enter a transformational period. We are witnessing an unprecedented shift toward more fuel efficient automotive technologies that also utilize increasingly diverse energy resources. While standing at this intersection, we can either choose now to take deliberate action to improve Hawaii's future, or we can let this opportunity pass, doing nothing to improve the situation. The State made an excellent start down this pathway with its support of the Hawaii Hydrogen Fund. We believe House Bill 450, HD1, SD1 represents a significant next step that will help Hawaii on its journey toward a sustainable energy future.

House Bill 450, HD1, SD1 can help establish Hawaii as a sustainable energy leader, transforming Hawaii's energy ecosystem into a model for other governments around the globe. Hawaii captured the attention and support of the Federal Government and various global industries. Other countries like Germany, Korea, Japan, and the Scandinavian countries are attempting to address similar problems. The solutions that Hawaii successfully develops and demonstrates today will become proven concepts and best practices for other states and countries around the globe.

Hydrogen represents a crucial link for diversifying Hawaii's energy infrastructure. It will help unlock alternative energy solutions for Hawaii's residents and can ultimately free Hawaii from its dependence on imported fossil fuels. Hydrogen represents an "energy currency" that can capture available renewable energy resources, store energy for extended time periods, load-shift to efficiently match supply and demand, and provide a conduit between the energy complex, the electrical grid, and the transportation sector. In 2010 GM, Hawaii Gas, and ten other government, academic, and industrial partners formed the Hawaii Hydrogen Initiative (H2I). This group is chartered with the single purpose of identifying and implementing hydrogen solutions that satisfy Hawaii's Clean Energy Initiative. GM, the U.S. Department of Energy, the National Renewable Energy Laboratory (NREL), The Hawaii Natural Energy Institute (HNEI), and the University of California at Irvine conducted a two year computer modeling effort to quantify the effectiveness of hydrogen as a component to Hawaii's energy ecosystem. This study confirmed that hydrogen and fuel cell technology can be implemented economically, with the goal of displacing large quantities of fossil fuel imports and utilizing Hawaii's renewable energy resources for vehicle propulsion.

GM initiated Defense Department partnerships to deploy Hawaii's first Hydrogen Fuel Cell Electric Vehicle (FCEV) fleet. In 2011, sixteen (16) Chevrolet Equinox Hydrogen Fuel Cell Electric Vehicles were deployed. These vehicles are now operating daily on Oahu and are contributing important data to GM's more than 2.6 MILLION miles of accumulated fleet

operation. GM established one low-capacity refueling station at its Fuel Cell Vehicle Service Center at 515 Kamakee Street, Honolulu. The Defense Department is completing installation of hydrogen refueling stations at Joint Base Pearl Harbor, Hickam and the Schofield Barracks and Kaneohe Marine Corps Base.

Unfortunately, these stations are only accessible by military vehicle users. Future efforts must expand hydrogen fuel availability beyond the boundaries of military bases, so other users can experience this important technology and current users can achieve unencumbered use of the vehicle fleet. Ideally, future stations should be integrated into more comprehensive energy infrastructure plans that span across energy and transportation sectors; plans that incorporate renewable energy resources, stationary power, grid back-up and distributed power generation needs, while at the same time providing effective hydrogen refueling access for light duty and commercial vehicles. This can add new opportunities for Hawaii to:

- leverage additional wind energy with improved flexibility to stabilize the grid,
- maximize new wind energy investments by avoiding wind energy curtailment,
- integrate landfill and waste water gas recovery efforts to provide viable transportation fuels,
- introduce clean hydrogen fuel cell bus options for mass transportation,
- integrate distributed power generation systems for added grid security,
- drive new investments into Hawaii, where stakeholders can concentrate technology demonstrations within one region (Hawaii) & create synergies to maximize likelihood of achieving positive results,
- deploy clean hydrogen fuel cell powered forklifts and aircraft tugs into crucial markets where economics can already support these technologies, and
- create new Hawaii jobs by shifting Hawaii's energy complex from its reliance on imported fossil fuels to localized renewable energy production with substantial value added from within the state.

These opportunities and their ability to help address Hawaii's energy challenges are why we believe House Bill 450, HD1, SD1 is important to Hawaii's future. If passed into law, House Bill 450, HD1, SD1 will extend the reach of hydrogen fuels beyond existing military base installations and into civilian applications. It means Hawaii will be taking its energy future into its own hands. By deliberately establishing strategic hydrogen infrastructure investments, Hawaii will be much better positioned to unlock its own renewable energy resources. We are willing to work with you to answer your questions about these promising technologies and how they may be used to solve Hawaii's energy challenges.

Thank you for the opportunity to present this testimony.

Hawaii Automobile Dealers' Association

Mike Niethammer, President
Dave Rolf, Executive Director

HADA testimony in STRONG SUPPORT
of HB 450, HD1, SD1
Relating to Hydrogen Fueling Stations

Presented to the Senate Committee on Ways and Means

at committee hearing to be held
10:30 a.m. Thursday, April 4, 2013
in Conference Room 211, Hawaii State Capitol

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

Chair Ige, Vice Chair Kidani and members of the committee:

No longer twenty or thirty years away, mass-production of hydrogen fuel cell vehicles is on the near horizon, with some vehicles available as early as 2015 according to a Toyota projection. Other auto manufacturers plan to roll out their 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 450, HD1, SD1 –a bill which proposes that the State provide funding to help establish a hydrogen fueling station demonstration project in Hawaii.

HADA applauds legislative leaders for consideration of this measure which will allow the new vehicles and the new fueling facilities to 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."

HB 450, HD1 which you are considering, seeks to remove this barrier for Hawaii.

The *Automotive News* story adds that "each hydrogen station costs $1 million to $1.5 million to build." (Source: Catherine Dunwoody, California Fuel Cell Partnership).

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Continuing our quote from the *Automotive News* story :

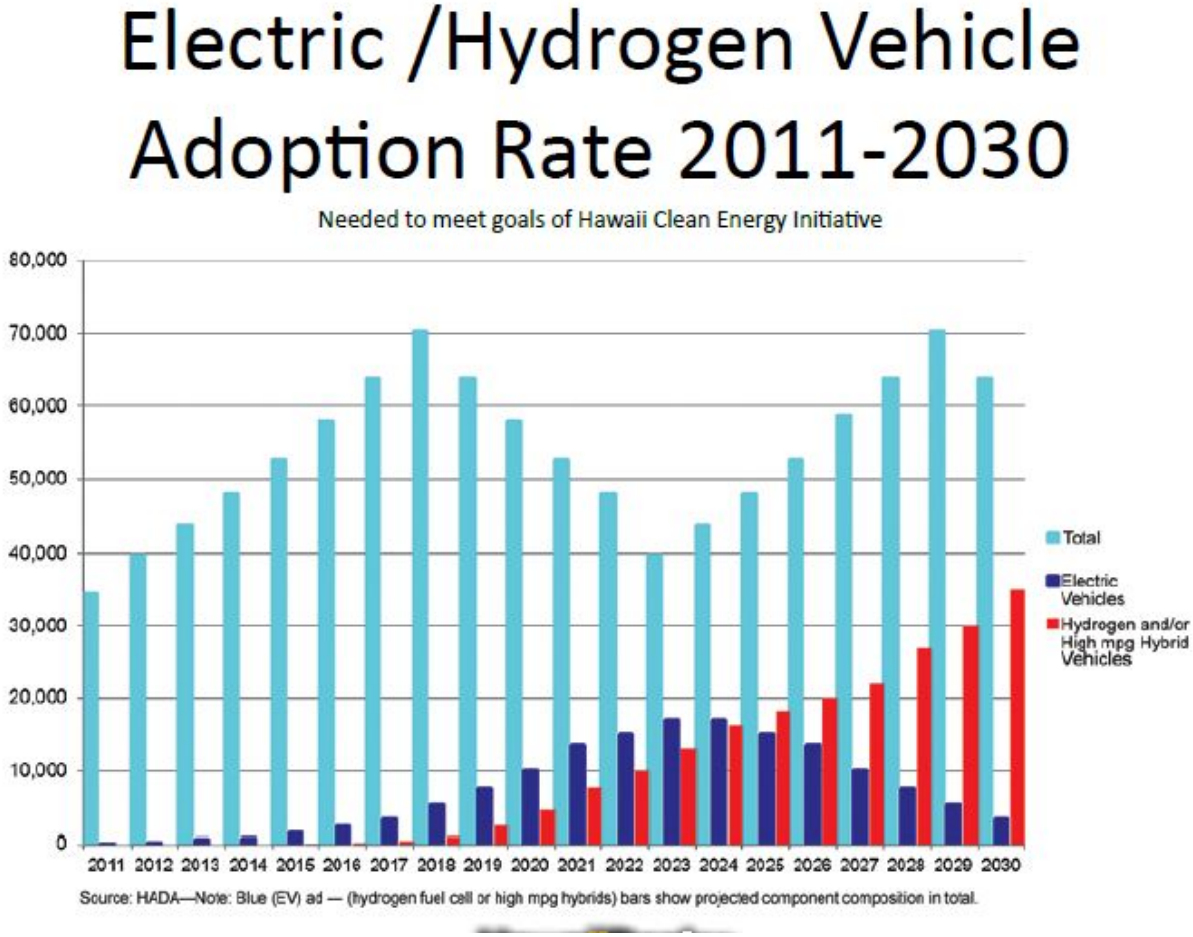
- "….(California's) energy commission has earmarked $28.6 million for new facilities.

- 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)

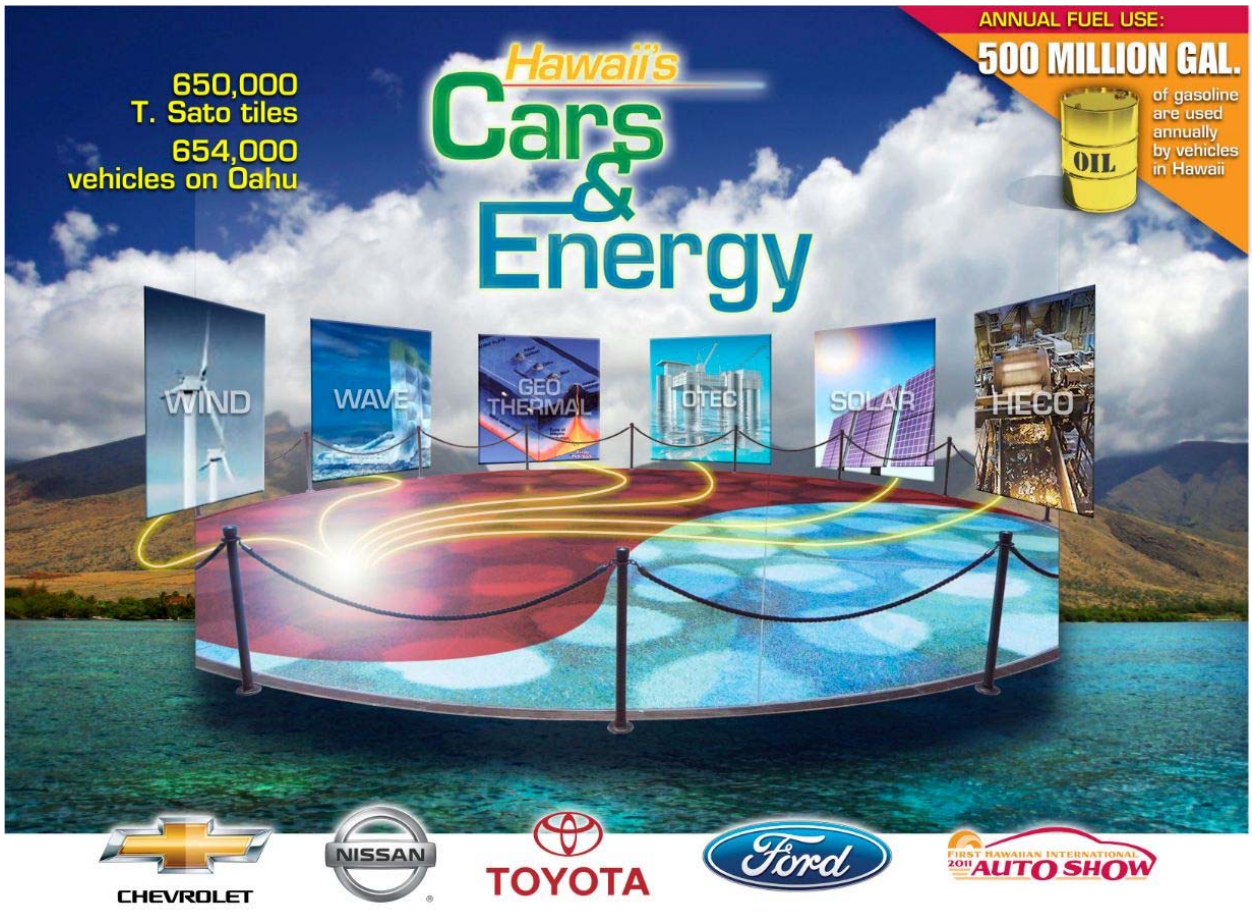
HADA developed the following uptake rate of renewable fuel vehicles which is needed to meet the goals of the Hawaii Clean Energy Initiative.



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.



HADA respectfully asks the committee to pass HB450, HD1, SD1.

Respectfully submitted,
David H. Rolf, on behalf of the members of the Hawaii Automobile Dealers Association.
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From: mailinglist@capitol.hawaii.gov
To: WAM Testimony
Cc: mendezj@hawaii.edu
Subject: *Submitted testimony for HB450 on Apr 4, 2013 10:30AM*
Date: Tuesday, April 02, 2013 12:54:14 PM

HB450
Submitted on: 4/2/2013
Testimony for WAM on Apr 4, 2013 10:30AM in Conference Room 211

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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