Hawaii Center for Advanced Transportation Technologies
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Written Statement of
David H. Molinaro
Acting Director
Hawaii Center for Advanced Transportation Technologies
before the
Senate Committee on Energy, Economic Development, and Tourism
Monday, January 31, 2022
3:00pm
State Capitol, Conference Room 224
In consideration of
SB2570
ZERO EMISSION VEHICLE FUELING REBATES

Chair Wakai, Vice Chair Misalucha and Members of the Committee.

HCATT strongly **supports** SB2570, Renaming Hawaii's Electric Vehicle Charging System Rebate Program to the Zero-Emission Vehicle Fueling System Rebate Program and incorporate the installation and upgrade of hydrogen refueling stations to the Zero-Emission Vehicle Fueling System Rebate Program.

The change in the HRS to zero-emission vehicle fueling, more accurately addresses that hydrogen fuel cells are, in fact, electric vehicles and incentivizes the purchase of hydrogen fuel cell vehicles and the deployment of hydrogen technologies in the State. It also furthers Hawaii Revised Statute §196-10, Hawaii renewable hydrogen program legislative guidance to design, implement, and administer hydrogen demonstration projects, including infrastructure for the production, storage and refueling of hydrogen vehicles.

Overall, this Bill will serve as an additional impetus in adopting all forms of electric vehicles and renewable energy technologies in support of Hawaii's 2045 RPS mandate and foster a renewable energy industry in this State.

HCATT defers to the Department on the fiscal and administrative impacts of this bill

Thank you for the opportunity to present these comments.

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
SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

Monday, January 31, 2022
Time 3:00 PM
State Capitol, Conference CR 224 & Videoconference

in SUPPORT of
SB 2570
RELATING TO ZERO EMISSION VEHICLE FUELING REBATES.

Chair Wakai, Vice Chair Misalucha and Members of the Committee, the Hawaii State Energy Office (HSEO) supports SB 2570, which renames Hawaii's Electric Vehicle Charging System Rebate Program to the Zero-Emission Vehicle Fueling System Rebate Program and adds the installation and upgrade of hydrogen refueling stations to the Zero-Emission Vehicle Fueling System Rebate Program.

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.

Broadening the scope of the existing rebate program to explicitly incorporate 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. A significant barrier to the adoption of zero emission vehicles is access to fueling stations.

Thank you for the opportunity to testify.

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

TO THE
SENATE COMMITTEE ON
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

January 31, 2022
3:00 p.m.

Chair Wakai and Members of the Committee:

MEASURE: S.B. No. 2570
TITLE: RELATING TO ZERO EMISSION VEHICLE FUELING REBATES.

DESCRIPTION: Renames Hawaii's Electric Vehicle Charging System Rebate Program to the Zero-Emission Vehicle Fueling System Rebate Program. Adds the installation and upgrade of hydrogen refueling stations to the Zero-Emission Vehicle Fueling System Rebate Program.

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 shares Hawaii Energy's concerns that the current funding level would likely be insufficient to support both electric and hydrogen system incentives, primarily due to the cost of hydrogen refueling stations and, thus, the size of a rebate that could adequately encourage investment in these stations. For context, a recent study by the U.S. Department of Energy found that an average hydrogen station requires approximately $1.9 million in capital cost.[1] Hawaii Energy estimates that a low-end rebate for this type of system would equate to $200,000.

Therefore, the Commission notes that a substantial funding increase would likely be necessary to effectively achieve the intent of this measure, in addition to removing the $500,000 annual spending cap outlined in Section 269-72, subsection (d), HRS. Given the cost of hydrogen refueling stations and noting that the program is currently operated on a first-come, first-served basis, it is possible that a very small number of hydrogen refueling station rebates could consume the bulk of the available funds under the current spending limit.

For these reasons, the Commission is concerned that, absent a significant increase in funding, this measure could unintentionally stifle the expansion of electric vehicle charging infrastructure that can be achieved through the existing rebate program.

Thank you for the opportunity to testify on this measure.

[1] U.S. Department of Energy (2021). *Hydrogen Fueling Stations Cost*.
https://www.hydrogen.energy.gov/pdfs/21002-hydrogen-fueling-station-cost.pdf

Testimony to
The Committee on Energy, Economic Development, & Tourism

Monday, January 31, 2022
3:00 PM
VIA Video Conference
Conference Room 224, Hawaii State Capitol

SB 2570

Chair Wakai, Vice Chair Misalucha, and members of the committee,

Hawaii Gas **supports SB 2570,** which 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. 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.

Thank you for the opportunity to testify.

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Hawai'i Energy

45 North King Street, Suite 500 • Honolulu, Hawai'i 96817 • HawaiiEnergy.com • P: (808) 839-8880 • F: (808) 441-6068

Before the Senate Committee on Energy, Economic Development, and Tourism
Monday, January 31, 2022 at 3:00pm

Testimony on SB2570 relating to Zero Emission Vehicle Fueling Rebates.

Chair Wakai, Vice Chair Misalucha, and Members of the Committees:

Thank you for the opportunity to provide comments on Senate Bill 2570.

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 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). The incentive was even highlighted by Plug-In America as a main reason why Hawai'i is ranked #14 in its *"Top 25 States Supporting the EV Driver"* report, released last year.[1]

To date, the rebates have only been distributed to qualified charging stations that power full-battery electric or plug-in hybrid vehicles. The rebates are distributed on a first-come, first served basis, upon a project's confirmation of being installed and operational. As of January 11, 2022, the program has issued rebates for the following:

- Level 2 EVCS – 43 new installations and 62 retrofits
- DC Fast Chargers – 1 new installation and 1 retrofit

We also have over 30 projects in the pipeline, totaling nearly $200,000 in rebates. Act 75 (2021) is estimated to provide between $500,000-750,000 in funding to the existing rebate program.

While we have no objections with including hydrogen fueling infrastructure, we are concerned about the impact on the limited program budget. According to a National Renewable Energy Laboratory technical report published in 2013[2], the estimated baseline cost is $2 million. In our experience, rebate levels usually cover between 10-30% of the installed cost. Using the low end of that range, a 10% rebate would equate to $200,000.

This is confirmed by looking at other jurisdictions who have similar programs as the one being proposed in this bill:

- New York:
    - Zero-Emission Vehicle (ZEV) and Fueling Structure Rebates for Municipalities - The New York State Department of Environmental Conservation's (DEC) Municipal ZEV Rebate Program offers rebates to cities, towns, villages, counties, and New York City boroughs

[1] *"Top 25 States Supporting the EV Driver,"* Plug-In America, February 2021 - https://pluginamerica.org/policy/top-25-states-supporting-the-ev-driver/

[2] *"Hydrogen Station Cost Estimates,"* NREL, September 2013 - https://www.nrel.gov/docs/fy13osti/56412.pdf

for the purchase or lease of eligible ZEVs and the installation of eligible ZEV fueling infrastructure. Maximum Rebate Amounts – ZEV Purchase or Lease: $5,000 per vehicle (50 miles or greater electric range); $2,500 per vehicle (10 to 50 mile electric range), **Electric Vehicle Supply Equipment (EVSE): $250,000 per facility, Hydrogen Fueling Infrastructure: $250,000 per facility.** A single municipality may receive up to 50% of the total available funds towards ZEVs and EVSE, and up to 75% of the total available funds for hydrogen fueling infrastructure.

- The program issued two rebates for hydrogen fueling stations: 1) Town of Hempstead received $250,000 for a hydrogen fuel filling station upgrade and 2) Town of Deweitt received $297,700 for two hydrogen fuel cell filling nozzles and 4 Level 2 charging ports

- Pennsylvania:
  - Electric Vehicle Supply Equipment and Hydrogen Fuel Cell Infrastructure Grants - The Pennsylvania Department of Environmental Protection offers competitive grants for the acquisition, installation, operation, and maintenance of DC fast-charging equipment and hydrogen fuel cell infrastructure. The DC fast chargers must be installed at public locations, workplaces, or multi-unit dwellings. The hydrogen fuel cell equipment must be available to the public. The maximum amount for individual grant awards will be **$500,000 for hydrogen fueling projects**, and $250,000 for DC fast charging projects. This grant program is funded by Pennsylvania's portion of the Volkswagen Environmental Mitigation Trust.
    - Funding Levels – DEP will fund up to 33% of eligible project costs for HFCF projects capable of dispensing at least 250 kg/day, and up to 25% of eligible project costs for HFCF projects capable of dispensing at least 100 kg/day, up to a **maximum of $500,000 per award**.
  - Alternative Fuels Incentive Grant (AFIG) Program - The Alternative Fuels Incentive Grant (AFIG) Program provides reimbursement grants for the installation of alternative fuel infrastructure along Pennsylvania interstate highway corridors. Grants are available for reimbursement of 50% of the cost, **up to $500,000**, to install public electric, hydrogen, propane, and compressed natural gas fueling infrastructure along "Signage Ready" or "Signage Pending" highway corridors in Pennsylvania, as defined by the U.S. Department of Transportation. Eligible applicants include Pennsylvania municipal authorities, political subdivisions, non-profit entities, corporations, and limited liability companies or partnerships incorporated or registered in the Commonwealth.

As you can see, current funding levels cannot support both EV and hydrogen incentives, and Hawai'i Energy recommends that increased funding also be included. If that is not feasible, Hawai'i Energy proposes a funding cap for the hydrogen station similar to the existing DC Fast Charger amount of $35,000. However, we are not sure this incentive will do much to drive adoption of hydrogen fueling stations.

We appreciate the efforts made by the State Legislature to make improvements to the program in pursuit of our 100% clean energy mandate. Thank you for the opportunity to testify on Senate Bill 2570.

Sincerely,
Brian Kealoha
Executive Director
Hawai'i Energy

SB-2570
Submitted on: 1/29/2022 6:44:08 PM
Testimony for EET on 1/31/2022 3:00:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Ted Bohlen	Testifying for Climate Protectors Hawai‘i	Oppose	No

Comments:

To: The Honorable Glenn Wakai, Chair, the Honorable Bennette Misalucha, Vice Chair, and Energy, Economic Development and Tourism Committee members

From: Climate Protectors Hawai‘i (by Ted Bohlen)

Re: Hearing SB2570– **RELATING TO ZERO EMMISSIONVEHICLE FUELING REBATES.**

Monday January 31, 2022, 3:00 p.m., by videoconference

Aloha Chair Wakai, Vice Chair Misalucha, and Energy, Economic Development and Tourism Committee members:

The Climate Protectors Hawai‘i is a group focused on responding to the climate emergency. **The Climate Protectors Hawai‘i** appreciates the bill's intent to incentivize zero emission hydrogen vehicle fueling, but **opposes the bill unless it is amended to require that rebates only be paid where the hydrogen fuel is produced from truly zero emission sources. Most hydrogen currently is not nearly "zero emission" in that it is generated from fossil fuels.**

Please do not pass this bill unless it is amended to incent only hydrogen from zero emission sources.

Climate Protectors Hawai‘i (by Ted Bohlen).

SanHi
GOVERNMENT STRATEGIES
A LIMITED LIABILITY LAW PARTNERSHIP

DATE: January 30, 2022

TO: Senator Glenn Wakai
Chair, Committee on Energy, Economic Development, and Tourism

FROM: Tiffany Yajima

RE: **S.B. 2570 – Relating to Zero Emission Vehicle Fueling Rebates**
Hearing Date: Monday, January 31, 2022 at 3:00 p.m.
Conference Room: 224

Dear Chair Wakai, Vice Chair Misalucha, and Members of Committee on Energy, Economic Development, and Tourism:

On behalf of the Alliance for Automotive Innovation ("Auto Innovators") we submit this testimony in **support** of S.B. 2570. This measure renames Hawaii's Electric Vehicle Charging System Rebate Program to Zero-Emission Vehicle Fueling System Rebate Program and incentivizes the installation and upgrade of hydrogen fueling stations in the state.

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

This measure would 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.

Thank you for the opportunity to submit this testimony in support of S.B. 2570.

First Hawaiian Center T 808-539-0400
999 Bishop Street, Suite 1400 F 808-533-4945
Honolulu, HI 96813 governmentaffairs@awlaw.com

Email: communications@ulupono.com

SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, & TOURISM
Monday, January 31, 2022 — 3:00 p.m.

Ulupono Initiative supports the intent of SB 2570, Relating to Zero-Emission Vehicle Fueling Rebates

Dear Chair Wakai 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, which renames the Hawai'i Electric Vehicle Charging System Rebate Program to the Zero-Emission Vehicle Fueling System Rebate Program and adds the installation and upgrade of hydrogen refueling stations to the Zero-Emission Vehicle Fueling System Rebate program.

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, however, we believe that this measure may be a bit premature. While hydrogen's technology continues to improve, there is still some question regarding its current economic feasibility here in Hawai'i. 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. For now, we believe that it may be best to maintain the current Hawai'i Electric Vehicle Charging System Rebate Program. State investments into EV charging infrastructure directly supports a blossoming EV market for Hawai'i that will only continue to grow as vehicle manufacturers across the world make bold, clean transportation commitments.

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

SB-2570
Submitted on: 1/28/2022 8:43:33 AM
Testimony for EET on 1/31/2022 3:00:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Keith Neal	Individual	Support	No

Comments:

I support rebates provided for installing more/new battery electric vehicle charging stations. There is not currently enough electric vehicle charging stations to fullfill expected demand.

SB-2570
Submitted on: 1/28/2022 10:47:38 AM
Testimony for EET on 1/31/2022 3:00:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Roberta Baker	Individual	Oppose	Yes

Comments:

SB 2570 this bill needs to be amended to EXCLUDE hydrogen produced using fossil fuels therefore NOT "zero emmissions"

SB-2570
Submitted on: 1/28/2022 11:25:58 AM
Testimony for EET on 1/31/2022 3:00:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Ron Reilly	Individual	Oppose	Yes

Comments:

Dear Senator Wakai and Members of the Energy, Economic Development, and Tourism,

I am opposed to SB 2570.

The bill must be amended to exclude dirty hydrogen that is made from fossil fuels.

Hydrogen is a renewable source of energy only if it is made from clean renewable energy such as geothermal, wind or solar.

The time for burning fossil fuels is behind us. I note that the Mauna Loa Atmospheric Observatory recorded an atmospheric CO2 concentration on Jan 25, 2022 of 420.23ppm. The highest ever recorded at MLO since measurements began there in 1958.
See https://keelingcurve.ucsd.edu/

Please do all you can to prevent further Hawaii emissions of green house gases by voting to amend this bad dirty-hydrogen bill.

Thank you, Ron Reilly
Volcano Village, Hawaii

SB-2570
Submitted on: 1/28/2022 1:03:27 PM
Testimony for EET on 1/31/2022 3:00:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Andrea Nandoskar	Individual	Oppose	No

Comments:

Please amend to exclude hydrogen made using fossil fuels.

Mahalo for your consideration.

SB-2570
Submitted on: 1/28/2022 2:18:48 PM
Testimony for EET on 1/31/2022 3:00:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Emily Garland	Individual	Oppose	No

Comments:

Please amend SB2570 to exclude hydrogen made using fossil fuels. Hydrogen is not a "zero emissions fuel" if it was made using fossil fuels. Please Mālama Honua and do not pass SB2570.

SB-2570
Submitted on: 1/29/2022 9:49:44 PM
Testimony for EET on 1/31/2022 3:00:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Koohan Paik	Individual	Comments	No

Comments:

Please amend to exclude hydrogen derived from fossil fuels, which is NOT "zero emissions."

SB-2570
Submitted on: 1/30/2022 10:44:30 AM
Testimony for EET on 1/31/2022 3:00:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
jeanne wheeler	Individual	Oppose	No

Comments:

This bill must also be amended to exclude hydrogen made using fossil fuels - as there wouldn't be a 'zero emissions' situation in such case.... Mahalo, JW