DAVID Y. IGE GOVERNOR





DR. CHRISTINA M. KISHIMOTO SUPERINTENDENT

STATE OF HAWAÎ I DEPARTMENT OF EDUCATION P.O. BOX 2360 HONOLULU, HAWAI`I 96804

> Date: 02/04/2020 Time: 11:05 AM Location: 325 Committee: House Energy & Environmental Protection House Transportation

Department: Education

Person Testifying: Dr. Christina M. Kishimoto, Superintendent of Education

Title of Bill: HB 2398 RELATING TO ELECTRIC VEHICLES.

Purpose of Bill: Establishes an income tax credit of \$2,000 for each electric vehicle purchased by the taxpayer. Requires each state agency to purchase electric vehicles to replace existing vehicles as needed. Requires all vehicles used by state agencies to be electric vehicles by 2030.

Department's Position:

The Department of Education (Department) supports HB 2398 to gradually move towards the Department's exclusive use of electric vehicles by 2030, with a requirement to replace existing vehicles with electric vehicles on an as-needed basis. We offer the following brief comments.

The Department currently does not have the charging infrastructure and capacity to support an electric vehicle fleet. The Department will require funding and time to implement a charging infrastructure at Department offices and baseyards to accommodate the need to recharge electric vehicles. Additionally, the cost of electricity at each site may also increase due to the increase in demand for the electric vehicles.

Thank you for the opportunity to testify on HB 2398.

The Hawai'i State Department of Education is committed to delivering on our promises to students, providing an equitable, excellent, and innovative learning environment in every school to engage and elevate our communities. This is achieved through targeted work around three impact strategies: school design, student voice, and teacher collaboration. Detailed information is available at www.hawaiipublicschools.org.

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 4, 2020 11:05 a.m. State Capitol, Room 325

H.B. 2398 RELATING TO ELECTRIC VEHICLES.

House Committee(s) on Energy & Environmental Protection and Transportation

The Department of Transportation **supports** H.B. 2398 which establishes an income tax credit of \$2,000 for each electric vehicle purchased by the taxpayer and requires each state agency to purchase electric vehicles to replace existing vehicles as needed; and requires all vehicles used by state agencies to be electric vehicles by 2030.

The DOT is working towards the electrification of transportation and supports Hawaii State Energy Office to lead efforts to incorporate energy efficiency, renewable energy, energy resiliency, and clean transportation to reduce costs and achieve clean energy goals.

Thank you for the opportunity to provide testimony.



Co-Chairs: Chair, DLNR Director, Office of Planning

Commissioners: Chair, Senate AEN Chair, Senate WTL Chair, House EEP Chair, House WTH Chairperson, HTA Chairperson, DOA CEO, OHA Chairperson, DOH Director, DBEDT Director, DOH Director, DOH Director, C+C DPP Director, Mawai' DP Director, Kawai' DP Director, Kawai' DP The Adjutant General Manager CZM

STATE OF HAWAII HAWAII CLIMATE CHANGE MITIGATION & ADAPTATION COMMISSION POST OFFICE BOX 621 HONOLULU, HAWAII 96809

Testimony of Anukriti Hittle Director, Kaua' The Adjutant G Manager, CZM Coordinator, Hawaii Climate Change Mitigation and Adaptation Commission

Before the House Committees on ENERGY AND ENVIRONMENTAL PROTECTION and TRANSPORTATION

Tuesday, February 4, 2020 11:05AM State Capitol, Conference Room 325

In support of HOUSE BILL 2398 RELATING TO ELECTRIC VEHICLES

House Bill 2398 proposes to establish an income tax credit of \$2,000 for each electric vehicle purchased by the taxpayer, and requires each state agency to purchase electric vehicles to replace existing vehicles as needed, and for all state vehicles to be electric by 2030. On behalf of the Hawaii Climate Change Mitigation and Adaptation Commission (Commission) I offer the following comments in support of this measure.

The Hawaii Climate Change Mitigation and Adaptation Commission "recognizes the urgency of climate threats and the need to act quickly. It promotes ambitious, climate-neutral, culturally responsible strategies for climate change adaptation and mitigation in a manner that is clean, equitable and resilient." The Commission, established by Act 32 SLH 2017 to uphold the United States' pledges under the Paris Agreement, is the coordinating body for policies on climate change mitigation and adaptation for the state. It is a high-level multi-jurisdictional body that guides the priorities of the state's climate response. Co-chaired by DLNR and Office of Planning, it consists of 20 members—chairs of four legislative committees, and executive department heads at the county and state levels.

Transportation (air and ground) is the single largest source of greenhouse gas emissions (GHG) in Hawaii, and mirrors a nationwide trend--according to EPA, transportation was the largest source of GHG emissions in 2017. Reducing emissions from ground transportation is one of two major focuses of the Commission, and a transition to clean renewable fueled vehicles is a crucial strategy to achieve state goals. Such conversions include electrification of transportation, and the use of clean, renewable fuels, and a tax credit program could be critical in promoting this transition to clean transportation.

The Commission's mission statement infers that accelerating supporting EV infrastructure (especially in underserved areas) would provide a further impetus to EV adoption statewide. It is recommended that the measure consider including a reference to such support.

In its November 2018 statement, the Commission also emphasized the conversion of public fleets to "Transform State and county fleets to address VMT reduction, congestion, and emissions—especially through electrification, renewable fuels, carshare, and supporting infrastructure development and deployment." HB2398 is a crucial step in this transformation.

Thank you for the opportunity to comment in support of this measure.

JOSH GREEN M.D. LT. GOVERNOR



DAMIEN A. ELEFANTE DEPUTY DIRECTOR



STATE OF HAWAII **DEPARTMENT OF TAXATION** P.O. BOX 259 HONOLULU, HAWAII 96809 PHONE NO: (808) 587-1540 FAX NO: (808) 587-1560

To:	The Honorable Nicole E. Lowen, Chair; The Honorable Tina Wildberger, Vice Chair; and Members of the House Committee on Energy & Environmental Protection
То:	The Honorable Henry J.C. Aquino, Chair; The Honorable Troy N. Hashimoto, Vice Chair; and Members of the House Committee on Transportation
From:	Rona M. Suzuki, Director Department of Taxation

Re: H.B. 2398, Relating to Electric Vehicles

Date: Tuesday, February 4, 2020 Time: 11:05 A.M. Place: Conference Room 325, State Capitol

The Department of Taxation (Department) appreciates the intent of H.B. 2398 and provides the following comments. H.B. 2398 establishes a refundable income tax credit of \$2,000 for each electric vehicle purchased by a taxpayer and requires state agencies to purchase electric vehicles to replace existing vehicles as needed. It also requires all vehicles used by state agencies to be electric vehicles by 2030. The measure is effective on July 1, 2020.

The Department also notes that, as currently written, the credit would be available for the purchase of new and used electric vehicles. If that is not the intent, the Department suggests amending subsection (b) to read:

(b) The amount of the credit shall be \$2,000 for each <u>new</u> electric vehicle purchased by the taxpayer; <u>provided that the credit allowed under this section</u> <u>has not been claimed by any taxpayer for the electric</u> vehicle.

Finally. the Department respectfully requests that this new tax credit be made effective for taxable years beginning after December 31, 2020 to allow sufficient time to make the necessary form and computer system modifications.

Thank you for the opportunity to provide comments.



CURT T. OTAGURO Comptroller AUDREY HIDANO Deputy Comptroller

STATE OF HAWAII DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

TESTIMONY OF CURT T. OTAGURO DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES TO THE HOUSE COMMITTEES ON ENERGY AND ENVIROMENTAL PROTECTION AND TRANSPORTATION

FEBRUARY 4, 2020, 11:05 A.M. CONFERENCE ROOM 325, STATE CAPITOL

H.B. 2398

RELATING TO ELECTRIC VEHICLES

Chairs Lowen and Aquino, Vice-Chairs Wildberger and Hashimoto, and members of the Committees, thank you for the opportunity to testify on H.B. 2398.

The Department of Accounting and General Services (DAGS) offers support on H.B 2398 which offers an income tax credit for purchasing an Electric Vehicle.

Currently Act 168 Session Laws of Hawaii 2012 exempts Electric vehicles for certain parking fees collected by State and County agencies. This law was enacted to encourage the adoption of the purchase of Electric Vehicles. **Studies show consumers would purchase these vehicles as pricing and driving range improves. This law has served its intended purpose and expires in June 2020.**

An alternative which provides a viable incentive would be a tax credit for purchasing an electric vehicle as offered in HB 2398 may be more conducive for the consumer to purchase

DAVID Y. IGE GOVERNOR H.B. 2398 Page 2

these vehicles. Additionally, this type of tax credit could also be applied to Level 2 or 3 Electric Vehicle Charging Station. There is an approximate \$5000-\$8000 cost difference between a gas vehicle and a comparable Electric Vehicle. The tax credit may be a viable method to make Electric Vehicles more affordable.

Thank you for the opportunity to testify on this matter

DEPARTMENT OF DESIGN AND CONSTRUCTION CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11[™] FLOOR HONOLULU, HAWAII 96813 Phone: (808) 768-8480 ● Fax: (808) 768-4567 Web site: <u>www.honolulu.gov</u>

KIRK CALDWELL MAYOR



MARK YONAMINE, P.E. DIRECTOR

HAKU MILLES, P.E. DEPUTY DIRECTOR

February 3, 2020

The Honorable Nicole E. Lowen, Chair The Honorable Tina Wildberger, Vice-Chair and Members of the Committee on Energy and Environmental Protection

The Honorable Henry J.C. Aquino, Chair The Honorable Troy N. Hashimoto, Vice-Chair and Members of the Committee on Transportation

House of Representatives State Capitol, Room 325 415 South Beretania Street Honolulu, Hawaii 96813

Dear Chair Lowen and Aquino, Vice-Chairs Wildberger and Hashimoto, and Members:

SUBJECT: House Bill No. 2398 Relating to the Electric Vehicles

The Department of Design and Construction (DDC) respectfully supports the intent of House Bill No. 2398. However, based on practical considerations, DDC requests that Section 3 of the bill be revised to amend Section 196-9, Hawaii Revised Statutes, subsection (c) (10) to read as follows:

"Purchase electric vehicles to replace existing vehicles as needed; provided that by 2030, all vehicles used by each agency shall be electric vehicles to the extent that electric vehicles are available for the class of vehicles they are intended to replace. Each agency shall be allowed to keep using non-electric vehicles beyond 2030 until they can be systematically phased out when functionally equivalent electric vehicles become available."

Thank you for the opportunity to provide our comments on House Bill No. 2398.

Sincerely,

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Mark Yonamine, P.E. Director

LEGISLATIVE TAX BILL SERVICE

TAX FOUNDATION OF HAWAII

126 Queen Street, Suite 304

Honolulu, Hawaii 96813 Tel. 536-4587

SUBJECT: INCOME, Electric Vehicle Tax Credit

BILL NUMBER: HB 2398; SB 2978

INTRODUCED BY: HB by SAIKI by request; SB by KOUCHI by request

EXECUTIVE SUMMARY: Establishes a refundable income tax credit of \$2,000 for each electric vehicle purchased by the taxpayer. Requires each state agency to purchase electric vehicles to replace existing vehicles as needed. Requires all vehicles used by state agencies to be electric vehicles by 2030.

SYNOPSIS: Adds a new section to chapter 235, HRS, to establish a refundable income tax credit equal to \$2,000 for each electric vehicle purchased by the taxpayer.

Defines "electric vehicle" as the same as under section 291-71, HRS.

Provides that the Department of Taxation shall prepare appropriate forms, may require proof, and may adopt rules.

Provides that all of the provisions relating to assessments and refunds under the Income Tax Law and under section 231-23(c)(1) apply to the credit.

Provides that claims for the tax credit under this section, including any amended claims, shall be filed on or before the end of the twelfth month following the taxable year for which the credit may be claimed.

EFFECTIVE DATE: The tax credit shall apply to taxable years beginning after December 31, 2019.

STAFF COMMENTS: Utilizing tax credits to drive economic policy in this manner is of a questionable benefit relative to the cost for all taxpayers. A direct appropriation of grant funding to producers would be more accountable and transparent. At least we would know the amount of the appropriation, while the fiscal impact of the credit would be a great big question mark.

Furthermore, the additional credit would require changes to tax forms and instructions, reprogramming, staff training, and other costs that could be massive in amount compared to the benefit expected to accrue because of the creditable activity.

Digested 1/31/2020



HB 2398, RELATING TO ELECTRIC VEHICLES

FEBRUARY 4, 2020 · HOUSE ENERGY AND ENVIRONMENTAL PROTECTION COMMITTEE AND HOUSE TRANSPORTATION COMMITTEE · CHAIRS REP. NICOLE E. LOWEN AND REP. HENRY J.C. AQUINO

POSITION: Support.

RATIONALE: IMUAlliance supports HB 2398, relating to electric vehicles, which establishes an income tax credit of \$2,000 for each electric vehicle purchased by the taxpayer, requires each state agency to purchase electric vehicles to replace existing vehicles as needed, and requires all vehicles used by state agencies to be electric vehicles by 2030.

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 Colombia 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.



P.O. Box 37158, Honolulu, Hawai`i 96837-0158 Phone: 927-0709 henry.lifeoftheland@gmail.com

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION Rep. Nicole E. Lowen, Chair Rep. Tina Wildberger, Vice Chair

COMMITTEE ON TRANSPORTATION Rep. Henry J.C. Aquino, Chair Rep. Troy N. Hashimoto, Vice Chair

DATE: Tuesday, February 4, 2020 TIME: 11:05 a.m. PLACE: Conference Room 325

HB 2398 Electric Vehicles

STRONG SUPPORT

Aloha Chairs Lowen and Aquino, Vice Chairs Wildberger and Hashimoto and, and Members of the Committee

Life of the Land is Hawai'i's own energy, environmental and community action group advocating for the people and `aina for 50 years. Our mission is to preserve and protect the life of the land through sound energy and land use policies and to promote open government through research, education, advocacy and, when necessary, litigation.

Every effort should be made to electrify transportation.

It might be interesting to add a section: If no one in the household owns, rents, leases or drives a vehicle, then the head of household can also apply for the tax credit.

Mahalo Henry Curtis Executive Director



TESTIMONY REGARDING HB 2398

being heard jointly by the House Committee on Energy and Environmental Protection and the House Committee on Transportation on Tuesday, February 4, 2020 at 11:00 AM

Aloha Chair Lowen, Chair Aquino, and Members of the Committees:

Thank you for the opportunity to provide input on HB 2398 which would establish an electric vehicle tax credit as well as direct state agencies to transition to all electric fleets by 2030. Tesla supports this measure but encourages the Committee to consider amending the bill as discussed below.

Tesla's mission is to accelerate the world's transition to sustainable energy through the deployment of electric vehicles and sustainable energy products, like storage and solar energy systems. Tesla is the only domestic mass market automobile manufacturer that exclusively builds and sells electric vehicles. To date we have sold over 900,000 EVs globally.

In 2018, the state of the Hawaii established an ambitious goal to eliminate the use of fossil fuels from ground transportation by 2045, recognizing the profound economic, energy security and environmental challenges that dependency on fossil fuels imposes on Hawaii and its residents. Additionally, in 2018 Hawaii Electric issued its Electrification of Transportation Strategic Roadmap, which among other things, found that the deployment of electric vehicles yielded substantial operational benefits and cost savings to all customers.¹ Collectively these factors strongly suggest that a tax credit, like that proposed by this measure, is very much in the public interest.

For similar reasons, Tesla also supports the bill's directives related to the transition of governmental fleets to be all-electric by 2030. Not only would such a transition ensure that the state is leading by example, the operational savings this transition would provide to taxpayers are likely significant, recognizing the much lower fuel and maintenance costs associated with electric vehicles.

Despite our support for this measure, we encourage the Committee to amend the definition of "electric vehicle" currently included in the bill. This definition is inappropriately broad as it includes plug-in hybrid vehicles which have up to 95% of their range powered by a fossil-fuel engine. For those supporters of this bill who want to see bold action on climate, and reducing the state's reliance on fossil-fuels, imagine incenting a power plant that is 95% coal and only 5% renewable energy. Tesla recommends modifying the definition of electric vehicle as follows for purposes of eligibility for the

¹ Hawaii Electric Electrification of Transportation Strategic Roadmap; pp. 35-36; March 29, 2018; available for download at

https://www.hawaiianelectric.com/documents/clean_energy_hawaii/electrification_of_transportation/201803_e_ot_roadmap.pdf

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proposed tax credit such that qualifying vehicles are exclusively powered from an onboard battery system (underlined text indicates additions, strikethrough text indicates deletions):

(g) For purposes of this section, "electric vehicle" has the same meaning as in section 291-71. means a vehicle, with four or more wheels, that draws propulsion energy exclusively from a battery and that can be recharged from an external source of electricity.

This will ensure that the state is only incenting vehicles that are wholly consistent with the objective of eliminating reliance on fossil fuels from ground transportation.

We also believe the definition of electric vehicle should be similarly modified to ensure that the proposed transition by government agencies pursuant to Section 3 of the bill to all-electric fleets is truly consistent with the intent of this measure and isn't achieved via the procurement of hybrid plug-in electric vehicles that principally operate on fossil-fuels.

Tesla appreciates the opportunity to submit this testimony. With amendments discussed above, we believe this measure could play an important role in facilitating Hawaii's efforts to eliminate its reliance of fossil fuels for ground transportation.

<u>HB-2398</u>

Submitted on: 2/3/2020 10:42:06 AM Testimony for EEP on 2/4/2020 11:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Noel Morin	Big Island EV Association, Hawaii Electric Vehicle Association	Support	No

Comments:

Dear Chair Lowen, Vice Chair Wildberger, and members:

I support HB 2398.

Our transportation sector contributes more to the climate crisis than any other sector. Our ground transportation consumes a significant amount of our fossil fuel imports and contributes to significant carbon emissions. Unfortunately, our gasoline consumption and emissions are still increasing. We must be more aggressive in the decarbonization of our transportation sector; electrification is way to accomplish this. Electric vehicles are many times more efficient that fossil fuel vehicles and naturally contribute to dramatic emissions reductions. They will help enable us to achieve energy independence, don't contribute to air and noise pollution, and are also more cost effective to maintain and operate.

On the proposed tax credit:

Electric vehicles are becoming more available and diverse. There will soon be a form factor that meets all needs. That said, the cost of electric vehicles is a barrier to adoption, especially for residents who are price conscious. A tax credit rebate for the purchase of an electric vehicle will incentivize residents to make the shift from gas to electric. This is particularly important as the Federal Tax credit for electric vehicles are being phased out – they are no longer available for certain manufacturers as a result of their sales 'quotas' being met.

On the electrification of the state fleet:

The State's vehicle fleet needs to be converted to electric vehicles (EVs) as quickly as possible. Our county governments have already made commitments to decarbonize their fleets, we must do the same. This transition will send a consistent message about our commitment to our renewable energy future aspiration. It will also naturally expand the number of charging stations, which will provide value to all electric vehicle owners.

We have the opportunity to lead in the electrification of transportation. We have many reasons for doing so – to contribute to the healing of our planet, to enable energy independence, and to improve the quality of life of Hawaii's residents. HB2398 offers a couple of ways to achieve this.

Thank you for your support of this measure.

Sincerely,

Noel Morin

President – Big Island Electric Vehicle Association, Hawaii Electric Vehicle Association



TESTIMONY BEFORE THE HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION AND TRANSPORTATION

H.B. 2398

Relating to Electric Vehicles

Tuesday, February 4, 2020 11:05 AM, Agenda # 1 State Capitol, Conference Room 325

Michael Colón Manager, Electrification of Transportation Hawaiian Electric Company, Inc.

Aloha Chair Lowen, Chair Aquino, Vice Chair Wildberger, Vice Chair Hashimoto 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. 2398**, Relating to Electric Vehicles. Hawaiian Electric Company supports this measure because it will help address one of the primary barriers to adoption of electric vehicles, in helping to reduce the overall cost of purchase and supports the strong language that sets the State as a leader in fleet electrification.

H.B. 2398 would be a landmark bill establishing Hawaii as a leader in clean transportation, sending a strong signal to the rest of the country that we recognize the importance of transportation in addressing the growing challenges related to climate change. This bill would also send a strong signal that we all must be active participants in the transition to clean transportation to remain relevant and responsible in the years to come. Hawaii has achieved the second highest electric vehicle adoption per capita and has done so with relatively few electric vehicle (EV) incentives. This bill would create a virtuous circle of funding to bolster the EV market and increase the market competitiveness of these vehicles against fossil fuel burning vehicles. Contrary to prevailing belief, electric vehicle prices are anticipated to come down in the near term, making this bill even more influential in incentivizing adoption and making it more affordable for individuals to convert to EV.¹

Hawaiian Electric Company considers the expanding benefits for clean fuel vehicles as an important incentive towards incentivizing adoption. 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*.

The Company is committed to an EV strategy that acknowledges the need for more sustainable transportation options. Done correctly, this bill can continue the tremendous progress that the state has made towards a cleaner and more sustainable transportation future.

Accordingly, Hawaiian Electric Company supports H.B. 2398. Thank you for this opportunity to testify.

¹ https://www.greencarreports.com/news/1126308_electric-car-battery-prices-dropped-13-in-2019-will-reach-100-kwh-in-2023; https://cleantechnica.com/2019/04/17/bnef-shocker-electric-cars-price-competitive-in-2020-as-battery-costs-plummet/; https://articles2.marketrealist.com/2019/08/how-tesla-model-3-lowering-ev-prices-us/#; https://about.bnef.com/blog/battery-pack-prices-fall-as-market-ramps-up-with-market-average-at-156-kwh-in-2019/; https://www.iflscience.com/technology/battery-costs-drop-even-faster-electric-car-sales-continue-rise/



HAWAII STATE ENERGY OFFICE STATE OF HAWAII

DAVID Y. IGE GOVERNOR

SCOTT J. GLENN CHIEF ENERGY OFFICER

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

(808) 587-3807

Testimony of SCOTT J. GLENN, Chief Energy Officer

before the HOUSE COMMITTEES ON ENERGY & ENVIRONMENTAL PROTECTION AND TRANSPORTATION

> Tuesday, February 4, 2020 11:05 AM State Capitol, Conference Room 325

In SUPPORT of HB 2398 RELATING TO ELECTRIC VEHICLES.

Chairs Lowen and Aquino, Vice Chairs Wildberger and Hashimoto, and members of the Committees. The Hawaii State Energy Office (HSEO) supports HB 2398 that establishes an income tax credit of \$2,000 for each electric vehicle purchased by the taxpayer; requires each state agency to purchase electric vehicles to replace existing vehicles as needed; and requires all vehicles used by state agencies to be electric vehicles by 2030.

Emissions from ground transportation such as passenger cars, light trucks, motorcycles, and heavy-duty vehicles still account for the largest share of energy sector emissions in the state. As noted in the 2016 Greenhouse Gas Inventory, transportation emissions in Hawaii were at 8.69 million metric tonnes of carbon dioxide equivalents, accounting for 51 percent of energy sector emissions. Ground transportation accounted for 47 percent of those transportation emissions. For Hawaii to meet its target to sequester more greenhouse gases than we emit as soon as practicable but no later than 2045 (Hawaii Revised Statutes §201-12.8 Energy Security Special Fund), programs that support the adoption of cleaner transportation options are extremely important.

Eliminating emissions from ground transportation sector will require significant adoption of both public and privately owned EVs. The retail cost of electric vehicles has been noted as a barrier to electric vehicle adoption. Establishing electric vehicle incentives for the purchase of new electric vehicles would aid the consumers in the adoption of electric vehicles and send a clear signal to the market that Hawaii supports electric vehicles. A market signal is important in that EV models are being introduced for new vehicle segments, such as light duty trucks, and positioning Hawaii as an EV positive market can help direct limited inventory of those new models to Hawaii. Increased adoption of electric vehicles aligns with the state's clean energy goals and supports the HSEO's efforts promote clean transportation and lead efforts to incorporate clean transportation to reduce costs and achieve address a significant portion of Hawaii's carbon emissions.

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 2398 to transition fleets to be powered by renewable sources.

The HSEO will coordinate with identified agencies on the specific implementation structure and defers to impacted state agencies on the budget considerations related to implementing an EV incentive program and fleet conversion to electric vehicles.

Thank you for the opportunity to testify.





Email: communications@ulupono.com

HOUSE COMMITTEES ON ENERGY AND ENVIRONMENTAL PROTECTION AND TRANSPORTATION Tuesday, February 4, 2020 — 11:05 a.m. — Room 325

Ulupono Initiative supports the intent of HB 2398, Relating to Electric Vehicles

Dear Chair Lowen, Chair Aquino, and Members of the Committees:

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 the intent of HB 2398, which establishes an income tax credit of \$2,000 for each electric vehicle purchased by the taxpayer and require each state agency to purchase electric vehicles to replace existing vehicles as needed. It also requires all vehicles used by state agencies to be electric vehicles aby 2030.

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.

However, if given the option, we do prefer an EV rebate program as proposed in HB2462. Research has shown that a rebate is easier to implement and can directly reduce the purchase price of the vehicle, impacting monthly payments and buying decisions or ability. Furthermore, rebates often enable more access to the program which leads to a more balanced utilization of the rebate across various demographics.

Regardless of the incentive, we do 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

Investing in a Sustainable Hawai'i



the State's environmental, health and energy goals, but it will also signal to the market that Hawaii demands EVs while creating a more robust EV market in the State, particularly as State vehicles enter the used car market. The State of Hawai'i should continue to lead by example 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





HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION HOUSE COMMITTEE ON TRANSPORTATION

February 4, 2020, 11:05 A.M. Room 325 (Testimony is 3 pages long)

TESTIMONY IN SUPPORT OF HB 2398

Aloha Chairs and Lowen and Aquino, Vice Chairs Wildberger and Hashimoto, and members of the committees:

Blue Planet Foundation supports HB 2398, providing a tax credit for the purchase of an electric vehicle (EV) and requiring that state agencies replace their existing fleet vehicles with EVs by 2030. Hawaii currently lacks any rebates or monetary incentives to encourage the adoption of clean electric vehicles.

Urgent Need for Clean Vehicle Policy

Despite policies adopted by the legislature to set a goal of carbon neutrality for Hawaii by 2045 and for the state to achieve the Paris Climate Agreement objectives, Hawaii is failing to make progress on carbon emissions reductions from the ground transportation sector. Carbon emissions from Hawaii's cars and trucks grew approximately 6% in 2019 over 2018 levels—an increase of nearly 600 million pounds of greenhouse gas. Overall fossil fuel use for ground transportation statewide is up 10% over the past decade (see Figure 1 on the second page of this testimony). Hawaii drivers are increasingly choosing larger, heavier vehicles, which are often less fuel efficient. According to the Hawaii Auto Dealers Association, pickup trucks and sport utility vehicles accounted for 67.9% of Hawaii vehicle sales in 2018, an increase from 48.7% in 2012. Hawaii currently has no policies to reverse this trend. Unlike numerous other states, Hawaii has no rebates or monetary incentives to encourage the adoption of clean electric vehicles.

Real world evidence demonstrates that increasing fuel prices are a weak incentive for consumers to adopt fuel efficient or fuel-free alternatives until the price of gasoline exceeds \$4 to \$5 per gallon. Unfortunately, despite the highest fuel costs in the nation, Hawaii's consumers do not choose more efficient vehicles compared to the national average. Additional policy measures are needed to discourage the purchase of gas guzzling vehicles and accelerate adoption of clean, electric vehicles.



Figure 1: Hawaii Annual Fossil Fuel Consumption for Cars and Trucks

Electric Vehicles Key to Hawaii's Renewable Energy Future

Electric vehicles play a critical role in Hawaii's clean energy future. While EVs that use the existing electricity grid to charge still use some fossil fuel (except on Hawaii Island), they use that fuel far more effectively than burning fuel directly in a typical gasoline engine. This is why EVs are much less expensive to "fuel" per mile than their gasoline counterparts. Further, by using stored electrical energy, EVs can take better advantage of intermittent solar, wind, and other clean energy resources. Most vehicles sit idle over 22 hours of the day, so they can become *de facto* energy storage devices if their batteries are plugged into the grid when they are not in use. With smart grid infrastructure in place, EVs become an essential component to electricity load and clean energy resource balancing—in addition to providing clean mobility solutions for Hawaii residents.

Electric vehicles (EV) are the fastest growing segment of new cars in Hawaii. Over roughly the past year (September 2018 – September 2019), EV registrations statewide increased by 28%, while registrations of gasoline-powered vehicles grew only 1 percent.¹ We expect the number of registered EVs to grow substantially as new EV models with longer ranges and lower prices hit

¹ DBEDT Monthly Energy Trends, January 2020 (http://dbedt.hawaii.gov/economic/energy-trends-2/).

the market. Still, nearly 1,050,000 fossil fuel-powered vehicles are on Hawaii's roads—and from them comes nearly five million metric tons of climate-changing carbon pollution. Per mile, gasoline-powered vehicles cost more to fuel, operate, and maintain than their zero emission electric counterparts.

Blue Planet Foundation supports HB 2398 to provide an incentive to purchase clean electric vehicles and to direct agencies to transition their fleets to EVs by 2030.

Thank you for the opportunity to testify.



February 3, 2020

 To: Representative Nicole E. Lowen, Chair Representative Tina Wildberger, Vice Chair, and Members of the House Committee on Energy and Environmental Protection And Representative Henry J.C. Aquino, Chair Representative Troy N. Hashimoto, Vice Chair, and Members of the House Committee on Transportation
 Re: HB 2398 re Electric Vehicles

Hearing: Tuesday, February 4, 2020, 11:05 a.m., Room 325

Position: Support



Aloha, Chairs Lowen and Aquino, Vice Chairs Wildberger and Hashimoto, and Members of the Committees:

The Environmental Caucus of the Democratic Party of Hawaii supports this bill. Our transportation sector contributes more to the climate crisis than any other sector. Our ground transportation consumes a significant amount of our fossil fuel imports and contributes to significant carbon emissions. Unfortunately, our gasoline consumption and emissions are still increasing. We must be more aggressive in the decarbonization of our transportation sector; electrification is way to accomplish this. Electric vehicles are many times more efficient that fossil fuel vehicles and naturally contribute to dramatic emissions reductions. They will help enable us to achieve energy independence, don't contribute to air and noise pollution, and are also more cost effective to maintain and operate.

On the proposed tax credit:

Electric vehicles are becoming more available and diverse. There will soon be a form factor that meets all needs. That said, the cost of electric vehicles is a barrier to adoption, especially for residents who are price conscious. A tax credit rebate for the purchase of an electric vehicle will incentivize residents to make the shift from gas to electric. This is particularly important as the Federal Tax credit for electric vehicles are being phased out – they are no longer available for certain manufacturers as a result of their sales 'quotas' being met.

Environmental Caucus

of the Democratic Party of Hawai'i

On the electrification of the state fleet:

The State's vehicle fleet needs to be converted to electric vehicles (EVs) as quickly as possible. Our county governments have already made commitments to decarbonize their fleets, we must do the same. This transition will send a consistent message about our commitment to our renewable energy future aspiration. It will also naturally expand the number of charging stations, which will provide value to all electric vehicle owners.

We have the opportunity to lead in the electrification of transportation. We have many reasons for doing so - to contribute to the healing of our planet, to enable energy independence, and to improve the quality of life of Hawaii's residents. HB2398 offers a couple of ways to achieve this.

Thank you for your support of this measure.

Respectfully submitted,

Alan B. Burdick, Vice Chair 486-1018 <u>burdick808@gmail.com</u>



183 Pinana St., Kailua, HI 96734 • 808-262-1285 • info@350Hawaii.org

To:The House Committees on Energy & Environmental Protection;
and TransportationFrom:Brodie Lockard, Founder, 350Hawaii.org

Date: Tuesday, February 4, 2020, 11:05 am



In strong support of HB 2398

Dear Chairs Lowen and Wakai, and members:

350Hawaii strongly supports HB 2398.

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.

Driving an EVs is the single biggest contribution a resident can make to fight the Climate Crisis. But they're still expensive, even though they may be cheaper than a gas car over the life of the vehicle. And the federal tax credit goes away soon, maybe this year.

This bill will help EV adoption a great deal. If the lost revenues seem like too much, wait until the bills come in for climate change damages.

Every government official around the world, at every level, is thinking, "Well, <u>we</u> can't fix climate change." And sure enough, every government official around the world, at every level, is not fixing climate change. But someone needs to pitch in. <u>Hawaii</u> needs to pitch in.

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 2398 would lead the way for every vehicle in the state to be electric.

Brodie Lockard Founder, 350Hawaii.org



HADA Testimony with COMMENTS on HB2398 RELATING TO ELECTRIC VEHICLES Presented to the House Committee On Energy & Environmental Protection and the House Committee on Transportation at the Public Hearing 11:05 a.m., Tuesday, February 4, 2020 in Room 325 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

Chairs Lowen and Aquino, Vice chairs Wildberger and Hashimoto and members of the committees:

HADA members appreciate the opportunity to offer COMMENTS on HB2398—a bill which proposes an income tax credit of \$2,000 for each electric vehicle purchased by the taxpayer. Requires each state agency to purchase electric vehicles to replace existing vehicles as needed. Requires all vehicles used by state agencies to be electric vehicles by 2030.

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.

Hawaii EV customers have propelled Hawaii to this high level of adoption, compared to other states, without being offered state rebates, except for the \$4,500 rebate for the first 311 EVs back in 2011, which was federal funding provided by the American Reinvestment and Recovery Act (ARRA) –a federal stimulus fund enacted in 2009 in the middle of the Global Financial Crisis.

At the time, HADA dealers noted that early adopters were going to purchase the available EVs, with or without the federal stimulus money.

In effect, the stimulus money, was simply a bonus for most purchasers, not necessarily a stimulus to purchase, as intended.

This was evidenced by the fact that 600+ EVs sold the following year, without the stimulus.

Part of the problem with stimulus money, or even tax credits like the \$2,000 Hawaii State Tax Credit proposed here, is that some 2,500 EV purchases are likely to happen next year, without the \$2,000 tax credit, meaning that \$5 million in tax money will be spent for something that was going to occur anyway.

HADA testimony with comments on HB2398-RELATING TO ELECTRIC VEHICLES, page 2

HADA dealers believe that the best use of those public funds would be for an education-of-the public media campaign on the benefits of electric vehicles, including hydrogen fuel cell electric vehicles, and other new technologies, in the every-evolving auto industry, that have the effect of reducing fossil fuel consumption.

HADA dealers began this process through earned media, by helping Honolulu's then Mayor, Peter Carlisle, in 2011, conduct a press conference in City Park, with Isamu Noguchi's Skygate sculpture as a background during the solar phenomenon known as Lahaina Noon, to introduce Hawaii to EV technology for personal transportation.



HADA later took this message to Beijing as part of what was called the "world's largest EV exhibit" in 2011. HADA used Hawaii public art, to explain Hawaii public policies, which encourage the adoption of EV technology. Chinese officials were interested in how Hawaii was sending its message-- encouraging customer adoption of EVs.

The HADA dealers erected a Cars & Energy Exhibit that year at the First Hawaiian International Auto Show, and produced the plans for an interactive cars and energy exhibit at the APEC conference also in that year.

The APEC committee did not select the HADA exhibit, but dealers much appreciated the assistance of Global Exposition Services in creating the model.

HADA testimony with comments on HB2398-RELATING TO ELECTRIC VEHICLES, page 3

The Honolulu Star-Advertiser subsequently ran a full page on EVs – on the front of their Sunday, 5-13-12 edition. HADA dealers helped by providing cars for the test drives by the newspaper and tv reporters who filed the stories.



RULE FORCES CHILD TO WAIT HIGH COURT CAVE DELUCATE O

HADA testimony with comments on HB2398-RELATING TO ELECTRIC VEHICLES, page 4

With regard to the State purchasing EVs to replace the current fleet of State vehicles, the information we have on the size of that fleet is a little dated, but likely has remained fairly constant. See the data below....



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

Source

Show detailed source information?

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.

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 at 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.

HADA testimony with COMMENTS on HB2398, RELATING TO ELECTRIC VEHICLES, page 8



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)



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 respectfully asks that the committees consider amending HB2398 to appropriate the monies proposed for tax credits for private vehicle EV purchases, to instead be used to create a State-funded education-of-the public media campaign on the benefits of EV ownership, and then pass this measure on to the next committee for favorable consideration.

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

HADA Making Hawaii Better Together

HB-2398 Submitted on: 2/3/2020 9:31:32 PM Testimony for EEP on 2/4/2020 11:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Sherry Pollack	Individual	Support	No

Comments:



<u>HB-2398</u>

Submitted on: 2/4/2020 6:28:36 AM Testimony for EEP on 2/4/2020 11:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Keith Neal	Individual	Support	No

Comments:

Dear Chair Lowen, Vice Chair Wildberger, and members:



I support HB 2398.

We must be more aggressive in decarbonizing of our transportation sector. Electric vehicles (EVs) are far more efficient that fossil fuel vehicles and will enable the state to achieve energy independence. Electric vehicle operation offers a dramatic reduction in pollution of air, land, water, and ocean over fossil fueled vehicles. Furthermore, an electric vehicle is more cost effective to maintain and operate.

Proposed tax credit:

The current cost of electric vehicles are a barrier to their adoption, especially for residents who are price sensitive. A state tax credit rebate for the purchase of an electric vehicle will incentivize residents to shift from fossil fuel to electric. The Federal tax credits for electric vehicles are being phased out, or are no longer available due to manufacturers sales limits being surpassed. The state must step forward to provide for the people and our environment

Electrification of the state fleet:

The State's vehicle fleet needs to be rapidly converted to electric vehicles (EVs). County governments have committed to decarbonizing their fleets, the state of Hawaii must do the same. Rapid adoption will send a consistent message about the state commitment to a renewable energy future.

HB2398 offers a meaningful improvement to the quality of life of Hawaii's residents.

Thank you for your support of this measure.

HB-2398 Submitted on: 2/3/2020 3:48:59 AM Testimony for EEP on 2/4/2020 11:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jennifer Azuma Chrupalyk	Individual	Support	No

Comments:

Thank you