

# HAWAII STATE ENERGY OFFICE STATE OF HAWAII

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Testimony of  
**MARK B. GLICK, Chief Energy Officer**

before the  
**HOUSE COMMITTEE ON FINANCE**

Wednesday, February 28, 2024  
12:00 PM  
State Capitol, Conference Room 308 and Videoconference

In Support of  
**HB 1972, HD1**

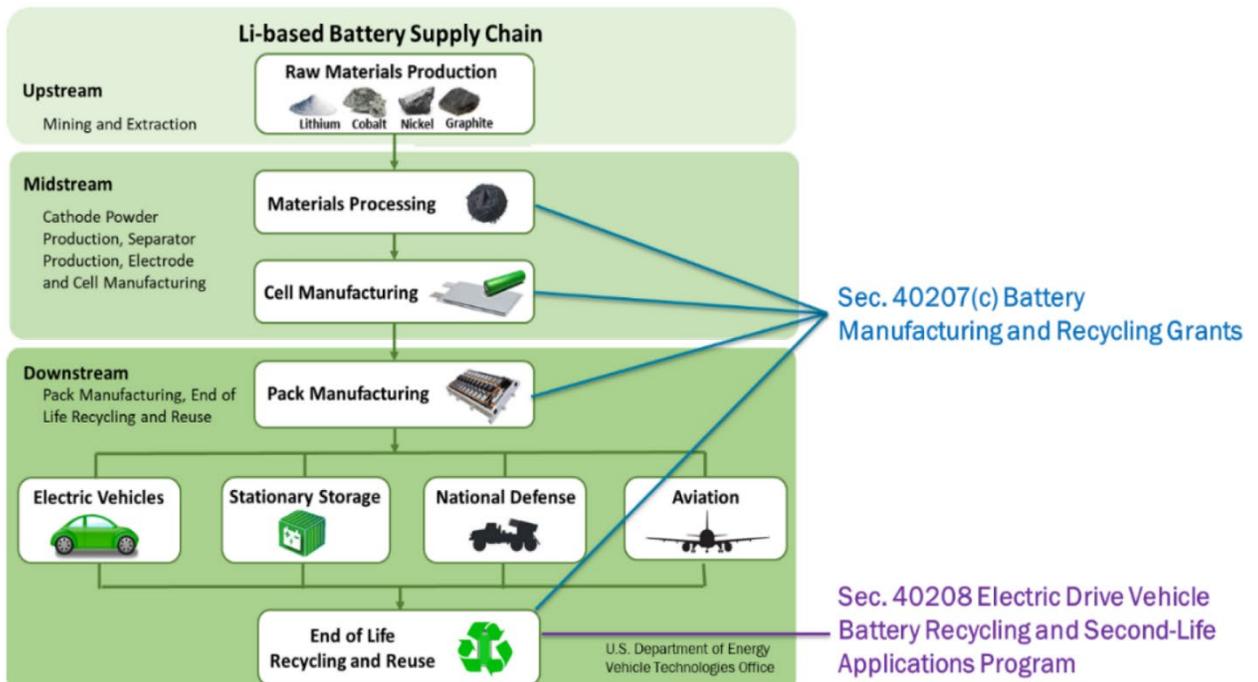
## **RELATING TO ELECTRIC VEHICLE BATTERIES.**

Chair Yamashita, Vice Chair Kitagawa, 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.

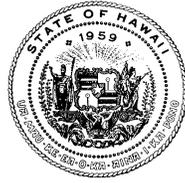
The proposed working group will allow the integration of end-of-life battery management with clean energy objectives.

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.



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**Testimony in SUPPORT of HB1972 HD1  
RELATING TO ELECTRIC VEHICLE BATTERIES**

REPRESENTATIVE KYLE T. YAMASHITA, CHAIR  
HOUSE COMMITTEE ON FINANCE

Hearing Date: February 28, 2024

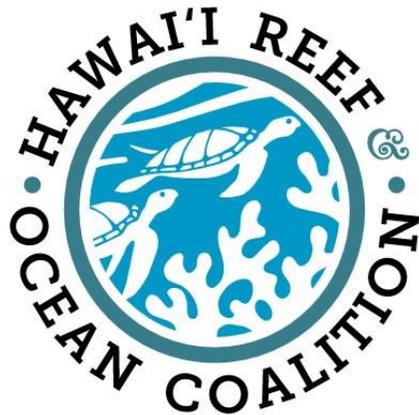
Room Number: 308

1 **Fiscal Implications:** N/A

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

9 **Offered Amendments:** None.

10 Thank you for the opportunity to testify.



To: The Honorable Chair Kyle Yamashita, the Honorable Vice Chair Lisa Kitagawa, and Members of the Finance Committee.

From: Hawai'i Reef and Ocean Coalition and Climate Protectors Hawai'i (by Ted Bohlen)

**Re: Hearing HB1972 HD1 RELATING TO THE ELECTRIC VEHICLE BATTERIES**

Hearing: Wednesday, February 28, 2024, 12:00 p.m., room 308

Aloha Chair Yamashita, Vice Chair Lisa Kitagawa, and Members of the Finance Committee.

The Hawai'i Reef and Ocean Coalition (HIROC) is a group of scientists, educators, filmmakers and environmental advocates who have been working since 2017 to protect Hawaii's coral reefs and ocean. HIROC is deeply concerned about the impact the state's waste management systems for lithium-ion batteries can have on Hawaii's public health and nearshore water quality!

The Climate Protectors Hawai'i seeks to educate and engage the local community in climate change action, to help Hawai'i show the world the way back to a safe

and stable climate. The Climate Protectors Hawai'i supports the electrification of ground transportation, but is concerned that the use of materials be minimized.

**The Hawai'i Reef and Ocean Coalition and Climate Protectors Hawai'i STRONGLY SUPPORT HB1972 HD1!**

Lithium-ion battery reuse and recycling is an important waste stream issue. Hawai'i Reef and Ocean Coalition and Climate Protectors Hawai'i support the effort to explore these issues via a dedicated working group as described in this bill. Our electrified vehicles (and energy delivery systems) need to operate 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. We need to minimize the mining of these materials, given the social justice impacts.

Please pass this bill!

Mahalo!

Hawai'i Reef and Ocean Coalition and Climate Protectors Hawai'i (by Ted Bohlen)



February 28<sup>th</sup>, 2024

Tony Belot  
91-56 Hanua Street  
Kapolei, HI 96707  
[abelot@rdus.com](mailto:abelot@rdus.com)

Representative Kyle Yamashita, Chair  
House Committee on Finance

**RE: HB 1972 HD1 Relating to Electric Vehicle Batteries**

Aloha Chair Yamashita,

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 HD1 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



**SanHi**

GOVERNMENT STRATEGIES

A LIMITED LIABILITY LAW PARTNERSHIP

DATE: February 28, 2024

TO: Representative Kyle T. Yamashita  
Chair, Committee on Finance

FROM: Tiffany Yajima

RE: **H.B. 1972, H.D. 1 – Relating to Electric Vehicle Batteries**  
**Hearing Date: Wednesday, February 28, 2024 at 12:00 p.m.**  
**Conference Room: 308**

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Dear Chair Yamashita, Vice-Chair Kitagawa, and Members of the Committee on Finance:

On behalf of the Alliance for Automotive Innovation (“Auto Innovators”) we submit these **comments** supporting the intent of H.B. 1972, H.D. 1, 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 and as the makers of electric vehicles that use these batteries would be willing to and interested in serving as a resource to the state on this working group. Auto Innovators also suggest that the working group examine the current conditions for battery recycling and consider current programs that already exist to manage EV battery recycling.

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, we note that 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 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 are 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.

Thank you for the opportunity to submit this testimony.



February 28, 2024

**RE: Redwood Materials' Written Testimony and Suggested Language for HB1972 HD1, Relating to Electric Vehicle Batteries – House Finance Committee**

Dear Chair Yamashita, Vice Chair Kitagawa, and Members of the House Committee on Finance,

As the leader in the sustainable management of electric vehicle (EV) batteries, Redwood Materials is supportive of HB1972 HD1. We recognize the bill's significance in advancing sustainable practices in the EV battery sector, and have some minor suggestions to improve the legislation and resultant commission.

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.

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.

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 Materials was an original member of *CalEPA's The Lithium-ion Car Battery Recycling Advisory Group* and played a pivotal role in advocating for the inclusion of an industry-first definition of an 'authorized propulsion battery recycler' in New Jersey's recently passed EV Battery Recycling law. This was a significant measure in emphasizing the importance of advanced recycling capabilities and ensuring responsible end-of-life management of batteries beyond traditional and potentially outdated processes.

In light of our experience and expertise, we propose a simple but important language amendment to HB1972 HD1. In addition to an e-waste recycler, we suggest the following language be included in the bill regarding membership on the commission:

*'One representative from a company specializing in the recycling of electric vehicle batteries, with demonstrated expertise in providing end-of-life battery management solutions, including recovering materials from end-of-life batteries and manufacturing sustainable battery materials.'*

This language change is vital to ensure that the commission or study group formed under this bill recognizes and integrates the unique expertise and capabilities required in advanced EV battery recycling and end-of-life management of EV batteries. This expertise should be explicitly reflected in the commission membership.

Should this bill pass, Redwood Materials expresses its keen interest and commitment to serve on Hawaii's commission, bringing our expertise and experience from our involvement in sustainable battery management in both Hawaii and nationwide.

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 amendment. We look forward to the possibility of a meaningful collaboration.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel Zotos". The signature is fluid and cursive, with a large initial "D" and "Z".

Daniel Zotos  
Senior Manager, Public Affairs & Advocacy  
Redwood Materials