HAWAII STATE ENERGY OFFICE
STATE OF HAWAII

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Testimony of
MARK B. GLICK, Chief Energy Officer

before the
HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

Wednesday, February 14, 2024
2:00 PM
State Capitol, Conference Room 325 and Videoconference

In Support of
HB 1972, HD1

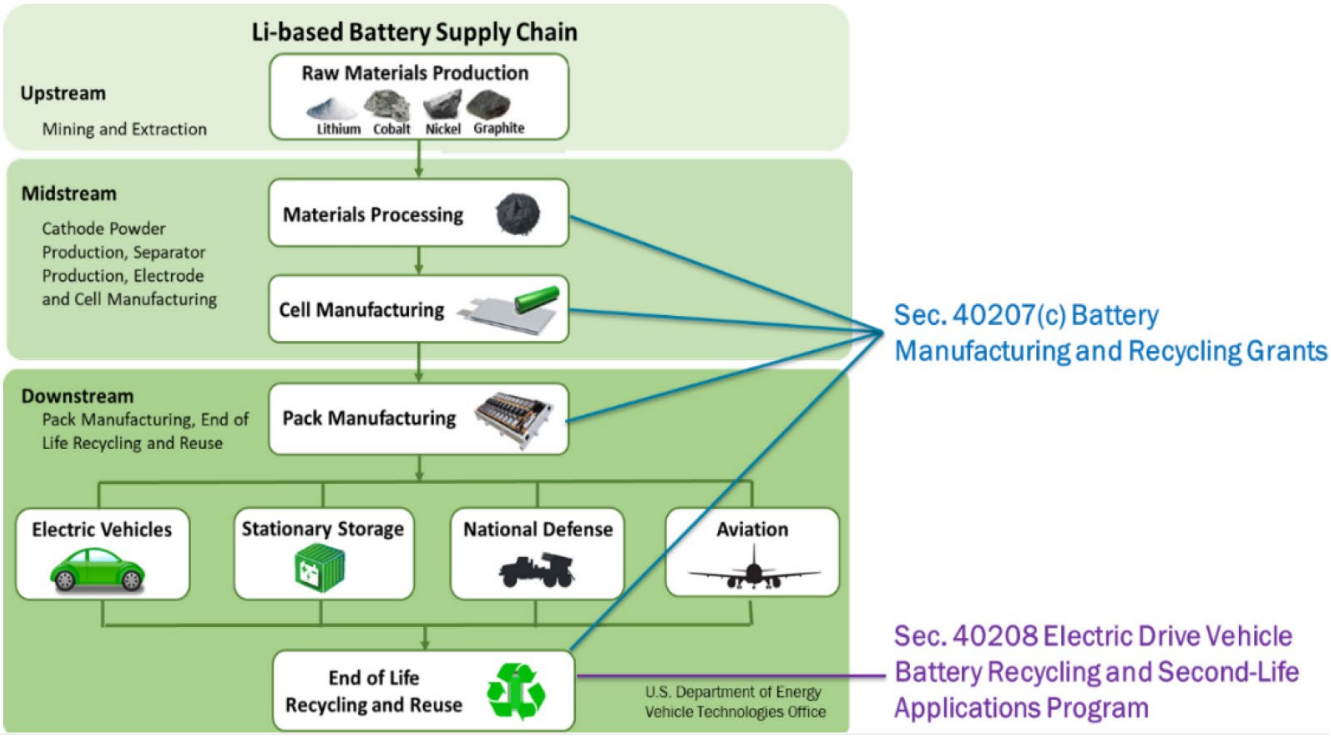
RELATING TO ELECTRIC VEHICLE BATTERIES.

Chair Nakashima, Vice Chair Sayama, and members of the Committee, the Hawai‘i State Energy Office (HSEO) supports HB 1972, HD1, that establishes a working group within the Hawai‘i State Energy Office, co-chaired by designees of the Director of Health and the Chief Energy Officer and with members providing in-depth expertise and knowledge of industry standards, laws, and policies to provide a report to the Legislature with recommendations regarding the management, reuse and recycling of electric vehicle batteries.

Improving the management of end-of-life batteries can be considered a part of achieving Hawai’i’s resilient clean energy economy. Electric vehicle (EV) batteries contain critical materials that have the realistic potential to continue serving the energy economy, assuming the EV battery waste stream is managed well in the reverse supply chain. Proper management of these batteries will result in source materials for one of the most important components in the clean transportation sector. HSEO recognizes the need for propulsion batteries to have a proper management plan as improper disposal can result in negative environmental impacts.

The proposed working group will allow the integration of end-of-life battery management with clean energy objectives.

HSEO is committed to the development of effective end-of-life battery management solutions that serve Hawai‘i’s environmental, economic, and community needs and is actively engaged in securing federal support and partnerships that may be used to support efforts to manage end-of-life batteries safely and cost-effectively. The graphic below shows Bipartisan Infrastructure Law investments in the battery supply chain, available through the United States Department of Energy, as stated in Funding Opportunity Announcement DE-FOA-0003120:



HSEO looks forward to working with others interested in this area, in pursuit of effective solutions to this very important topic.

Thank you for the opportunity to testify.

JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

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Testimony in SUPPORT of HB1972 HD1
RELATING TO ELECTRIC VEHICLE BATTERIES

REPRESENTATIVE MARK M. NAKASHIMA, CHAIR
HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

Hearing Date: February 14, 2024 Room Number: 329

Fiscal Implications: N/A

Department Testimony: The Department of Health (Department) supports this measure, which establishes an electric vehicle (EV) battery recycling and reuse working group in the State Energy Office. The Department agrees that it is prudent to gather more information about the current options for end-of-life EV batteries and develop policy to encourage proper recycling and disposal, as this waste stream will increase in the future. The Department defers to the State Energy Office on any specific recommendations relating to the working group's structure and purpose and looks forward to participating as co-chair.

Offered Amendments: None.

Thank you for the opportunity to testify.

SanHi
GOVERNMENT STRATEGIES
A LIMITED LIABILITY LAW PARTNERSHIP

DATE: February 14, 2024

TO: Representative Mark M. Nakashima
Chair, Committee on Consumer Protection & Commerce

FROM: Tiffany Yajima

RE: **H.B. 1972, HD1 – Relating to Electric Vehicle Batteries**
Hearing Date: Wednesday, February 14, 2024 at 2:00 p.m.
Conference Room: 329

Dear Chair Nakashima, Vice-Chair Sayama, and Members of the Committee on Consumer Protection & Commerce:

On behalf of the Alliance for Automotive Innovation ("Auto Innovators") we submit these **comments** supporting the intent of H.B. 1972, HD1, which establishes a working group to study the reuse and recycling of electric vehicle batteries.

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.

Automakers appreciate the intent of this measure to establish a working group under the State Energy Office to study electric vehicle battery reuse and recycling in the state and would be interested in serving as a resource to the legislature and the State Energy Office on this working group.

Auto Innovators note that while this working group would be tasked with examining how to maximize recycling and reuse of EV batteries, and to recommend EV battery management practices, an EV battery management and disposal process is already in place. In the life cycle of a battery, when an EV battery begins to show signs of failure, these battery modules or packs can first be refurbished to as good or better quality and performance levels through the replacement of worn or deteriorated components and can then be re-certified to OEM specifications. If a battery module or pack cannot be reused, these batteries and components can also be refurbished on the secondary market to fulfill a different use from what was originally intended. At the end of the life of a

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battery, EV batteries can be processed to recover the maximum amount of raw materials for reuse in identical or alternative industries.

In addition, automakers have already adopted a “Full Vehicle Backstop” program. The Full Vehicle Backstop program covers the whole electric vehicle – not just the battery – for vehicles that have reached end-of-life, that is unwanted without parts removed by a dismantler. Under the program, the vehicle manufacturer is responsible to accept the vehicle and ensure that it is properly dismantled, and the lithium-ion battery is properly reused, refurbished, or recycled.

For these reasons, if the committee is inclined to pass this measure, Auto Innovators would support a working group to examine the current conditions for battery recycling and would also suggest the working group consider current programs that already exist to manage EV battery recycling. As the makers of electric vehicles that use these batteries, Auto Innovators would be willing to and interested in serving as a resource to the state on this working group should this measure move forward.

Thank you for the opportunity to submit this testimony.

February 13th, 2024

Tony Belot
91-56 Hanua Street
Kapolei, HI 96707
abelot@rdus.com

Representative Mark M. Nakashima, Chair
House Committee on Consumer Protection & Commerce

RE: HB 1972 Relating to Electric Vehicle Batteries

Chair Nakashima,

Radius Recycling (formerly Schnitzer Steel Industries), is a world leader in sustainable and environmentally responsible recycling. The Company was listed as one of TIME's 100 Most Influential Companies of 2023, recognized as the Most Sustainable Company in the World by Corporate Knights in 2023, and has been honored by Ethisphere as one of the World's Most Ethical Companies® for nine consecutive years.

HB 1972 recognizes the growing necessity for proper recycling and disposal protocols of Electric Vehicle (EV) batteries in our accelerating electric vehicle landscape. The goal is to preserve our environment while concurrently optimally utilizing resources through recycling. To this end, the current draft of the bill introduces an inclusive working group tasked with maximizing the recycling of EV batteries and suggesting best practices for EV battery management.

As our organization routinely encounters these batteries in our recycling stream, we respectfully urge the Committee to consider a revision to Section 2. (d). Specifically, we propose the inclusion of a representative from the automotive recycling industry. Such a representative would contribute a significant and valuable viewpoint, grounded in practical experience, concerning the safe, environmentally responsible, and efficient handling of end-of-life electric vehicles. This proposed amendment would enhance the effectiveness and comprehensiveness of the working group's strategies, to the benefit of all stakeholders involved.

Radius Recycling is deeply appreciative of the hard work of the Chair, Vice Chair, and the entire House Committee on Consumer Protection & Commerce on the proper recycling and disposal of EV batteries.

Sincerely,
Tony Belot

Tony Belot, Government and Public Affairs Manager, Radius Recycling

REDWOOD MATERIALS

February 14, 2024

RE: Redwood Materials' Written Testimony and Suggested Language for HB1972, Relating to Electric Vehicle Batteries

Dear Chair Nakashima , Vice Chair Sayama, and Members of the House Committee on Consumer Protection & Commerce,

As the leader in the sustainable management of electric vehicle (EV) batteries, Redwood Materials appreciates the intent behind HB1972 and is committed to contributing constructively to the pending legislative efforts. We recognize the bill's significance in advancing sustainable practices in the EV battery sector. However, we believe there are aspects of the current legislation that could be enhanced to better meet its objectives. This belief underlies our decision to propose specific language changes, which we feel are crucial for the bill to effectively address the complexities of EV battery recycling and management.

Redwood is at the forefront of ensuring that the United States meets its clean energy and electric vehicle (EV) ambitions. We are dedicated to developing a domestic, secure, and sustainable battery supply chain. Our strategic approach includes:

- **Recycling**: We focus on collecting and recycling end-of-life lithium-ion batteries from EV battery packs to consumer devices, turning potential waste into high-value battery materials.
- **Refining and Processing**: Our facilities process and refine critical minerals contained in these batteries, ensuring their optimal reuse.
- **Re-manufacturing**: We specialize in re-manufacturing sustainable battery materials, particularly cathode active materials and anode foils, essential for domestic battery manufacturing.

Our company's mission aligns with the objectives of HB1972, advocating for responsible and sustainable management of electric vehicle (EV) batteries. Today, Redwood receives more than 10 GWh of lithium-ion batteries annually, which equates to more than 100,000 vehicles, 788 million cell phones, or 40,000 metric tons/year. The vast majority of lithium-ion batteries recycled in North America come through our doors.

This year, over 250,000 electrified vehicles are reaching the end of their life cycle in the United States, presenting a crucial opportunity for sustainable practices in battery management. Our involvement in policy development and environmental sustainability initiatives, both locally and nationally, positions us as a key contributor in this evolving industry.

Redwood recognizes Hawaii's pioneering role in sustainable energy and battery technology. In collaboration with Kaua'i Island Utility Cooperative (KIUC), we've worked on decommissioning the first-generation battery storage system at the Anahola substation, a 4.6 MWh battery energy storage system (BESS). The successful decommissioning and recycling of these initial projects serve as an industry model for future gigawatt-scale projects.

Additionally, we contributed to the EPA's Maui Wildfire Response by facilitating the safe transport of fire-damaged lithium-ion batteries from Maui to our Northern Nevada facilities for proper recycling. This effort was part of our commitment to environmentally responsible practices in emergency situations.

We have also engaged with the University of Hawaii in their research on EV battery recycling. By hosting their researchers at our facilities, we shared insights into our methods for EV battery circularity, aiming to contribute to broader knowledge in this field and inform local policy development.

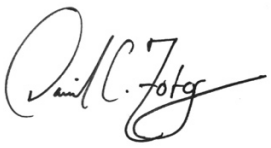
Through these initiatives, Redwood strives to support Hawaii's sustainable energy ambitions and contribute to the evolving dialogue on battery recycling and management.

While we support HB1972's objectives, we advocate for policies that ensure market flexibility, fostering innovation and adaptability in this rapidly evolving sector. Attached to this testimony, you will find detailed language changes proposed by Redwood Materials and industry stakeholders. These changes are informed by our industry expertise and experience with similar legislation in other states. Specifically, we suggest modifications to the definitions section, consumer disposal guidelines, and battery management plans, ensuring operational clarity, environmental safety, and industry flexibility.

Redwood Materials is committed to advancing our industry, driving circularity in battery material production, and collaborating with partners and policymakers. We are dedicated to reducing costs, enhancing sustainability, and fostering innovation, contributing to a more sustainable future.

Thank you for considering our testimony and proposed amendments. We look forward to the possibility of a meaningful collaboration.

Sincerely,



Daniel Zotos
Senior Manager, Public Affairs & Advocacy
Redwood Materials

Suggested Language Changes to Hawaii H.B. 1972 An Act relating to electric vehicle batteries. (Redwood Materials and Tesla)

1. Update 322I-A “Definitions” section to include a definition of “authorized propulsion battery recycler”.

   Suggested Language:

   “Authorized battery recycler" means an entity or facility that is authorized by the department or an equivalent agency in another state to collect, sort, separate, and refine the elemental components of end-of-life propulsion batteries, or battery materials, and to refine the elemental components back to usable battery chemicals that include, but are not limited to, nickel sulfates, cobalt sulfate, and lithium salts. "Authorized propulsion battery recycler" does not include entities or facilities that are engaged only in the collection or logistics of moving materials for recycling.

   Rationale: Included in the recent EV battery recycling law in New Jersey, this definition not only brings operational clarity and standardization to the recycling industry but also underscores full-service recyclers from logistics-only entities and sets a high standard for recycling practices. It marks a significant useful precedent in the industry and with policy.

2. Update 342I-C “Consumer disposal of propulsion batteries.” to include “authorized propulsion battery recyclers” as one of the options for consumers to deliver the unwanted battery to.

   Suggested Language:

   (3) an authorized battery recycler

   Rationale: This language ensures consumers are aware of and have access to a responsible, environmentally sound disposal option. Authorized recyclers provide a specialized service, ensuring batteries are processed safely and materials are recovered efficiently. This aligns with the increasing need for sustainable battery disposal and recycling in the face of rising electric vehicle adoption.

3. Update 342I-F “Battery management plan.” to include “authorized propulsion battery recycler’s” in the battery management plans, including their necessary role in properly managing propulsion batteries at end-of-life.

   Suggested Language:

   A battery management plan prepared and submitted pursuant to this section shall, at a minimum, include:
   1. Methods to be used for the acceptance and transportation of used propulsion batteries or complete vehicles offered to the producer. This includes proposed collection services and specifies the role of vehicle recyclers and authorized propulsion battery recyclers.
   2. Processes and methods to be utilized for the remanufacture, repurpose, or recycle of propulsion batteries at the end of their service life. This should detail, as applicable, the identity of authorized battery recyclers to be utilized pursuant to the plan, and a comprehensive plan for the final disposal of such batteries in accordance with environmentally sound management practices.

   Rationale: This language ensures that specialized recyclers are integral to the battery management process, underscoring the significance of advanced recycling capabilities in the industry. It contributes to a high standard of environmental responsibility by promoting responsible end-of-life management of batteries. Recently adopted in New Jersey, this approach/detail addresses the entire lifecycle of propulsion batteries—from collection and transportation to final disposal. By integrating authorized recyclers into the plan, the amendment not only enhances environmental safety but also bolsters industry responsibility and adherence to state regulations.

Furthermore, it supports the development of a robust, domestic supply chain for high-value battery materials, which is vital for the burgeoning electric vehicle market.

4. Remove section “342I-G Recovery of Costs” or specify the specific clean up or remediation activities so liable entity may be determined.

   Suggested Language:

   ~~**342I-G Recovery of costs.** (a) Upon request from the department, any costs incurred and payable from the fund as a result of electric vehicle battery cleanups and associate environmental assessments and remediation shall be recovered by the attorney general from the liable entity. The amount of any cost that may be recovered pursuant to this section for an electric vehicle battery cleanup and associated assessment and remedial action paid from the fund shall include the amount paid from the fund and legal interest.~~

   ~~(b) Moneys recovered by the attorney general pursuant to this section shall be deposited to the special account of the environmental management special fund.~~

   ~~(c) Any action for recovery of response costs shall commence within two years after the date of completion of all response actions.~~

   Rationale: This section lacks important specificity regarding which entity is determined to be liable depending on the individual cleanup or remediation issue in question. For example, if the owner does not offer the battery back to the producer and inappropriately stores it resulting in environmental harm or damage, the owner should then be liable for costs. Alternatively, if there is a major collision or natural disaster, the vehicle insurer would generally be liable for these costs. Importantly, the battery producer should always be provided with the opportunity to recover a battery it produced using its own reverse logistics system before the Department undertakes battery recovery and invoicing the producer. As such, we recommend striking this section completely as it would be challenging to amend the bill to fully define the liable entity for each individual cleanup or remediation

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

LATE

Nicole Chatterson
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Testimony in **SUPPORT of HB1972 HD1: RELATING ELECTRIC VEHICLE BATTERIES**

Committee Hearing of CPC

February 14, 2024 at 2:00 PM, CCR 229 & Videoconference

February 13, 2024

Aloha Chair Nakashima and members of the CPC Committee,

As the Executive Director of Zero Waste O‘ahu, a local non-profit working to rebuild an equitable and waste-free Hawai‘i through direct action projects and public engagement, I am writing in **STRONG SUPPORT of HB 1972 HD 1 - Relating to Electric Vehicle Batteries**.

Through my role at Zero Waste O‘ahu I have been appointed to an Advisory Committee for Hawai‘i’s Integrated Solid Waste Management Plan and a C&C of Honolulu Source Reduction Working Group, which is focused on reducing Oahu's waste stream.

Both of these groups have discussed or will be discussing the question of lithium-ion battery reuse and recycling, both for EVs and/or energy storage. This is an important waste stream to reduce and manage, however, the full treatment of battery reuse and recycling is beyond the scope of either of these groups. I wholeheartedly support the effort to explore these issues via a dedicated working group as described in this bill.

We must ensure that our electrified vehicles (and energy delivery systems) operate with full integrity and within the principles of a just and circular economy. This means prioritizing reuse instead of recycling and prioritizing recycling over disposal. It also means we need to start taking action before this waste stream gets out of control.

Mining for battery materials is a major social justice and environmental concern. We need to design electrified transportation systems to ensure we are minimizing our demand for rare minerals. Reuse and recycling of batteries will help with this, although there is much additional work to do on that front.

Mahalo and please feel free to contact me with any questions.

Nicole Chatterson, Executive Director, Zero Waste O‘ahu

HB-1972-HD-1
Submitted on: 2/12/2024 10:45:19 PM
Testimony for CPC on 2/14/2024 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ted Bohlen	Individual	Support	Written Testimony Only

Comments:

Support!

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

HB-1972-HD-1
Submitted on: 2/14/2024 9:20:57 AM
Testimony for CPC on 2/14/2024 2:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
Ryan Willis	Individual	Oppose	Written Testimony Only

Comments:

I OPPOSE

Government getting involved in things it shouldn't

Get your hands out of the cookie jar