

DAVID Y. IGE
GOVERNOR



CRAIG K. HIRAI
DIRECTOR

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STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
P.O. BOX 150
HONOLULU, HAWAII 96810-0150

EMPLOYEES' RETIREMENT SYSTEM
HAWAII EMPLOYER-UNION HEALTH BENEFITS TRUST FUND
OFFICE OF THE PUBLIC DEFENDER

ADMINISTRATIVE AND RESEARCH OFFICE
BUDGET, PROGRAM PLANNING AND
MANAGEMENT DIVISION
FINANCIAL ADMINISTRATION DIVISION
OFFICE OF FEDERAL AWARDS MANAGEMENT (OFAM)

WRITTEN ONLY
TESTIMONY BY CRAIG K. HIRAI
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE
TO THE HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
ON
SENATE BILL NO. 2570, S.D. 2, H.D. 1

March 21, 2022
2:00 p.m.
Room 329 and Videoconference

RELATING TO ZERO EMISSION VEHICLE FUELING REBATES

The Department of Budget and Finance (B&F) offers comments on this bill.

Senate Bill (S.B.) No. 2570, S.D. 2, H.D. 1, amends Chapter 269, HRS, to add a new section to: 1) require the Public Utilities Commission (PUC), in consultation with zero-emission stakeholders and the Hawai'i State Energy Office, to administer a Zero-Emission Vehicle Fueling System Rebate Program (Rebate Program) and allow the PUC to contract with a third-party administrator pursuant to Section 269-73, HRS, to operate the Rebate Program; 2) set eligibility criteria, dollar amounts per rebate, and other requirements for applicants who upgrade or install eligible hydrogen refueling systems after December 31, 2022; 3) exempt rebates from being considered as income for the purposes of State or county taxes; 4) amend Section 243-3.5, HRS, to reduce the allocation of the State Environmental Response, Energy, and Food Security Tax (Barrel Tax) to be deposited into the Energy Systems Development Special Fund (ESDSF) from \$0.08 to \$0.05 per barrel and allocate \$0.03 of the Barrel Tax to be deposited into the Hydrogen Fueling System Subaccount (HFSS); and 5) amend

Section 269-33, HRS, to establish the HFSS within the PUC Special Fund (PUCSF), but not subject it to the general fund lapse “ceiling” of the PUCSF set by Section 269-33(d), HRS, to fund the Rebate Program.

B&F notes that the bill currently does not provide a special fund appropriation for the HFSS to expend Barrel Tax revenues in support of the Rebate Program. In addition, while the change in Barrel Tax distribution will not result in any additional general fund loss, B&F defers to the University of Hawai'i and PUC on the impact of reallocating \$0.03 of Barrel Tax revenue from the ESDSF to the proposed HFSS.

Additionally, as a matter of general policy, B&F does not support the creation or continuance of any special fund or special fund subaccount which does not meet the requirements of Section 37-52.3, HRS. Special funds and any related subaccounts should: 1) serve a need as demonstrated by the purpose, scope of work and an explanation why the program cannot be implemented successfully under the general fund appropriation process; 2) reflect a clear nexus between the benefits sought and charges made upon the users or beneficiaries or a clear link between the program and the sources of revenue; 3) provide an appropriate means of financing for the program or activity; and 4) demonstrate the capacity to be financially self-sustaining. In regard to S.B. No. 2570, S.D. 2, H.D. 1, it is unclear if the proposed HFSS would be self-sustaining.

Thank you for your consideration of our comments.

TESTIMONY OF
JAMES P. GRIFFIN, Ph.D.
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII

TO THE
HOUSE COMMITTEE ON
CONSUMER PROTECTION AND COMMERCE

March 21, 2022
2:00 p.m.

Chair Johanson and Members of the Committee:

MEASURE: S.B. No. 2570 SD2 HD1

TITLE: RELATING TO ZERO EMISSION VEHICLE FUELING REBATES.

DESCRIPTION: Establishes the zero-emission vehicle fueling system rebate program. Establishes the rebate amount for the installation or upgrade of a hydrogen fueling system at \$200,000. Establishes a hydrogen fueling system subaccount within the public utilities commission special fund. Reduces the allocation that the energy systems development special fund receives from the environmental response, energy, and food security tax from 8 cents to 5 cents and allocates the difference to the hydrogen fueling system subaccount. Effective 7/1/2050. (HD1)

POSITION:

The Public Utilities Commission (“Commission”) offers the following comments for consideration.

COMMENTS:

The Commission appreciates the intent of this measure to facilitate expanded availability of zero emission vehicle infrastructure.

Since 2019, the Commission has managed the Electric Vehicle Charging System (“EVCS”) Rebate Program in consultation with electric vehicle stakeholders and in cooperation with the program’s administrator, Hawaii Energy. The program has been met with a robust response and has efficiently allocated funds to expand public charging infrastructure in the state. According to Hawaii Energy, the program to date has issued rebates for 43 new Level 2 EVCS installations, 62 Level 2 retrofits, 1 DC fast charger

("DCFC") installation, and 1 DCFC retrofit. The program also has 30 projects in the pipeline, totaling nearly \$200,000 in rebates.

The Commission has recently been alerted by the Department of Budget and Finance that the EVCS rebate program requires a direct appropriation in order for the Commission to expend deposited barrel tax funds, and that Act 75 (2021) does not provide sufficient authority to do so. Therefore, the EVCS program is currently constrained by a \$100,000 spending ceiling for FY 2022, which was created by the "seed money" deposited from the Energy Security Special Fund through Act 75.

To ensure that the Commission is able to expend barrel tax funds as intended for the EVCS rebate program, **the Commission recommends adding the following appropriation language, which would satisfy the EVCS rebate program pipeline through the end of FY 2022.**

SECTION [] . There is appropriated out of the electric vehicle charging system subaccount within the public utilities commission special fund the sum of \$500,000 or so much thereof as may be necessary for fiscal year 2021-2022 for the electric vehicle charging system rebate program established pursuant to sections 269-72 and 269-73, Hawaii Revised Statutes.

The funds appropriated shall be expended by the public utilities commission for the purposes of this part.

In addition, after consulting with the Department of the Attorney General, **the Commission requests an amendment to page 8, line 14 of this bill to ensure that an appropriation for the EVCS rebate program through FY 2022 does not lapse before the funds can be expended:**

SECTION 5. This Act shall take effect on July 1, 2050; provided the appropriation for fiscal year 2021-2022 for the department of commerce and consumer affairs for the electric vehicle charging system subaccount of the public utilities commission special fund shall lapse on June 30, 2024.

The Commission also recommends that similar appropriation language be added to account for expected barrel tax funds in the EVCS subaccount in FY 2023:

SECTION []. There is appropriated out of the electric vehicle charging system subaccount within the public utilities commission special fund the sum of \$1,000,000 or so much thereof as may be necessary for fiscal year 2022-2023 for the electric vehicle charging system rebate program established pursuant to sections 269-72 and 269-73, Hawaii Revised Statutes.

The funds appropriated shall be expended by the public utilities commission for the purposes of this part.

The Commission further recommends that the spending cap outlined in Section 269-72, subsection (d), HRS, be removed. This will ensure that the Commission is permitted to expend all appropriated funds.

Should the committee choose to create a zero-emission vehicle fueling system rebate program, the Commission also recommends adding appropriation language to account for expected barrel tax funds in the hydrogen fueling system subaccount in FY 2023:

SECTION []. There is appropriated out of the hydrogen fueling system subaccount within the public utilities commission special fund the sum of \$1,000,000 or so much thereof as may be necessary for fiscal year 2022-2023 for the zero-emission vehicle fueling system rebate program established pursuant to sections 269- and 269-73, Hawaii Revised Statutes.

The funds appropriated shall be expended by the public utilities commission for the purposes of this part.

Should the committee choose to create this new program, the Commission also recommends that the language on page 7, lines 14-18 be amended as follows, to ensure that funds intended for the zero-emission fueling system rebate program are not subject to the ceiling of the PUC Special Fund.

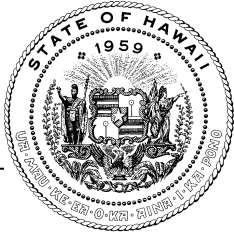
(d) All moneys in excess of \$1,000,000 remaining on balance in the public utilities commission special fund on June 30 of each year shall lapse to the credit of the state general fund; provided that this ceiling shall not apply to the ~~[subaccount]~~ subaccounts established in ~~[subsection]~~ subsections (e) and (f).

The Commission also recommends amending the rebate language to allow for rebates “up to” \$200,000. This flexibility will enable the Commission to scale rebates, as necessary, to ensure the most efficient use of program funds.

Finally, should the Committee choose to create this new program, the Commission notes that Section 269-73 may require amendments to allow the Commission to contract with a third-party administrator to operate and manage the zero-emission vehicle fueling system rebate program.

The Commission is willing to work with the Committee and stakeholders to develop language that ensures the continued funding and efficient operation of the EVCS rebate program.

Thank you for the opportunity to testify on this measure.



HAWAII STATE ENERGY OFFICE STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

235 South Beretania Street, 5th Floor, Honolulu, Hawaii 96813
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Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

Monday, March 21, 2022
Time 2:00 PM
State Capitol, Conference Room 329 & Videoconference

SUPPORT
SB 2570, SD2, HD1
RELATING TO ZERO EMISSION VEHICLE FUELING REBATES.

Chair Johanson, Vice Chair Kitagawa, and Members of the Committee, the Hawaii State Energy Office (HSEO) supports SB 2570, SD2, HD1, which establishes the zero-emission vehicle fueling system rebate program, establishes the rebate amount for the installation or upgrade of a hydrogen fueling system at \$200,000, establishes a hydrogen fueling system subaccount within the public utilities commission special fund, and reduces the allocation that the energy systems development special fund receives from the environmental response, energy, and food security tax from 8 cents to 5 cents and allocates the difference to the hydrogen fueling system subaccount.

HSEO's comments are guided by its mission to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy. A significant barrier to the adoption of zero emission vehicles is access to fueling stations, including hydrogen vehicles which have significant potential with medium- and heavy-duty vehicles. Creating rebates for hydrogen refueling stations supports the State's energy policy objectives to achieve a net-negative carbon economy as soon as practicable but no later than 2045. Incentivizing a broader set of zero emission transportation technologies provides greater flexibility in the decarbonization of ground transportation. Installing more public-facing hydrogen fueling stations potentially positions the State to pursue more federal hydrogen-related infrastructure funding.

HSEO provides the following comment concerning the amendment limiting the rebate to hydrogen refueling systems that do not store and dispense hydrogen fuel that is produced using fossil fuels. HSEO supports incentivizing the production of renewable hydrogen but notes that there could be complications in implementing a requirement that stations receiving incentives be fueled solely by renewable produced hydrogen. The requirement could require ongoing compliance reporting and enforcement mechanisms which could frustrate implementation and increase administration costs. A remedy requiring the hydrogen station be collocated with renewable energy could create constraints in siting hydrogen stations given the considerable land required to provide enough renewable energy to supply a hydrogen station at scale. HSEO is willing to work with the Legislature and stakeholders on this issue to discuss potential solutions.

HSEO defers to the appropriate agencies for comment on funding and administering the rebate program.

Thank you for the opportunity to testify.



Before the House Committee on Consumer Protection & Commerce
Monday, March 21, 2022 at 2:00 p.m.

Testimony on SB2570 SD2 HD1 relating to Zero Emission Vehicle Fueling Rebates.

Chair Johanson, Vice Chair Kitagawa, and Members of the Committee:

Thank you for the opportunity to provide support on Senate Bill 2570 SD2 HD1.

Hawai'i Energy works to empower island families and businesses on behalf of the Hawai'i Public Utilities Commission (PUC) to make smart energy choices to reduce energy consumption, save money, and pursue a 100% clean energy future. Energy efficiency is the cheapest option to help us achieve our 100% clean energy goal by eliminating waste and being more efficient.

Under the Hawai'i Public Utilities Commission's (PUC) direction, Hawai'i Energy has been managing the electric vehicle charging station (EVCS) rebate program that was initially funded in 2019 by the State Legislature (Act 142), and in 2021, provided continued funding with the passage of House Bill 1142 (Act 75).

We support the HD1 amendment to create a separate hydrogen fueling system subaccount that would fund the installations of hydrogen fueling systems and not impact the existing EVCS Rebate program, which has provided rebates for the following types of EVCS (as of February 2022):

- Level 2 – 47 new installations and 66 retrofits
- DC Fast Chargers – 1 new installation and 1 retrofit

Also as of February 2022, the rebate program's funding was as follows:

Act 142 Funding - \$400,000

Act 75 Funding - \$100,000 (bridge funding provided on July 1, 2022)

TOTAL - \$500,000

Total rebates paid – \$472,500

Total funding remaining - \$27,500

Projects in pipeline (based on applications received) - \$190,508

By having a separate hydrogen fueling system subaccount, we will be able to continue implementing the EVCS rebate program and providing support to the projects in the pipeline and beyond.

We appreciate the efforts made by the State Legislature to support zero emission vehicle charging infrastructure in pursuit of our 100% clean energy mandate. Thank you for the opportunity to testify in support of Senate Bill 2570 SD2 HD1.

Sincerely,
Brian Kealoha
Executive Director
Hawai'i Energy



Email: communications@ulupono.com

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
Monday, March 21, 2022 — 2:00 p.m.

Ulupono Initiative supports the intent of SB 2570 SD 2 HD 1, Relating to Zero-Emission Vehicle Fueling Rebates.

Dear Chair Johanson and Members of the Committee:

My name is Micah Munekata, and I am the Director of Government Affairs at Ulupono Initiative. We are a Hawai'i-focused impact investment firm that strives to improve the quality of life throughout the islands by helping our communities become more resilient and self-sufficient through locally produced food; renewable energy and clean transportation; and better management of freshwater and waste.

Ulupono supports the intent of SB 2570 SD 2 HD 1, which establishes the Zero-Emission Vehicle Fueling System Rebate Program and establishes the rebate amount for the installation or upgrade of a hydrogen fueling system at \$200,000. This measure also establishes a Hydrogen Fueling System Subaccount within the Public Utilities Commission Special Fund and reduces the allocation that the Energy Systems Development Special Fund receives from the Environmental Response, Energy, and Food Security Tax from 8 cents to 5 cents and allocates the difference to the Hydrogen Fueling System Subaccount.

Ulupono supports clean, alternative fuel transportation as ground transportation makes up a significant portion of Hawai'i's reliance on imported oil. Hydrogen can potentially play a critical role as a renewable energy source to combat ground transportation's greenhouse gas emissions. While hydrogen's technology continues to improve, studies and strategic plans, such as those listed in SB 2283, may help to better inform how best the State can support the implementation of hydrogen as a renewable energy source.

As Hawai'i's energy issues become increasingly complex and challenging, we appreciate this committee's efforts to look at policies that support the continued implementation of renewable energy resources throughout the islands.

Thank you for this opportunity to testify.

Respectfully,

Micah Munekata
Director of Government Affairs

Investing in a Sustainable Hawai'i



SanHi

GOVERNMENT STRATEGIES

A LIMITED LIABILITY LAW PARTNERSHIP

DATE: March 20, 2022

TO: Representative Aaron Johanson
Chair, Committee on Consumer Protection and Commerce

FROM: Tiffany Yajima

RE: **S.B. 2570, S.D.2, H.D.1 – Relating to Zero Emission Vehicle Fueling Rebates**
Hearing Date: Monday, March 21, 2022 at 2:00 p.m.
Conference Room: 329

Dear Chair Johanson and Members of the Committee on Consumer Protection and Commerce:

On behalf of the Alliance for Automotive Innovation (“Auto Innovators”) we submit this testimony in **support** of S.B. 2570, SD2, HD1. This measure expands and renames Hawaii’s Electric Vehicle Charging System Rebate Program to establish a rebate for the installation or upgrade of hydrogen fueling systems.

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 is intended to incentivize the build-out of statewide infrastructure to support both electric vehicles and hydrogen vehicles. The automotive industry has made and continues to make a significant investment in hydrogen vehicles and the development of hydrogen fueling infrastructure. At the same time, we also recognize the importance of public, private and government support for infrastructure projects like hydrogen fueling stations. This measure would support the growing number of alternative fuel vehicles on the road today through a broader network of charging infrastructure where these vehicles can refuel.

We note that this measure was amended in the SD1 to make hydrogen fueling stations that store and dispense non-renewable hydrogen ineligible for the rebate. We respectfully ask the committee to remove this limitation. Hydrogen is a cleaner fuel and important technology pathway that can help the state achieve carbon reductions while growing the state’s electric vehicle market.

Thank you for the opportunity to submit this testimony.



SERVCO PACIFIC INC.
2850 PUKOLOA ST. STE. 300
HONOLULU, HI 96819 USA

O. 808.564.1300
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SERVCO.COM

Representative Aaron Ling Johanson, Chair
Representative Lisa Kitagawa, Vice Chair
Committee on Consumer Protection & Commerce

**RE: SB 2570 SD2 HD1 - Relating to Zero Emission Vehicle Fueling Rebates – In Support,
Request Amendment
March 21, 2022; 2:00 P.M.**

Aloha Chair Johanson, Vice Chair Kitagawa and members of the committee:

Servco is in support of SB 2570 SD2 HD1, which establishes the rebate amount for the installation or upgrade of a hydrogen fueling system at \$200,000, establishes a hydrogen fueling system subaccount within the public utilities commission special fund, reduces the allocation that the energy systems development special fund receives from the environmental response, energy, and food security tax from 8 cents to 5 cents and allocates the difference to the hydrogen fueling system subaccount.

The demand for alternative forms of refueling vehicles will continue to grow in support of Hawaii's 100% energy goals. However, Servco respectfully requests that hydrogen refueling stations and fuel not be limited to renewable sources only but should be produced using diverse options, including fossil fuels. The reality is electric vehicle charging stations are ultimately sourced from fossil fuels and, as such, parity should be imposed as the state pursues more refueling choices for consumers.

Servco has invested millions of dollars into hydrogen production facilities and will continue to invest as we believe in its future. The long-term export potential of hydrogen across the globe is not only a revenue generating opportunity but also yields environmental benefits. We appreciate the efforts made by the State Legislature to make improvements to the program in pursuit of our clean energy mandate.

We ask for your consideration in passing the bill with our requested amendment. Thank you.

Peter Dames
Executive Vice President



**Testimony to
The Committee on Consumer Protection & Commerce**

Monday, March 21, 2022

2:00 PM

VIA Video Conference

Conference Room 329, Hawaii State Capitol

SB 2570 SD2 HD1

Chair Johanson, Vice Chair Kitagawa, and members of the committee,

Hawaii Gas **supports SB 2570 SD2 HD1**, which adds the installation and upgrade of hydrogen refueling stations to the electric vehicle charging system rebate program, renames Hawaii's Electric Vehicle Charging System, and relates to zero emission vehicle fueling rebates.

Hawaii Gas is a national leader in the transmission and distribution use of hydrogen in our clean energy mix, and it is our vision to continue to lead the gas industry in its ability to safely, affordably, and reliably increase the amount of this zero-emission fuel source in our utility pipeline and as a reliable zero-emission fuel source for vehicles.

Beyond its use in our clean energy mix, hydrogen is seen as a reliable, long-ranging zero-emission fuel source for commercial and personal vehicles. Clean energy fuel is an essential element of the zero emission vehicle future, which is critical to meeting our 2045 clean energy goals. Hydrogen fuel cells for vehicles are a reality today, with Toyota offering a vehicle in Hawaii as an alternative to fossil fuel dependent vehicles. In fact, the government of Japan has pledged to increase the current number of fueling stations from 150 to 1,000 while also boosting the domestic supply of hydrogen to as much as 3 million tons by 2030, with the goal of expanding this to 20 million tons by 2050.

The promise of hydrogen as a fuel for alternative zero emission fuel vehicles brings together all stakeholders in this arena, who agree that a sufficient runway is needed to make this valuable fuel source widely available to consumers.

We agree that the inclusion in statute that zero-emission vehicles (ZEV) is vital and a crucial technology of the future and that hydrogen refueling stations are essential. This bill provides for new technology, including hydrogen, as we march towards our emissions mandate of 2045.

We urge the committees to pass SB 2570 SD1 HD1.

Thank you for the opportunity to testify.





March 20, 2022

Dear Chair Johanson, Vice-Chair Kitagawa, and members of the Consumer Protection and Commerce Committee,

Hawaii Electric Vehicle Association (Hawaii EV) offers comments on SB2570 SD2 HD1.

Hawaii EV recognizes that hydrogen fuel cell vehicles (FCEVs) are electric cars and have zero tailpipe emissions. However, for the following reasons, we continue to focus our efforts on accelerating the adoption of battery electric vehicles:

- Hydrogen/FCEVs are inherently inefficient. **Considering well-to-wheel efficiency, these vehicles are only around 22% efficient¹** (about three times less efficient than battery electric vehicles, a truly massive difference). We cannot afford to waste energy and need to opt for energy-efficient solutions.
- The hydrogen ground transportation ecosystem is costly. **A hydrogen fueling station can cost \$2,000,000.** Level 2 and DC Fast Chargers cost around \$10,000 to \$150,000, respectively.
- The market is churning out ever-increasingly diverse, affordable, longer-range EVs in response to consumer demand. We cannot say the same for FCEVs. **Global FCEV sales continue to be a small fraction of battery electric vehicles.** This has implications in servicing, fueling, and supplying FCEVs.
- There are obvious challenges associated with the creation of non-fossil fuel-based hydrogen. **Most of the global hydrogen is produced from coal or gas. To be meaningful in Hawaii, we first need to meet our need for affordable electricity and transportation and do so with an abundance of firm renewable power.** (We acknowledge that this measure *“Limits the rebate to hydrogen refueling stations that do not store and dispense hydrogen fuel produced using fossil fuels...”*.)

SB2570 SD2 HD1 includes an amendment that now allows for a separate rebate program to be created for hydrogen fueling stations. This is a welcome development as hydrogen fueling station rebates will not impact the availability of the EV Charging System Rebate Program funds.

If the rebate program for hydrogen fueling stations moves forward, it’s critical that it remain funded separately from the EV Charging System Rebate Program.

Thank you for this opportunity to testify.

¹ <https://cleantechnica.com/2020/06/10/this-stunning-chart-shows-why-battery-electric-vehicles-win/>



Sincerely,

Noel Morin
President
Hawaii EV Association

Hawaii EV Association is a grassroots non-profit group representing electric vehicle owners in Hawaii. Our mission is to accelerate the electrification of transportation through consumer education, policy advocacy, and electric vehicle charging infrastructure expansion. For more information, please visit hawaiiev.org.

Hawaii EV Board

Noel Morin, President
Nanette Vinton, Secretary and Treasurer
Bill Bugbee – Director
Tam Hunt - Director
Sonja Kass – Director
Rob Weltman – Director

Hawaii EV Clubs

Big Island EV Association
Kauai EV
Maui Nui EV
Tesla Hawaii Club

SB-2570-HD-1

Submitted on: 3/18/2022 5:51:35 PM

Testimony for CPC on 3/21/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Douglas Perrine	Individual	Support	Written Testimony Only

Comments:

Hydrogen can expand and accelerate our transition to carbon-free transportation and industry. I support any measure that incentivizes hydrogen production and availability as long as it does not come at the cost of reduced funding for electric ev charging and other measures to incentivize adoption of electric vehicles.

SB-2570-HD-1

Submitted on: 3/20/2022 11:02:10 AM

Testimony for CPC on 3/21/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Keith Neal	Individual	Oppose	Written Testimony Only

Comments:

As drafted, this bill will negatively impact the funding of the Commercial Electric Vehicle Charger Rebate Program.

Furthermore, Hydrogen is largely derived from fossil fuels. While an **electrolysis** process is capable of producing Hydrogen cleanly, it takes a great deal of electrical energy. Hawaii has yet to build out clean electrical grids consisting of wind, solar, and geothermal.

Clean energy grids comes before considering Hydrogen as fuel.

There is a place for hydrogen, just not at this time. Hydrogen incentives are more appropriately targeted to other applications; such as long-range marine and grid energy storage.

A separate Hydrogen program should be created not affecting EV charger programs.

Relevant information:

- Realities of hydrogen fueling stations: www.wardsauto.com/technology/costs-check-growth-fuel-cell-infrastructure
- Fueling Station costs: h2stationmaps.com/costs-and-financing
- Hawaii EV Post comparing FCEVs and Battery EVs: hawaiiev.org/blog/fuel-cell-electric-vehicles
- Cancellation of a large order of hydrogen buses: electrek.co/2022/01/11/city-cancels-order-50-hydrogen-buses-after-realizing-electric-buses-best/

Respectfully submitted,

Keith Neal

SB-2570-HD-1

Submitted on: 3/20/2022 11:42:32 AM

Testimony for CPC on 3/21/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Carol Cam	Individual	Oppose	Written Testimony Only

Comments:

I oppose **SB2570 SD2 HD1** because as drafted, this will negatively impact funding of the Commercial EV Charger Rebate Program.

SB-2570-HD-1

Submitted on: 3/20/2022 12:34:16 PM

Testimony for CPC on 3/21/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Darren David	Individual	Oppose	Written Testimony Only

Comments:

I oppose this measure - please keep funds for EV rebates and hydrogen fueling stations rebates separate to allow these to function independently of one another.

SB-2570-HD-1

Submitted on: 3/20/2022 12:37:22 PM

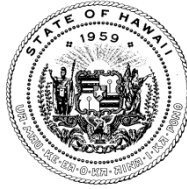
Testimony for CPC on 3/21/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Jessica Redford	Individual	Comments	Written Testimony Only

Comments:

If combined with the fund for EV chargers, it would negatively impact the EV Charger Rebate program. The latest version, which calls for a separate fund for hydrogen fueling stations, is more acceptable as it does not compete with EV chargers. Please keep the funds for each program separate!

DAVID Y. IGE
GOVERNOR



TESTIMONY BY:

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROSS M. HIGASHI
EDUARDO P. MANGLALLAN
PATRICK H. MCCAIN
EDWIN H. SNIFFEN

LATE

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

March 21, 2022
2:00 P.M.

State Capitol, Conference Room 329/Teleconference

**S.B. 2570, S.D. 2, H.D. 1
RELATING TO ZERO EMISSION VEHICLE FUELING REBATES**

House Committee on Consumer Protection & Commerce

The Department of Transportation (DOT) **supports** this measure that promotes the expansion of zero-emission vehicle infrastructure to in turn support the proliferation of zero-emission vehicles in our state.

The DOT is committed to meeting the state's clean energy goals and supports the wide-spread adoption of electric and zero-emission vehicles. The DOT's track record includes a significant purchase of light-duty electric vehicles (EV) for its fleet in 2021 with plans to continue to convert its fleet over the next few years. Our current electrification contract for these vehicles enables the DOT to install charging stations and the charging service quickly and efficiently with no upfront equipment costs. There are photovoltaic panels installed at DOT field offices statewide designed to power EV charging stations in the near future. In addition, the DOT pursues strategies to support expansion of electric vehicle EV charging facilities across the state.

In addition to these efforts underway and the initiatives proposed in this measure, the DOT is also the lead for the State of Hawaii for the National EV Infrastructure formula program and the two new complementary discretionary funding programs, the Corridor Charging Grant Program and the Community Charging Grant Program. These programs aim to deploy publicly accessible EV charging infrastructure and hydrogen, propane, and natural gas fueling infrastructure along designated Alternative Fuel Corridors and in communities. These are new program authorized under the federal Infrastructure Investment and Jobs Act signed into law in November 2021.

The DOT is working in close partnership with the Hawaii State Energy Office and the counties to develop the state electrification plan required for use of formula funds and access to additional discretionary grant funds.

Thank you for the opportunity to provide testimony.



KauaiEV

Kauai Electric Vehicle Association
302 Makani Rd, Kapaa, HI 96746
808-652-0591

2022/03/20

LATE

Strong OPPOSITION to SB2570-SD2

Dear Chair Johanson, Vice-Chair Kitagawa, and members of the Consumer Protection and Commerce Committee,

I am writing on behalf of KauaiEV, a grassroots organization with over 100 members on Kauai. Our members are electric vehicle drivers and we believe that EVs are the personal transportation of the future. We are in **strong OPPOSITION to SB2570-SD2**.

We are happy that HD1 creates a separate fund and at least does not impact the EV charging station rebate, but nevertheless, hydrogen makes no sense for ground transportation and we believe this rebate would be a waste of money.

Bringing liquid hydrogen to Hawaii will probably be very expensive, at the moment there is only one prototype ship that can transport it.

Hydrogen fueling stations are very expensive, so is hydrogen. In places with cheap electricity it might be possible to produce green hydrogen between \$3 and \$6 per kilogram. In Hawaii, electricity is 2-to-3 times more expensive, and so hydrogen would be uneconomical.

Compared to batteries, fuel cells are less efficient, and lots of electricity is wasted producing hydrogen. The battery electric Nissan Leaf gets 123 miles per gallon equivalent, and the hydrogen-powered Toyota Mirai gets 79 miles per gallon equivalent; this does not include the wasted energy when producing green hydrogen. All in all battery electric vehicles have 3 times better fuel efficiency.

Fuel cell vehicles are more expensive than comparable BEVs and over 95% of all hydrogen worldwide is being produced from fracked methane or coal. Most of the continued support for hydrogen (including for green hydrogen) stems from the fossil fuel industry. As of 2021 only 2 manufacturers offer hydrogen cars: the Toyota Mirai and the Hyundai Nexa. Honda stopped manufacturing the Clarity Fuel Cell in August 2021.

The Fraunhofer ISI, one of the leading innovation research institutions in Europe and leading one in Germany has published a study a month ago in the publication Nature: "Hydrogen technology is unlikely to play a major role in sustainable road transport" The subtitle is "**Technical and economic developments in battery and fast-charging technologies could soon make fuel cell electric vehicles, which run on hydrogen, superfluous in road transport.**" and it explains that when compared to battery-electric hydrogen is inefficient and uneconomical in ground transport, and that more green hydrogen than can be produced until 2030 is needed for maritime transport, aviation and production of steel.



KauaiEV

Kauai Electric Vehicle Association
302 Makani Rd, Kapaa, HI 96746
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I'd like to include 2 articles on the danger - hydrogen is very energy dense and accidents happen.

[Bay Area experiences hydrogen shortage after explosion](#)

[Hydrogen Fueling Station Explodes: Toyota & Hyundai Halt Fuel Cell Car Sales](#)

Please oppose SB2570-SD1.

Mahalo for your consideration,

Sonja Kass

Sonja Kass, President KauaiEV



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
House Committee on Consumer Protection & Commerce
Monday, March 21, 2022 at 2:00 p.m.

By
Richard Rocheleau, Director
Hawai'i Natural Energy Institute
And
Michael Bruno, PhD
Provost
University of Hawai'i at Mānoa

LATE

SB 2570 SD2 HD1 – RELATING TO ZERO EMISSION VEHICLE FUELING REBATES

Chair Johanson, Vice Chair Kitagawa, and members of the committee:

SB 2570 SD2 HD1 establishes the zero-emission vehicle fueling system rebate program. Establishes the rebate amount for the installation or upgrade of a hydrogen fueling system at \$200,000. Establishes a hydrogen fueling system subaccount within the public utilities commission special fund. Reduces the allocation that the energy systems development special fund receives from the environmental response, energy, and food security tax from 8 cents to 5 cents and allocates the difference to the hydrogen fueling system subaccount.

HNEI respectfully offers the following comments on this bill.

- 1) HNEI **supports the intent** of this bill and recognizes that locally produced green hydrogen has the potential to support our 100% renewable goals including the transportation sector. High costs have hampered the development of hydrogen infrastructure. This bill supports such infrastructure and will provide an opportunity to assess its value.
- 2) SB2570 SD2, HD1 provides the following definition. "Renewable hydrogen" means hydrogen produced entirely from renewable sources that have a life-cycle emissions of no more than fifty grams of carbon dioxide per kilowatt hour. If full life cycle emissions are considered, (i.e. Scope 2), the requirement of less than fifty grams of carbon dioxide per kilowatt hour could, arguably, prevent the use of even solar energy. For clarity, we respectfully suggest that this minimum be raised and that renewable energy systems deemed undesirable be named to preclude their use.
- 3) The development of hydrogen infrastructure has been hampered by both costs and hydrogen purity requirements. To ensure that the funding allocated to this rebate is utilized, we respectfully suggest a 5-year sunset date to this reallocation at which time the efficacy of the program can be assessed, and the program can be extended if it is found to be meeting its objectives.

Thank you for the opportunity to provide this testimony on SB 2570 SD2 HD1.

LATE

SB-2570-HD-1

Submitted on: 3/20/2022 2:39:26 PM

Testimony for CPC on 3/21/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Lorn Douglas	Individual	Oppose	Written Testimony Only

Comments:

Aloha,

Driving EV's for over 10 years and over 150,000 miles, powered on my solar system, its obvious Electric Cars are the future. Hydrogen has such huge infrastructure expenses and has not proven a good technology. Toyota tried to bring this into California and failed. Please oppose this so the available resources can be put into electric charging!

Lorn Douglas

Lower Puna

LATE

SB-2570-HD-1

Submitted on: 3/20/2022 7:55:33 PM

Testimony for CPC on 3/21/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Steve Parsons	Individual	Oppose	Written Testimony Only

Comments:

No rebates for Hydrogen until we make green here in Hawaii.

Steve Parsons, Wailua Kauai