

DAVID Y. IGE  
GOVERNOR



SARAH ALLEN  
ADMINISTRATOR  
  
BONNIE KAHAKUI  
ASSISTANT ADMINISTRATOR

**STATE OF HAWAII  
STATE PROCUREMENT OFFICE**

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TESTIMONY  
OF  
SARAH ALLEN, ADMINISTRATOR  
STATE PROCUREMENT OFFICE

TO THE HOUSE COMMITTEE  
ON  
LABOR & PUBLIC EMPLOYMENT  
February 11, 2020, 9:10AM

HB 2699 HD1  
RELATING TO THE ENVIRONMENT

Chair Johanson, Vice Chair Eli and members of the committee, thank you for the opportunity to submit testimony on HB 2699 HD1. The State Procurement Office (SPO) appreciates the intent of the bill, and offers the following comments and recommendations:

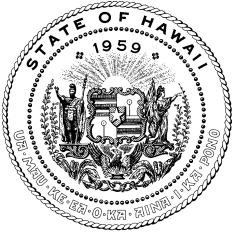
Comments.

1. The SPO has partnered with State Departments including DOT, DAGS, DLNR, DCCA, and DBEDT to develop a strategic procurement plan regarding the adaptation of electric vehicles and its respective infrastructure for Hawaii state light-duty vehicles. SPO has already authorized a state-wide cooperative agreement to procure for electric vehicles and charging stations; the procurement of which is currently underway.
2. Section 2, Page 2, Lines 18-20, and Page 3, Lines 1-14 creates a new section within the procurement code that includes statements outside of the subject-specific HRS Chapter 264 on Clean ground transportation, and also outside of the procurement-specific policy found in HRS 103D-412.

Concern: Subject-specific specifications should be included in the subject-specific HRS Chapter and not included as a whole new section inside of the procurement code. The Code is meant for general procurement methods, and high-level direction. It should not be a receptacle for all industry-specific specifications as this will, over time, create a vast, and complicated Code that will confuse buyers because it they will not be able to trust that specifications are in the respective chapter and procurement specific requirements are lost within the sea of specifications.

Recommendation: Remove Section 2, in its entirety, and move any verbiage to HRS Chapter 264 in Section 3.

Thank you.



# HAWAII STATE ENERGY OFFICE STATE OF HAWAII

235 South Beretania Street, 5<sup>TH</sup> Floor, Honolulu, HI 96813 | energy.hawaii.gov

DAVID Y. IGE  
GOVERNOR

SCOTT J. GLENN  
CHIEF ENERGY OFFICER

(808) 587-3807

## Testimony of **SCOTT J. GLENN, Chief Energy Officer**

before the  
**HOUSE COMMITTEE ON LABOR & PUBLIC EMPLOYMENT**  
Tuesday, February 11, 2020  
9:10 AM  
State Capitol, Conference Room 309

### In SUPPORT of **HB 2699, HD1** **RELATING TO THE ENVIRONMENT.**

Chair Johanson, Vice Chair Eli, and members of the Committee. The Hawaii State Energy Office (HSEO) supports and offers comments on HB 2699, HD1, which establishes clean ground transportation goals for state agencies on a staggered basis until one-hundred percent of light-duty vehicles of each fleet are powered by renewable sources by December 31, 2035, and for all light-duty vehicles in the State to be one hundred percent powered by renewable sources by December 31, 2045. Hawaii Revised Statutes (HRS) §225P-5 establishes a statewide target to sequester more atmospheric carbon and greenhouse gases (GHG) than emitted within the State as quickly as practicable, but no later than 2045. In 2016, emissions from transportation activities in Hawaii were 8.69 million metric tons CO2 equivalent., accounting for 51 percent of Energy sector emissions. Ground transportation accounted for 47 percent of those transportation emissions. The objective of transitioning all light-duty vehicles to be powered by renewable resources will aid in eliminating a significant portion of Hawaii's GHG emissions from the ground transportation sector.

HRS §196-71 (b)(2) directs the HSEO to lead efforts to incorporate energy efficiency, renewable energy, energy resiliency, and clean transportation to reduce costs and achieve clean energy goals across all public facilities. Consistent with HRS §196-71 (b)(2) the HSEO will support agencies in their efforts to fulfill the direction of HB 2699, HD1, to convert all light duty ground transportation vehicles to be powered by renewable sources by 2035, as well as transitioning medium- and heavy-duty vehicles to renewable sources as alternatives become feasible and cost-effective.

HRS §196-71 (b)(3) directs the HSEO to provide renewable energy, energy efficiency, energy resiliency, and clean transportation project deployment facilitation to assist private sector project completion when aligned with state energy goals. Additionally, HRS §226-18 provides

direction that planning for the State's facility systems with regard to energy shall be directed toward the achievement of increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation.

Both HRS §196-71 (b)(3) and HRS §226-18 support the direction provided in HB 2699, HD1, for the HSEO and DOT to collaborate in developing strategies to transition all light-duty vehicles, public and private, in the State to meet the clean ground transportation goal of being one hundred percent powered by renewable sources by December 31, 2045.

The HSEO would like to provide comments that, rather than insert specific milestones in statute at this time, the HSEO will work with DOT and stakeholders on establishing appropriate milestones consistent with these goals to ensure that the transition is efficient from both an operational and budgetary perspective, accounting for existing fleets and facilities. In particular, such milestones could result from other bills the Legislature is considering that would require HSEO to undertake a statewide transportation plan.

The HSEO defers to state agencies on procurement and budget considerations related to achieving the clean ground transportation goals.

Thank you for the opportunity to testify on this bill.



ELEMENTAL  
EXCELERATOR

**Written Statement of Elemental Excelerator  
before the House Committee on Labor and Public Employment  
February 11, 2020**

**In consideration of [HB 2699 HD 1](#)  
RELATING TO THE ENVIRONMENT**

**Aloha Chair Johanson, Vice-Chair Eli, and Members of the House Committee on Labor and Public Employment:**

Elemental Excelerator respectfully **submits support for the intent of HB 2699**, which establishes clean ground transportation goals for state agencies on a staggered basis until achieving a 100 per cent light-duty vehicle clean fleet by 12/31/2035, and for all light-duty vehicles in the State by 12/31/2045.

Elemental Excelerator is a Honolulu-based non-profit organization that supports climate positive startup companies that are helping solve Hawai'i's most urgent environmental problems. Each year, we select 15-20 companies annually that best fit our mission and fund each company up to \$1 million. To date, we have awarded \$36 million to 99 companies resulting in over fifty demonstration projects in Hawai'i & the Asia Pacific. Fifteen percent of Elemental Excelerator's portfolio has companies like AMPLY, KIGT, eMotorWerks, and Chargetrip that specifically support solutions that advance the electrification of transportation.

**We support the intent of HB 2699 HD 1 because** it signals to the broader mobility innovation sector Hawai'i's commitment to growing its economy through cleantech innovation and opens opportunities to mobility companies like the ones in our portfolio to support our state's ambitious goals. The City & County of Honolulu is currently analyzing pathways toward clean transportation goals that evaluate both vehicle miles traveled as well as electrification. We recommend that the language in this bill set targets for fleets under State control and work with the State Energy Office, Office of Planning, and utilities to identify pathways for clean transportation.

Mahalo for the opportunity to provide testimony on this legislation.

Sincerely,

A handwritten signature in black ink, appearing to read 'Aki Marceau'.

Aki Marceau  
Managing Director, Policy & Community



**HB-2699-HD-1**

Submitted on: 2/9/2020 5:54:21 PM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Ted Bohlen	Climate Protectors Coalition	Support	No

Comments:

Chair Johanson, Vice Chair Eli, and Labor and Public Employment Committee members:

The Climate Protectors Coalition **strongly supports** HB2699 HD1!

We are a new group inspired by the Mauna Kea Protectors but focused on reversing the climate crisis. As a tropical island State, Hawaii will be among the first places harmed by the global climate crisis, with more intense storms, loss of protective coral reefs, and rising sea levels. We must do all we can to reduce our carbon footprint and become at least carbon neutral as soon as possible. One way to achieve this is set forth in this bill- by establishing clean transportation goals, initially led by State agencies, but eventually by 2045 for all. This kind of action is needed to reach the State's carbon reduction goals by 2045. This will also save consumers money that now being wasted on petroleum shipped to Hawaii at great cost and used in inefficient internal combustion engines. Please pass this bill. Mahalo!



## HB 2699, HD 1, RELATING TO THE ENVIRONMENT

FEBRUARY 11, 2020 · HOUSE LABOR AND PUBLIC  
EMPLOYMENT COMMITTEE · CHAIR REP. AARON  
LING JOHANSON

**POSITION:** Support.

**RATIONALE:** IMUAlliance supports HB 2699, HD1, relating to the environment, which establishes clean ground transportation goals for state agencies on a staggered basis until achieving a 100 per cent light-duty motor vehicle clean fleet by 12/31/2035, and for all light-duty motor vehicles in the State by 12/31/2045.

According to a report produced by the Hawai'i Climate Change Mitigation and Adaptation Commission, global sea levels could rise more than three feet by 2100, with more recent projections showing this occurring as early as 2060. In turn, over the next 30 to 70 years, approximately 6,500 structures and 19,800 people statewide will be exposed to chronic flooding.

Additionally, an estimated \$19 billion in economic loss would result from chronic flooding of land and structures located in exposure areas. Finally, approximately 38 miles of coastal roads and 550 cultural sites would be chronically flooded, on top of the 13 miles of beaches that have already been lost on Kaua'i, O'ahu, and Maui to erosion fronting shoreline armoring, like seawalls.

Furthermore, according to research conducted by Michael B. Gerrard from Columbia Law School, modern-day slavery tends to increase after natural disasters or conflicts where large numbers of people are displaced from their homes. In the decades to come, says Gerrard, **climate change**

**will very likely lead to a significant increase in the number of people who are displaced and, thus vulnerable, to human trafficking.** While the Paris Climate Agreement of 2015 established objectives to limit global temperature increases and several international agreements are aimed at combating modern-day slavery, it is highly uncertain whether they will be adequate to cope with the scale of the problem that is likely to occur as a result of climate change.

As we work to reduce carbon emissions and stave off the worst consequences of climate change, we must begin preparing for the adverse impact of sea level rise on our shores. We are now quantifying the speed at which we must act. We cannot continue to develop the 25,800-acre statewide sea level rise exposure area—one-third of which is designated for urban use—without risking massive structural damage and, potentially, great loss of life.

Therefore, **our state must take bold steps to address the worsening climate crisis, which is exacerbated by a transportation sector that is still too heavily reliant on fossil fuels, like oil and natural gas.** According to the U.S. Energy Information Administration, the burning of fossil fuels was responsible for 76 percent of U.S. greenhouse gas emissions in 2016. These gases contribute to the greenhouse effect and are a primary driver of the pending climate catastrophe.

Honolulu and Maui Counties recently announced lawsuits against fossil fuel companies for the role they have played in the climate crisis. Just like with tobacco and pharmaceutical companies, fossil fuel corporations are being held financial accountable for taking reckless actions that jeopardized public health. At the same time, we should work to **divest our state's transportation sector from contributing to global harm by taking steps to incentivize the public purchase of electric vehicles and ensure that government vehicles are part of Hawai'i's pathway toward reducing carbon emissions, ultimately bankrupting the businesses that have placed our planet in peril and helping to limit global warming below 1.5 degrees Celsius.**

For the sake of our overheating Earth, we cannot afford to wait.



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183 Pinana St., Kailua, HI 96734 • 808-262-1285 • [info@350Hawaii.org](mailto:info@350Hawaii.org)

To: The House Committee on Labor & Public Employment  
From: Brodie Lockard, Founder, 350Hawaii.org  
Date: Monday, February 10, 2020, 9:10 am

**In strong support of HB 2699 HD1**

Dear Chair Johanson, and members:

350Hawaii.org strongly supports HB 2699.

The transportation sector contributes more to the Climate Crisis than any other sector in Hawaii. More than two-thirds of the fossil fuel imported into the State is used for transportation.

The State's vehicle fleet needs to be changed to electric vehicles (EVs) as quickly as possible.

Our four mayors have already committed to fully-electric fleets.

It's time for the State to step up. HB 2699 would lead the way for every vehicle in the state to be electric.

Brodie Lockard  
Founder, 350Hawaii.org



Email: [communications@ulupono.com](mailto:communications@ulupono.com)

HOUSE COMMITTEE ON LABOR AND PUBLIC EMPLOYMENT  
Tuesday, February 11, 2020 — 9:10 a.m. — Room 309

**Ulupono Initiative supports HB 2699 HD 1, Relating to the Environment.**

Dear Chair Johanson and Members of the Committee:

My name is Amy Hennessey, and I am the Senior Vice President of Communications & External Affairs at Ulupono Initiative. We are a Hawai'i-based impact investment firm that strives to improve our community's quality of life by creating more locally produced food; increasing affordable clean renewable energy and transportation options; and better managing waste and fresh water resources.

**Ulupono supports HB 2699 HD 1**, which establishes clean ground transportation goals for state agencies on a staggered basis until achieving a 100% light-duty vehicle clean fleet by 12/31/2035, and for all light-duty vehicles in the State by 12/31/2045.

Ulupono supports energy efficiency measures to lower consumption across the State. Electric vehicles (EVs) are an important avenue to address Hawai'i's pressing climate issues and align with the State's energy and environmental goals. Ground transportation makes up a significant portion of Hawai'i's reliance on imported oil and the largest contributor to our State's greenhouse gas emissions. EVs currently offer an effective option to progress clean renewable ground transportation and provide immediate benefits to Hawai'i.

We applaud legislators for pushing the State to lead by example and welcome the urgency to purchase zero emission vehicles, such as EVs, and setting a goal for the entire State fleet to be clean and electric. Not only will this help move the State's environmental, health and energy goals, but it will also signal to the market that Hawai'i demands EVs while creating a more robust EV market in the State, particularly as State vehicles enter the used car market. This market signal is critical positioning to help ensure suppliers prioritize clean vehicles for Hawai'i, particularly since the State is unable to join California and others via an EV mandate. However, it is important that this policy still be fiscally prudent so that agencies continue to optimize full utilization of the fleet and replace vehicles as they near the end of their useful life.

Lastly, this policy is akin to a number of other countries and cities around the world that have set future dates to eliminate the sale of gasoline vehicles. In such a global market, it is important for the State of Hawai'i to continue to lead by example, join the commitment made by the four counties and further show the world that Hawai'i is serious about the sustainability and resiliency of our community by encouraging EVs and EV infrastructure as this bill proposes.

Thank you for this opportunity to testify.

Respectfully,

Amy Hennessey, APR  
Senior Vice President, Communications & External Affairs

*Investing in a Sustainable Hawai'i*



**SanHi**

GOVERNMENT STRATEGIES

A LIMITED LIABILITY LAW PARTNERSHIP

DATE: February 10, 2020

TO: Representative Aaron Johanson  
Chair, Committee on Labor and Public Employment

FROM: Tiffany Yajima

RE: **H.B. 2699, H.D.1 – Relating to the Environment**  
**Hearing Date: Tuesday, February 11, 2020 at 9:10 a.m.**  
**Conference Room: 309**

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Dear Chair Johanson, Vice Chair Eli, and Members of the Committee on Labor and Public Employment:

On behalf of the Alliance for Automotive Innovation (“Alliance”) we submit these comments supporting the intent of H.B. 2699, H.D.1, but expressing concerns with sections 3 and 4 of the bill.

The Alliance for Automotive Innovation is the singular, authoritative and respected voice of the automotive industry. Focused on creating a safe and transformative path for sustainable industry growth, the Alliance for Automotive Innovation represents the manufacturers producing nearly 99 percent of cars and light trucks sold in the U.S. Members include motor vehicle manufacturers, original equipment suppliers, technology, and other automotive-related companies and trade associations.

This measure would establish a procurement policy and plan for state agencies to transition their fleet and procurement preferences to utilize ground transportation that is fully powered by renewable sources by December 1, 2035. It would also establish a goal for 100% renewable-powered light-duty motor vehicles in the state by the end of 2045, and require the Department of Transportation and the State Energy Office to develop strategies to further this goal.

The Alliance supports efforts to transition public fleets and public fleet procurement preferences in favor of zero emission vehicles. Government support for zero emission vehicles, charging infrastructure, and alternative fuel deployment is essential to the overall transition to cleaner transportation. As leaders in transportation planning, state agencies can facilitate opportunities for fleet electrification.

Automobile manufacturers are concerned, however, that sections 3 and 4 of this measure would establish a statutory timeline for the transition to alternative fuel vehicles based upon the unrealistic goal of achieving 100% gasoline-free passenger cars on Hawaii’s roads by the end of 2045. California, with the most aggressive

clean transportation goals in the country, contemplates about 50% of its fleet being powered by fossil fuel in 2050. This bill contemplates the entire fleet of passenger vehicles in Hawaii to be fossil-free by the end of 2045.

The average life of a vehicle is 12 years, which can be longer in Hawaii due to a strong resale market for used vehicles. Therefore, gasoline-powered vehicles will still be part of Hawaii's vehicle mix for years to come. In order to meet the 100% goal by the end of 2045, it would require that by 2033, at a minimum, all passenger cars sold in the state would have to be alternative fuel vehicles. Even California does not contemplate 100% of its vehicles to run on alternative fuels.

The California Air Resources Board (ARB) believes the state of California's 2050 GHG reduction targets can be met if, in the light-duty market, 100% of new vehicles sold in the state in 2050 are plug-in hybrid electric vehicles (PHEVs), battery electric vehicles, or hydrogen fuel cell vehicles. This goal, in and of itself a challenging one, is seen as attainable by 2050, five years after the 2045 goal set out in this bill. Even if ARB's projection is met, millions of gasoline and diesel vehicles would still be on California's roads in 2050, since any used car or truck, as well as any PHEV sold in 2050 and beyond, would still require gasoline or diesel to run.

No state has ever proposed a goal as aggressive this. Establishing such an unrealistic goal for our state could have the unintended consequence of burdening low-income working people and families who cannot afford the higher prices of a new electric vehicles.

Insofar as the original intent of this bill was to support the electrification of state fleets, we suggest amending sections 3 and 4 of the measure to remove the 2045 goal for all private light-duty motor vehicles.

The Alliance is very interested in continuing to dialogue with the Department of Transportation, the State Energy Office, and any other stakeholders to set reasonable goals for the transportation sector.

Thank you for the opportunity to submit these comments.

**HB-2699-HD-1**

Submitted on: 2/10/2020 11:44:39 AM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Joseph Kohn MD	We Are One, Inc. - www.WeAreOne.cc - WAO	Support	No

Comments:

Support HB2699 with accelerated timelines.

[www.WeAreOne.cc](http://www.WeAreOne.cc)





**Hawaiian  
Electric**

**TESTIMONY BEFORE THE HOUSE COMMITTEE ON  
LABOR AND PUBLIC EMPLOYMENT**

H.B. 2699, HD 1

**Relating to the Environment**

Tuesday, February 11, 2020

9:10 AM, Agenda # 13

State Capitol, Conference Room 309

Michael Colón

Manager, Electrification of Transportation  
Hawaiian Electric Company, Inc.

Aloha Chair Johanson, Vice Chair Eli and Committee Members,

My name is Michael Colón and I am testifying on behalf of Hawaiian Electric Company, Inc. (Hawaiian Electric) in support of H.B. 2699, HD1, Relating to Electric Vehicles. Hawaiian Electric supports this measure because it will strengthen Hawaii's commitment to clean ground transportation and help drive investment resulting in quantifiable emissions reductions.

This landmark bill would bring the transportation sector in line with the State's clean energy goals by seeking the ultimate elimination of fossil fuels for ground transportation. The Company supports the legislature's broad vision and substantial commitment to carbon reduction and applauds the legislature's intent to have the state lead by example by converting its own fleet over the next 15 years. This bill will also help align clean energy planning with transportation in new and dynamic ways. Hawaiian Electric anticipates leveraging forecasted electric load growth to integrate renewable energy at a new scale, with increased opportunity for grid integration and demand response.

Reducing barriers to adoption and facilitating the electrification of transportation is one of the Company's top priorities established in our *Electrification of Transportation Strategic Roadmap*. In addition, the Company applauds the acknowledgment that this bill intends to establish a goal to help drive future clean transportation policies regardless of whether the transition is completed by 2045.

Accordingly, Hawaiian Electric supports H.B. 2699, HD1. Thank you for this opportunity to testify.

**HB-2699-HD-1**

Submitted on: 2/9/2020 11:18:29 AM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Dylan P. Armstrong	Individual	Support	No

Comments:

**HB-2699-HD-1**

Submitted on: 2/9/2020 8:30:37 PM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Sherry Pollack	Individual	Support	No

Comments:

**HB-2699-HD-1**

Submitted on: 2/9/2020 10:41:41 PM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Victoria Anderson	Individual	Support	No

Comments:

Please pass this important bill!

**HB-2699-HD-1**

Submitted on: 2/10/2020 4:30:31 AM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Caroline Kunitake	Individual	Support	No

Comments:

Dear Chair Johanson and Members of the Committee on Labor and Public Employment,

I am writing in support of HB2699 HD1.

We need to establish clean ground transportation goals for state agencies on a staggered basis until achieving a 100 per cent light-duty motor vehicle clean fleet by 12/31/2035, and for all light-duty motor vehicles in the State by 12/31/2045. Effective 7/1/2050.

Please support this bill.

Mahalo,

Caroline Kunitake

**HB-2699-HD-1**

Submitted on: 2/10/2020 8:18:05 AM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Nanea Lo	Individual	Support	No

Comments:

Hello,

My name is Nanea Lo. I am a lifelong resident of Hawai'i on O'ahu. I am writing in to say I support this bill.

me ke aloha 'Ä• ina,

Nanea Lo

**HB-2699-HD-1**

Submitted on: 2/10/2020 10:48:45 AM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Bernard M Moret	Individual	Oppose	No

Comments:

My wife, Carol Fryer, and I, both registered voters in Hawaii County, would like to assert our opposition to HB 2699 as it is written.

In principle, we applaud any initiative to reduce pollution and make better use of natural resources. However, the current draft of 2699 is very short-sighted, particularly its 4th category (efficiency leaders), given that current "efficiency leaders" with internal combustion engines struggle to get a pitiful 35-39mpg EPA rating, as compared to 100-130mpg for battery-electric vehicles. Even the inclusion of hybrids is a mistake: not only do they also pale in efficiency when compared to purely battery-electric vehicles (typical non-plugin hybrids get 40-55mpg, plugin hybrids get at best to 70-75mpg, still a long shot from pure electric), but they are also being used by legacy manufacturers as a pretext to delay commitment to the manufacture of pure electric vehicles.

Should the committee modify the draft to remove support for all except pure battery electric (and hydrogen-fueled vehicles, which are unlikely to materialize), then we would strongly support the bill. As it is, we must oppose it.



**HB-2699-HD-1**

Submitted on: 2/10/2020 2:15:49 PM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Justin Salisbury	Individual	Support	No

Comments:

# Late Testimonies

DAVID Y. IGE  
GOVERNOR



**TESTIMONY BY:**

JADE T. BUTAY  
DIRECTOR

Deputy Directors  
LYNN A.S. ARAKI-REGAN  
DEREK J. CHOW  
ROSS M. HIGASHI  
EDWIN H. SNIFFEN

**STATE OF HAWAII**  
**DEPARTMENT OF TRANSPORTATION**  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

February 11, 2020  
9:10 A.M.  
State Capitol, Room 309

**H.B. 2699 H.D. 1**  
**RELATING TO THE ENVIRONMENT.**

House Committee on Labor & Public Environment

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The Department of Transportation (DOT) **supports** this bill which establishes clean ground transportation goals for state agencies on a staggered basis until achieving a 100 percent light-duty vehicle clean fleet by 12/31/2035, and for all light-duty vehicles in the State by 12/31/2045.

The DOT continues to work and collaborate with the Hawaii State Energy Office on strategies towards the electrification of transportation in order to meet timelines of the State's clean transportation goals.

Thank you for the opportunity to provide testimony.



John Uekawa, President  
Dave Rolf, Executive Director

HADA Testimony with COMMENTS on HB2699 HD1  
RELATING TO THE ENVIRONMENT

Presented to the House Committee Labor and Public Employment  
at the Public Hearing 9:10 a.m., Tuesday, February 11, 2020  
in Room 309 Hawaii State Capitol

by David H. Rolf for members of the Hawaii Automobile Dealers Association,  
*Hawaii's franchised new car dealers, who provide sales, warranty work and other factory-certified  
maintenance service for Hawaii's privately-owned and fleet-owned cars and light trucks*

Chair Johanson, Vice chair Eli, and members of the committee:

HADA members appreciate the opportunity to offer COMMENTS on HB2699 HD1—a bill which proposes to establish clean ground transportation goals for state agencies on a staggered basis until achieving a 100 per cent light-duty vehicle clean fleet by 12/31/2035, and for all light-duty vehicles by 12/31/2045

HADA dealers, over the years, have ardently worked to help the State transition to renewable fuel vehicles. Dealers have paid to purchase thousands of electric vehicles for their inventories, paid to send their auto technicians off for training in the new technology, and paid to install expensive electric vehicle infrastructure and charging stations in their dealerships. Their efforts, and efforts of others have resulted in Hawaii posting the #2 rate of customer purchases of EVs, in the nation. Second only to California.

Reaching a 100 per cent light-duty clean fleet for all light-duty vehicles by 12/31/2045 provides an infrastructure challenge, and additionally may force the removal of many hybrid vehicles and other likely highly fuel-efficient vehicles that still operated on roadways by that date. HADA believes the process in an evolution, not a revolution, and that the free market provides the best path to achieving Hawaii's goals.

With support the State purchasing EVs to replace the current fleet of State vehicles, and the information we have on the size of that fleet is a little dated, but likely has remained fairly constant. See the data in the following graphic on the next page.

Recently the State issued a Request for Proposal for 43 electric vehicles, which would be provided by a private bidder along with charging stations and coordination of maintenance and repairs. The State is moving ahead in the direction of facilitating a transition to renewable fuel vehicles, but the need to provide infrastructure will be challenging for the bidders. Indeed, infrastructure, is the key challenge. Eventually electricity production capacity for the utilities will also come into play. An EV uses about as much electric power in a year, as a small residential apartment.



The statistic shows the number of publicly owned vehicles in Hawaii in 2009. In that year, 32 federally-owned buses were operated in Hawaii.

### Number of publicly owned vehicles in Hawaii in 2009



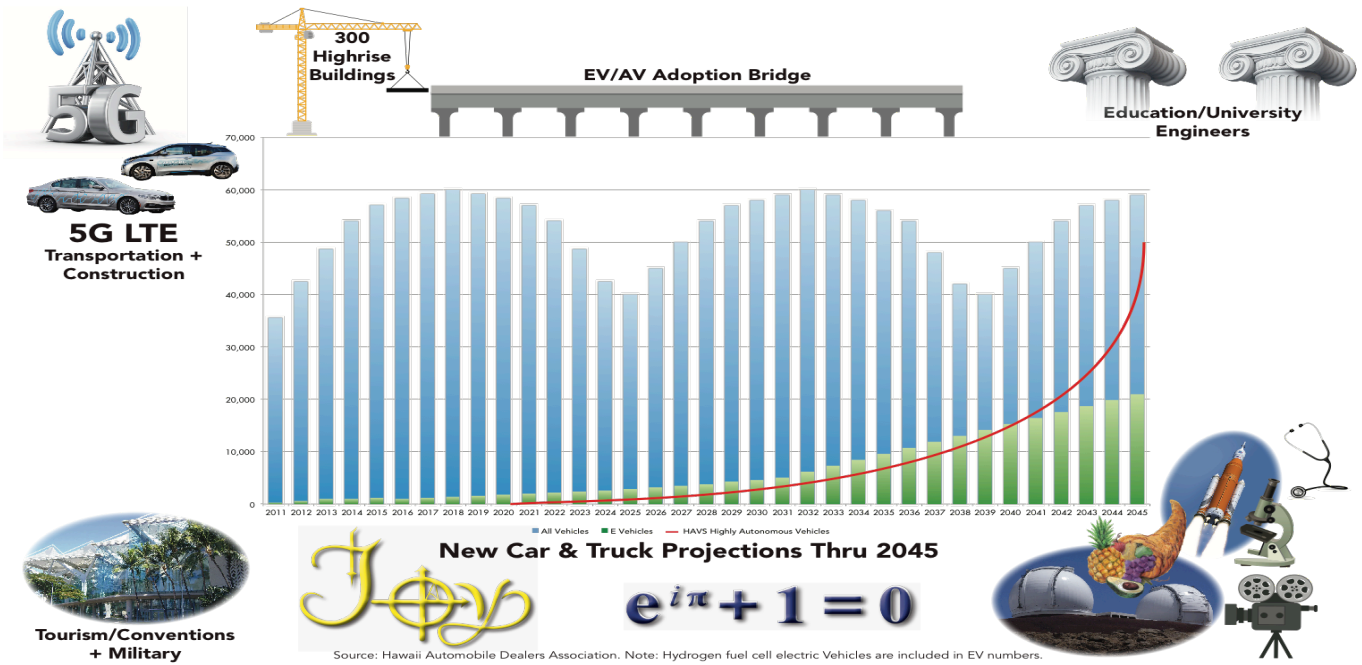
Vehicle type	Federal*	State, county and municipal**
Trucks and truck tractors	1,903	7,315
Automobiles	524	6,742
Buses	32	1,457
Trailers and semitrailers	5	1,289
Motorcycles	0	706

© Statista 2019

#### Source

Show detailed source information?

So, where are we now in electric vehicle uptake and what is the likely uptake scenario through 2045?

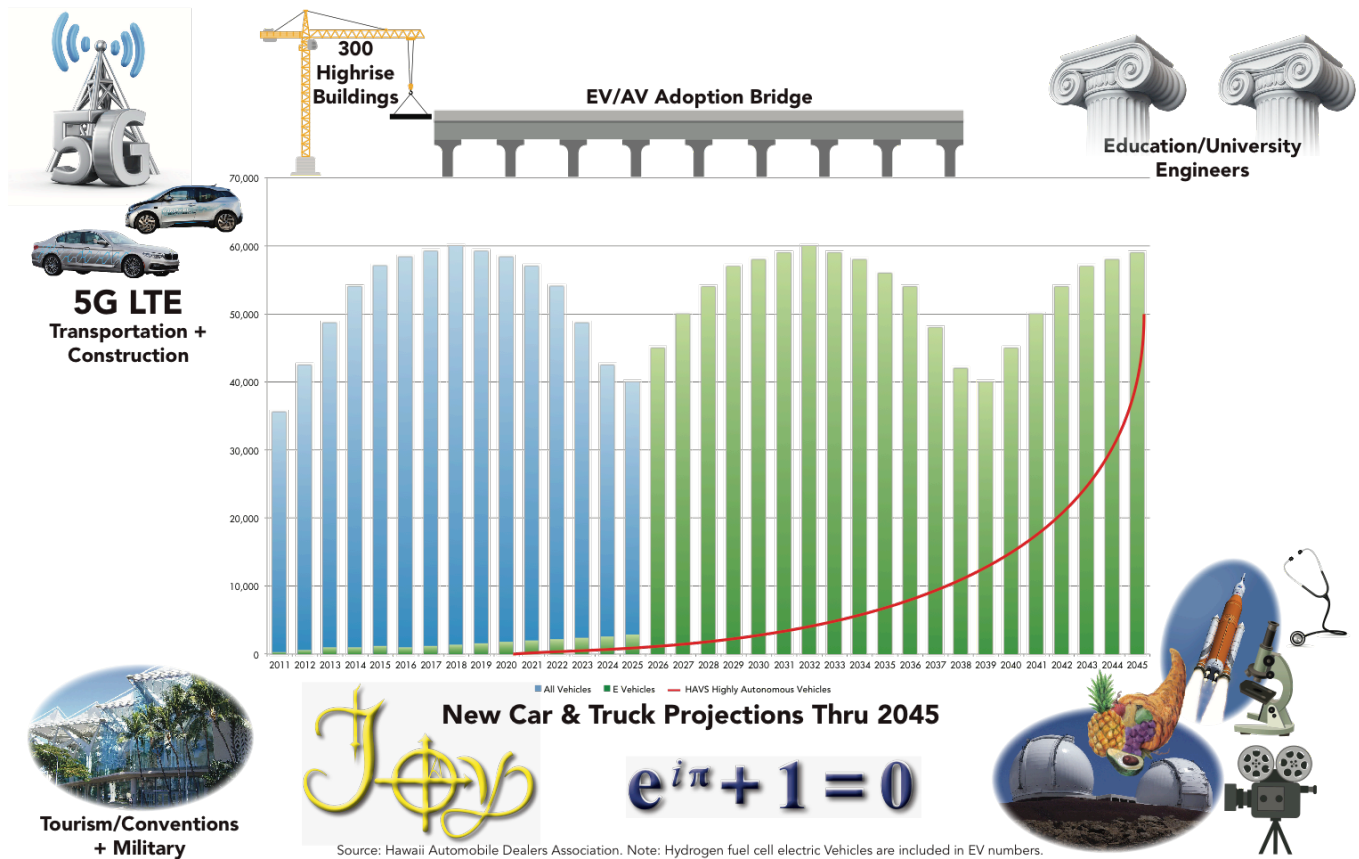


The HADA Rosetta Stone graphic shows our association’s predictions of EV / HFCEV uptake by customers through 2045 at 29%. Which corresponds to independent uptake percentage projections by major auto manufactures. (Note we use Euler’s Identity, as a mathematical proof of “JOY” because the process of transition to renewable fuels is going to be hard so we thought it might as well be joyful.)

There are 10,000 EVs on Hawaii roadways now. Less than 1%.

HADA notes, that if the (light duty cars and trucks... units in operation, UIO, remain the same at approximately 1 million units...and Hawaiian Electric Company predicts, in their “Roadmap” that, not 100%, but 55% of the vehicles on the roadways in 2045 would be electric.... that their grid by that time could handle that many electric vehicles.

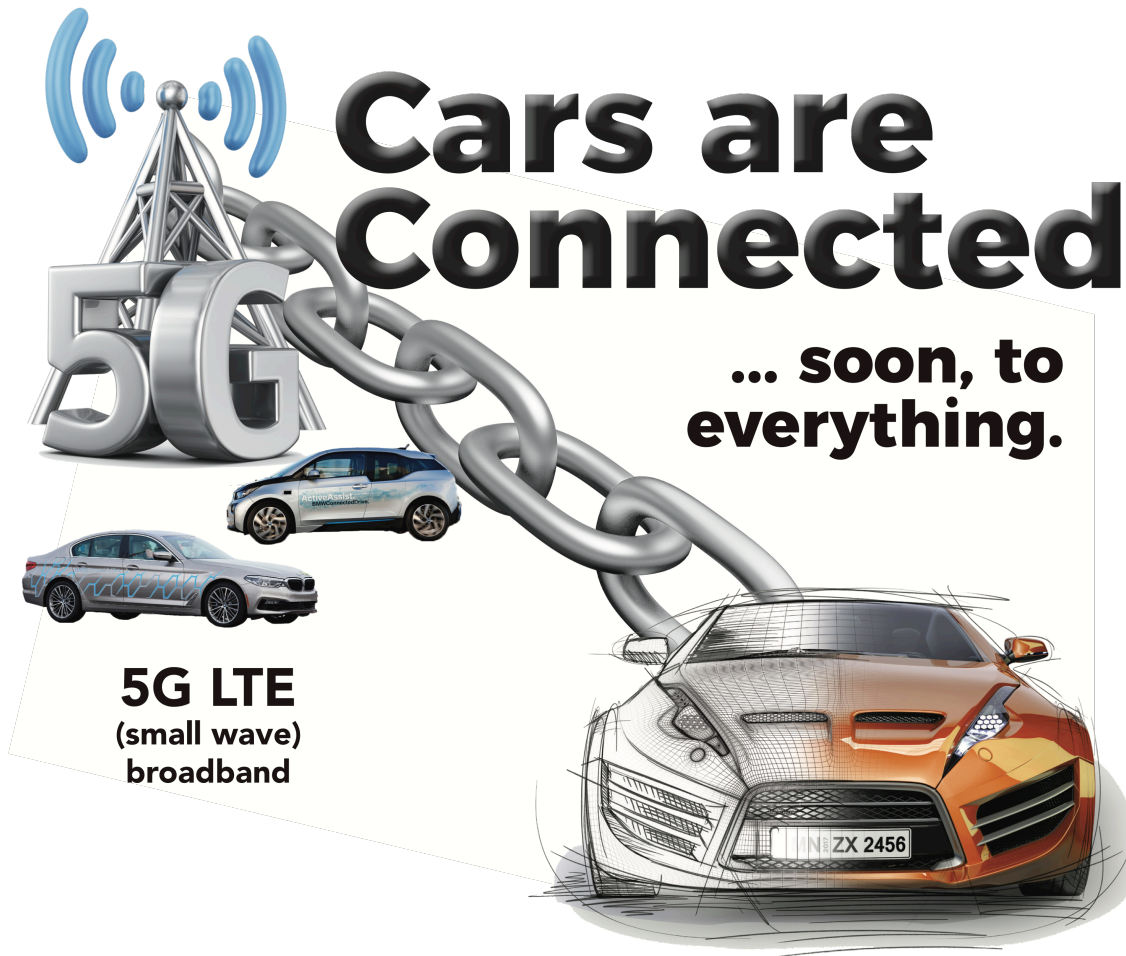
Reaching 100% EV/HFCEV vehicles by 2045 would require 100% of all new vehicles sold after 2025 to be EVs/ or HFCEVs. And the graph would look like this, if Units in Operation (UIOs) remained at current private vehicle levels.



This scenario, jumping from 8% of EV sales in 2025 to 100% overnight so to speak, remains challenging because HECO could not likely provide the infrastructure for 100% EVs, and certainly it would be difficult to put in that much hydrogen fuel cell infrastructure almost overnight to meet this scenario, and a 100% goal.

Soon, however, with the introduction of 5G technology, “Cars will be Connected to Almost Everything.”

That’s why HADA has proposed working with so many sectors (The Energy Sector, The Broadband Sector, The Transportation Sector, The Housing Sector, The Artificial Intelligence Sector, the Higher Education Community and more...



**5G LTE**  
(small wave)  
broadband

And that’s why HADA has proposed the movement to the renewable energy goal through private enterprise and the "AV-pockets concept" around the coming rail stations. It all ties in with the Hawaii Executive Order 17-07 announcing that “Hawaii is open for business for the testing and development of autonomous vehicles.” (Many of which, will be EVs and HFCEVs in the future...helping Hawaii to reach its renewable energy goals while boosting the Hawaii economy)

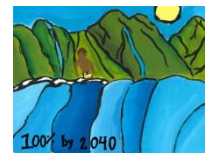
HADA appreciates the opportunity to offer COMMENTS on HB2699 HD1, and respectfully asks that the committee remove the 12-31-45 provision unless a workable plan is submitted. HADA is Making Hawaii Better Together. Clarity on how this 100% goal can accomplished is much needed before such a 100% goal is published. Right now, other countries are flying representatives to Hawaii thinking that we have the answer.

Respectfully submitted,  
David H. Rolf, for the members of the Hawaii Automobile Dealers Association

**HADA**  
**Making Hawaii Better Together**







## HOUSE COMMITTEE ON COMMITTEE ON LABOR & PUBLIC EMPLOYMENT

February 11, 2020, 9:10 A.M.

Room 309

(Testimony is 6 pages long, including attachment)

**LATE**

### TESTIMONY IN SUPPORT OF HB 2699 HD1

Aloha Chair Johanson, Vice Chair Eli, and members of the Labor & Public Employment Committee:

Blue Planet Foundation **supports HB 2699 HD1**, which sets a planning vision for the elimination of fossil fuels from ground transportation in Hawai'i by 2045. This bill will help to promote alignment and collaboration in ongoing and future planning efforts for multiple aspects of the state's transportation energy sector.

## HAWAI'I NEEDS A VISION FOR 100% CLEAN TRANSPORTATION

The legislature has long stressed the importance of the state's transition to a renewable energy system. For example, in 2001's Act 272 the legislature adopted a renewable standard for electricity, recognizing "the economic, environmental, and fuel diversity benefits of renewable energy resources" and encouraging further development of renewable resources. The legislature found that "while Hawaii is a national leader in the development of renewable energy resources for electricity production, there may be more that the State can do to encourage the development and implementation of renewable energy. These efforts can reduce the amount of imported oil used for the generation of electricity."

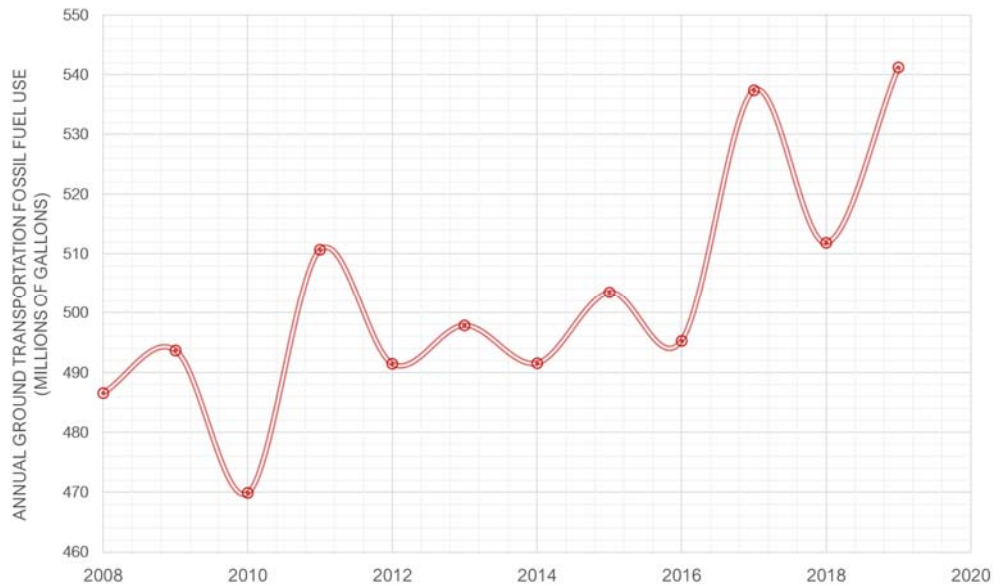
More recently, Hawai'i's leaders set a vision for 100% renewable electricity by 2045, becoming the first state in the nation to set such a target. That vision has become a driving force in electricity planning, and a focal point for a variety of key energy issues.

While Hawai'i has made substantial progress on policies, programs, and actions to reduce burning fossil fuels in the electricity sector, **we are falling short on decarbonizing our ground transportation sector**. Greenhouse gas emissions from transportation are increasing. Last year, we sold 6% more gasoline than the previous year.<sup>1</sup> Over one million gasoline-powered vehicles are on Hawai'i's roads—and from them comes nearly five million metric tons of climate-changing carbon pollution. Although we now have over 11,000 electric vehicles (EVs) on Hawai'i's roads, they still only make up a mere 1% of all registered vehicles in the state.<sup>2</sup>

<sup>1</sup> *DBEDT Monthly Energy Trends*, February 2020, <http://dbedt.hawaii.gov/economic/energy-trends-2/>.

<sup>2</sup> *Id.*

Recognizing that emissions from ground transportation have been increasing in recent years, in December 2017, **the mayors from all four of Hawai'i's counties pledged to transform ground transportation to 100 percent renewable fuel by 2045.** The purpose of their action was to set a vision for clean, modern mobility options for all. This goal is necessary and achievable. **The state should support these county goals and set its own goal for 100% renewable ground transportation.**



Hawaii Annual Fossil Fuel Consumption for Cars and Trucks

With the mayors' proclamations in December 2017, Hawai'i joined the ranks of several countries who have also recognized that fossil fuel-powered ground transportation needs to end. **Both France and Britain have set a target phasing out the sale of new gas cars by 2040.** India, Netherlands, Israel, and Denmark have set a similar goal for 2030. Belgium, Sweden, and Norway are developing policies to do the same. China also announced plans to electrify its entire vehicle fleet. These countries recognize the environmental imperative for setting long-term transportation policies. Here, policy is key, as the market fails to account for the environmental and social cost of carbon pollution from vehicles today.

In the current national political climate, the importance of a vision for our state energy plan cannot be overstated. News reports from indicate that President Trump is attempting to dismantle progress on decarbonization. He intends to weaken vehicle fuel efficiency, end a moratorium on new coal mines, stop the Clean Power Plan, and eliminate a review of climate impacts in environmental impact statements. Without state action, these steps will hurt local consumers and our environment, simply to line the pocket of the fossil fuel industry.

**Hawai'i's leaders must set the state's own vision and narrative for local, clean energy.**

Answers to several Frequently Asked Questions are attached to this testimony. Topics include:

- The **urgent need** for a planning target date for 100% clean transportation;
- The **economic benefits** of clean transportation;
- The **achievability of a 2045 planning target**, with trends such as electrified vehicles, biofuels, and multi-modal transportation options.

Thank you for the opportunity to submit this testimony.

# 100% Clean Ground Transportation

## Frequently Asked Questions

### Why is a 100% Clean Transportation Necessary?

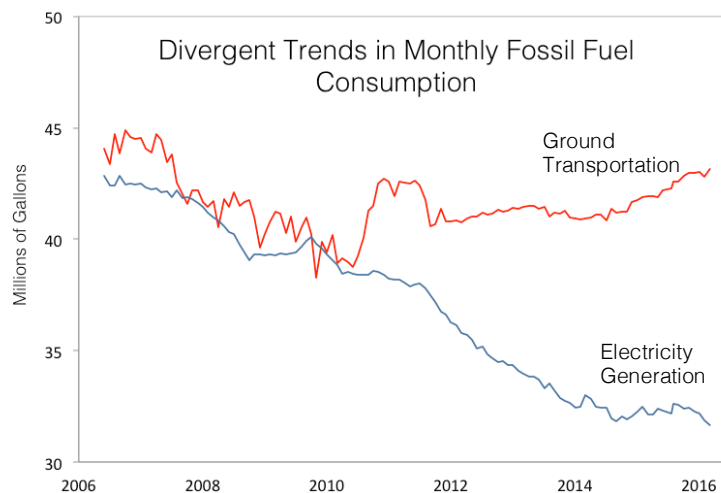
Hawai'i's policy leaders have long stressed the importance transitioning the state's energy system to clean energy. This transition has been driven by economics, and also by concern for our shared environment. As described by Governor George Ariyoshi:

**“Stewardship . . . mean living with the constant reminder that our actions occur in context of other people over generations.”**

Ground transportation accounts for around one-third of the state's fossil fuel consumption and greenhouse gas emissions. A resilient economy and a healthy environment require that we consider these impacts.

This is especially important in an age where 194 countries—essentially every country on earth—have agreed that it is imperative that we rapidly reduce greenhouse gas emissions.<sup>3</sup>

The state has long utilized planning targets as a way to set a course for reducing fossil fuel consumption in the electricity sector.<sup>4</sup> This transformation is on track to reach the goal of 100% renewable energy by 2045. In contrast, fossil fuel consumption for ground transportation is essentially unchanged from a decade ago.



Closing this gap will require many efforts by many entities, both today and in the future. The importance of SB 2699 is that it can align those efforts around a common vision, set by the state's leaders.

### What are the Economic Benefits?

The transition to clean transportation creates many opportunities for cost savings. Some of these opportunities come in the form of more efficient multi-modal transportation (e.g. saving money with more walking, biking, and public transit). Other opportunities arise from fuel-cost savings.

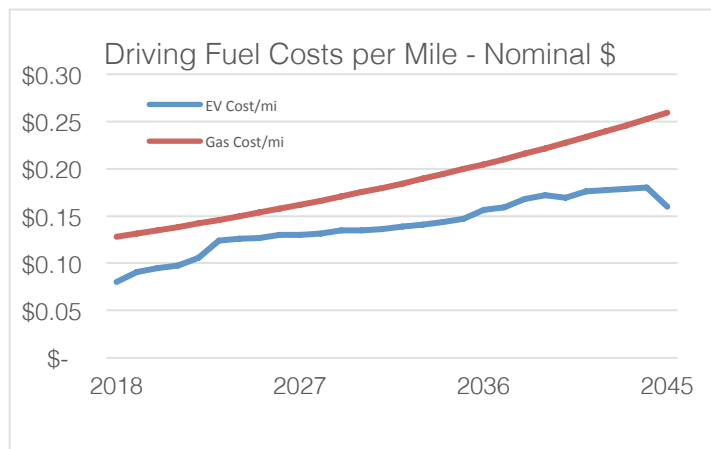
<sup>3</sup> See Paris Agreement, U.N. Framework Convention on Climate Change (2016).

<sup>4</sup> See H.R.S. § 269-91.

For example, the transition to clean energy is sure to include more electric passenger vehicles, buses, and fleet vehicles (“EVs”).<sup>5</sup> This electrification trend provides a double benefit. First, the cost of powering an EV is generally less than powering an equivalent gasoline vehicle. So consumers can save money—today—by switching to an EV. Second, a growing fleet of EVs can help to balance renewable energy on the electric grid. This can lower the cost of electricity for everyone.

University of Hawai‘i Engineering Professor, Matthias Fripp, has created a quantitative model of the state’s transition to renewable energy. He has calculated that a 100% renewable transportation system, with smart EV charging to match renewable electricity generation, can be expected to **save utility consumers approximately \$150 million per year in fuel and electricity costs.**<sup>6</sup>

Blue Planet Foundation has evaluated recent projections for electricity rates in Hawai‘i, comparing them to a World Bank estimate of the long-term trend for increasing oil prices, under a variety of transportation scenarios. This comparison indicates that we can expect electricity to remain the cheaper fuel option through 2045, and that the potential aggregate benefit in fuel savings is on the order of several billion dollars.



## Is 100% Clean Transportation by 2045 Possible?

Much like in the electricity sector, many factors will influence the pace of the state’s transition to clean energy. While some of those factors remain unknown (as is expected for a 30-year planning horizon), several important factors are apparent today:

### 1. The Rise of Battery Electric and Fuel Cell Vehicles

While familiar clean transportation options (like biofuels, walking, biking, public transit, etc.), and emerging technologies (like hydrogen) will undoubtedly play an important role, we expect the emergence of electric vehicles (EVs) to quickly and radically shift the state’s transportation energy landscape.

<sup>5</sup> For example, auto executives recently polled by KPMG identified EVs as the top trend in the car market between now and 2025.

<sup>6</sup> See M. Fripp, *Effect of Electric Vehicles on Design, Operation and Cost of a 100% Renewable Power System* (Apr. 2016).

On a global scale, important factors such as the cost of producing batteries for electric cars has fallen dramatically, from around \$1,000 per kWh to less than \$200. As we enter the second and third generation of modern EVs, a steadily increasing variety of models are coming onto the market with lower prices, larger batteries, and longer driving ranges. Nearly every major auto manufacturer is investing heavily in battery electric and/or hydrogen fuel cell electric vehicles, and views zero emission vehicles as the long-term solutions for transportation fuels.

Hawai'i is particularly well-suited for this acceleration of EV adoption because electric batteries perform well in our year-round warm climate. Our island geography often restricts the distances we need to drive, making range anxiety less of an issue compared to other locations.

## **2. Transportation will Become More Multi-modal, Networked, Autonomous**

The future of transportation in Hawai'i is likely to include more efficient land use that reduces travel demand and travel distances, significant improvements in mass transit, bicycling and pedestrian infrastructure, and new mobility alternatives such as autonomous taxis and other networked 'mobility as service' options. These changes are likely to shift a sizable percentage of Hawai'i's trips from personal automobiles to alternative modes and to significantly reduce transportation energy use.

With sufficiently transformative policies, the small sector of gasoline vehicles can be a small fraction of the total ground transportation sector (around 6%).

## **3. Biofuels are a Near-Term and Long-Term Option**

Hawai'i is home to one of the leading pioneers of biofuel production, Pacific Biodiesel. Today, the state is producing commercial quantities of biofuels using local feedstocks.

In a report commissioned by DBEDT in 2010, the consultant firm Black & Veatch Corporation performed an analysis of the potential for biofuel production in the state of Hawai'i. The report found that the maximum theoretical capacity of biofuel production in the state was equal to the equivalent of 848 million gallons of "green gasoline" or 779 million gallons of "green diesel" per year (see chart below). This is around 2.5 times the total amount of gasoline and diesel used in ground transportation in Hawai'i today.

<b>Table 1-6. Maximum Theoretical Hawai'i Biofuel Production Potential.</b>					
<b>Feedstock</b>	<b>Biofuel</b> 10 <sup>12</sup> Btus/yr	<b>Ethanol</b> million gal/yr	<b>Green Gasoline</b> equivalent million gal/yr	<b>Green Diesel</b> equivalent million gal/yr	<b>Green Jet Fuel</b> equivalent million gal/yr
Energy Crops	101	1,202	786	722	751
Cellulosic Wastes	8	95	62	57	59
Total:	109	1,297	848	779	810

*Source: DBEDT (2010). "The Potential For Biofuels Production in Hawaii"*

The report also concluded that "...it should be quite achievable for biofuels produced from in-state resources to displace 20 percent [over 50 million gallons] of the gasoline and diesel fuel needed for vehicle transportation in Hawai'i. This could be accomplished using about 10 percent of available agricultural land for energy crop production to supply the required biomass feedstock."

In short, local biofuels are a viable option for powering significant portions of the transportation sector.

**LATE**

**HB-2699-HD-1**

Submitted on: 2/10/2020 9:31:21 PM  
Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Roseann Michaud	Individual	Support	No

Comments:

**LATE**

**HB-2699-HD-1**

Submitted on: 2/11/2020 8:11:29 AM

Testimony for LAB on 2/11/2020 9:10:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Peg Sullivan-Miller	Individual	Support	No

Comments:

I am very supportive of changing all State vehicles to clean energy use. The time is now now with climate crisis upon us.