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

March 24, 2022
3:00 p.m.
State Capitol, Teleconference

S.C.R. 145 / S.R. 129
URGING THE STATE OF HAWAII TO SUPPORT THE DEVELOPMENT AND
DEPLOYMENT OF ZERO EMISSIONS INTERISLAND TRANSPORTATION.

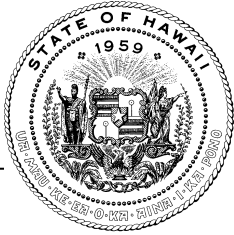
Senate Committee on Transportation

S.C.R. 145 / S.R. 129 urges the Department of Transportation (DOT), the Department of Business and Economic Development & Tourism (DBEDT), and the Department of Land and Natural Resources (DLNR) accelerate efforts to assist with developing and deploying zero emissions interisland transportation.

While alternative energy methods are being developed for aviation and maritime industries, there is also the need to standardize electric charging stations for the aviation and maritime industries that are involved with international travel and trade . For example, manufacturers had to develop different products to provide for the differences in electricity voltage with different power adapters if the destination is not U.S. compatible. Aircraft and vessels will need standardization in making trade and travel stops around the world and Pacific Rim.

The DOT believes that technology will evolve and are assessing its facilities to incorporate the necessities such as charging facilities, docks, and other infrastructure required to allow for zero emissions interisland

Thank you for the opportunity to provide **comments**.



HAWAII STATE ENERGY OFFICE STATE OF HAWAII



DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

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Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
SENATE COMMITTEE ON TRANSPORTATION

Thursday, March 24, 2022
3:00 PM
State Capitol, Conference Room 224 & Videoconference

**SUPPORT
SCR 145 / SR 129
URGING THE STATE OF HAWAII TO SUPPORT THE DEVELOPMENT AND
DEPLOYMENT OF ZERO EMISSIONS INTERISLAND TRANSPORTATION.**

Chair Lee, Vice Chair Inouye, and Members of the Committee, the Hawai'i State Energy Office (HSEO) offers testimony in support of SCR145 / SR 129, urging the state of Hawaii to support the development and deployment of zero emissions interisland transportation.

Emissions from transportation account for the largest share of energy sector emissions in the state. As noted in the 2017 Greenhouse Gas Inventory, transportation emissions in Hawai'i account for 51 percent of total energy sector emissions. To reduce transportation emissions, the HSEO is engaging with stakeholders to implement policies and programs to support the decarbonization of interisland transportation.

A coordinated effort is needed amongst state agencies and a wide range of stakeholders to continue meaningful progress on clean transportation. HSEO has actively collaborated with The Hawaii Department of Transportation and the Hawaii Department of Land and Natural Resources on a number of clean transportation initiatives. As an example, HSEO collaborated with DOT-Highways to put in place a vehicles-as-a-service contract to support the transition of the State's fleet to zero emission vehicles (ZEVs); and on successful applications for the designation of

alternative fuel corridors on the islands of Hawai'i, Kaua'i, Lāna'i, Maui, Molokai, and O'ahu opening the door to federal funding opportunities.

The HSEO has also focused on reducing the energy intensity of mobility. Working with the State Climate Change Mitigation and Adaptation Commission within Hawaii's Department of Land and Natural Resources, the HSEO has funded a Vehicle Miles Travelled and Active Transportation Specialist through a grant from the United State Climate Alliance to focus on development and implementation of strategies to reduce vehicle miles travelled through mode-shift, active transportation, and other associated means.

Hawai'i is also poised to take a leadership role in the decarbonization of aviation. On November 22, 2020, Ampaire's Electric EEL airplane became the first hybrid electric aircraft to conduct test flights on a commercial airline route, flying roundtrip from Maui's Kahului airport to Hana. This flight made it apparent that for Hawai'i to meet its statutory target "to sequester more greenhouse gases than emitted as soon as practicable but no later than 2045," planning and implementation of clean transportation alternatives to other modes of transportation such as aviation are essential and timely.

To prepare for the electrification of aviation, HSEO partnered with HDOT-Airports on planning grant for Emergency Management Agency's Building Resilient Infrastructure and Communities (BRIC) grant program. The proposal is to study the infrastructure and energy requirements necessary to support electrification of aviation and how to leverage that infrastructure to support resiliency hubs in response to all-hazard events such as hurricanes.

While the HSEO supports this resolution, there are currently no generally funded transportation positions within HSEO to support the deployment of zero-emission interisland transportation. HB 1600, HD1 includes funding and a position for a transportation specialist in HSEO, which would enable HSEO to support zero emission interisland transportation.

Thank you for the opportunity to testify.



REGENT Craft Inc.
111 S Bedford Street
Suite 200
Burlington, MA 01083

March 24, 2022

TO: Senator Chris Lee, Chair
Senator Lorraine R. Inouye, Vice-Chair
Members of the Senate Committee on Transportation

FR: Billy Thalheimer
Co-Founder & CEO

RE: SCR145/SR129 URGING THE STATE OF HAWAII TO SUPPORT THE DEVELOPMENT AND DEPLOYMENT OF ZERO EMISSIONS INTERISLAND TRANSPORTATION. - **SUPPORT**

My name is Billy Thalheimer, and I am the CEO and Co-Founder of REGENT. REGENT builds all-electric seaglidors, a new form of innovative maritime travel that represents a quantum leap forward for sustainable transportation. Seaglidors combine the higher speeds and comfortable ride quality normally associated with an aircraft with the low travel overhead and cost structure of ferries. By combining existing technologies like electric batteries and hydrofoils together with the aerodynamic benefits of ground-effect, we have created a new mode of regional coastal transportation that is faster than a ferry, more affordable than a plane, better for planet earth, with a pathway to service by 2025.

Seaglidors will significantly lower the cost of operations for any local airline, cargo, freight, air ambulance, and/or emergency services company operating in Hawaii. A better economic operating profile for local transportation service providers should translate to more affordable services in the market for residents. Because seaglidors can utilize existing infrastructure found in ports and harbors, traveling on congested roads through packed airports will not be required in order to go from island to island. This will greatly increase convenience for all residents, allowing some to access this new form of inter-island transportation by walking or riding a bike to a nearby port or dock from their home or office.

My team and I have spent the last 6 months listening to key community groups, leaders in private industry, State and Local government officials and various other civic organizations about the challenges facing the Hawaiian Islands.

Learning from these conversations across the State has been encouraging and insightful. Here is a snapshot of what we heard while talking to various groups about our vehicle:

- Seaglidors help move Hawaii off its dependence on foreign oil
- Vulnerable and underserved communities will benefit from this new mode of transportation in the form of better access to jobs, affordable housing and medicine

- Transitioning to new sustainable inter-island transportation solutions will drive significant investment in new renewable energy generation projects throughout the State helping further decrease Hawaii's dependence on fossil fuels
- Seaglidors have real potential to alleviate road congestion in a meaningful way while increasing convenience and value for residents
- A self-sustaining resilient transportation solution that will help the State be more prepared during natural disasters is mission critical

A significant benefit of our technology platform is our timeline for delivery. REGENT is working hard to have our vehicles certified and available for operations by local businesses in Hawaii by 2025. Passing SCR145/SR129 will provide our customers locally with a process for engaging the State on a variety of important and timely regulatory and infrastructure issues.

SCR145/SR129 is an important step forward for the State on its transition to zero-emission transportation. In addition to helping the State grapple with the effects of climate change, SCR145/SR129 will help get the State realigned with its clean energy initiatives and reduce the risk of environmental mishaps as recently experienced from the Red Hill fuel spill into Oahu's aquifer.

Because of Hawaii's geographic and destination recognition globally, passage of SCR145/SR129 would not only set in motion Hawaii's transition to green-powered transportation but also has the potential to inspire other coastal states and pacific island regions on the front lines of climate change to follow Hawaii's lead.



HAWAII THINK TANK LLC.

March 24, 2022

Honorable Chair and Members of the Senate Transportation Committee,

I am reaching out to you today to encourage your support for Senate Concurrent Resolution 145 and Senate Resolution 129 which is **URGING THE STATE OF HAWAII TO SUPPORT THE DEVELOPMENT AND DEPLOYMENT OF ZERO EMISSION INTERISLAND TRANSPORTATION**

My name is David H. Uchiyama, and I am with Hawaii Think Tank a consulting agency specializing in tourism and transportation. I have worked in the hospitality industry for most of my career with the hotels, airlines, ground transportation, as well as leading the states branding efforts for the Hawaii Tourism Authority from 2007 to 2015.

In recent months it has become very apparent the as to the priority that we must place on all elements that contribute to the effects of climate change as we see greater erosion of our coastline, drought conditions across all islands, our reliance on fossil fuels and its impact on gas prices at the pump. Along with the risk of storing those fuels contributing to the environmental mishap recently experienced from the Red Hill fuel spill into Oahu's aquifer.

The State of Hawaii along with other states and countries needs to heighten their efforts, moving our planet and our islands towards zero emissions. Passing SCR 145 and SR 129 enables the transition to begin and attracts green powered vehicle manufactures and broadening the opportunity for Hawaii's operators to migrate into green powered transportation. SCR 145 and SR 129 is an important step which has extended benefits in addition to slowing the effects of climate change, realignment with the States Clean Energy initiative,

Hawaii's people will realize economic benefits as well when operators are able to reduce operational cost coming from operating green powered equipment when serving the needs of passenger travel, freight and/or cargo, emergency services, and better connecting Hawaii's people to health care services.

Because of Hawaii's geographic and destination recognition globally, your affirmative action on Senate Concurrent Resolution 145 and Senate Resolution 129 both sets in motion the transition to zero emission or green powered transportation for the islands but also will be recognized by other islands regions who follow Hawaii's vision.

With Much Aloha,

A handwritten signature in black ink, appearing to read 'David H. Uchiyama'.

David H. Uchiyama
Hawaii Think Tank
286 Elelupe Road

Honolulu, Hawaii

96821-2209



Written Statement of
David H. Molinaro
Acting Director
Hawaii Center for Advanced Transportation Technologies
before the
Senate Committee on Transportation
Thursday, 24 March 2022
3:00:pm
State Capitol, Conference Room 224
In consideration of

SCR 145 / SR 129
URGING THE STATE OF HAWAII TO SUPPORT THE DEVELOPMENT AND DEPLOYMENT
OF ZERO EMISSION INTERISLAND TRANSPORTATION

Chair Lee, Vice Chair Inouye, and Members of the Committee.

HCATT **supports** SCR 145/ SR 129 in adopting zero emissions interisland transportation technologies and accelerating the development of all modes of electric transportation to benefit the economy, diversify energy resources, reduce Hawaii's carbon footprint, and support the State's 2045 RPS mandate.

The development of novel, electrified, carbon neutral transportation systems is a multibillion-dollar industry worldwide with automotive, maritime, and aviation companies striving to meet global demand. Hawaii would benefit from these technologies and is well positioned to support the diversity, resiliency, and economies ZEV/electrified interisland transportation systems would provide.

This state is among the top locations in the United States where electrified transportation, especially maritime and aviation, can thrive due to the relatively short routes of travel; demand for resident inter-island travel and commodity transport options; the flexibly electrified systems afford in supporting ocean safety and emergency response operations across the islands.

This resolution supports enhancing the capacity and capability of infrastructure, charging stations, harbors and related to these new systems. Moreover, HCATT views hydrogen and hydrogen technologies as an integral component in the utility grid in order to support the electrification of transportation across all sectors of transportation. It further enhances the development and deployment of hydrogen fuel cells in all areas of the transportation sector as specified in Hawaii Revised Statute §196-10.

Thank you for the opportunity to present these comments.





March 23rd 2022

Re: SUPPORT SCR 145

To the Honorable Members of the Hawaii Senate,

ZeroAvia is pleased to support SCR 145, which proposes several resolutions for the development and deployment of zero emissions interisland transportation. Our company is developing zero-emission, hydrogen-electric engines for aircraft, initially targeting small to medium sized aircraft operating on regional and sub-regional routes, and is in active discussions with partners in Hawaii concerning the planned entry-into-service of our engine technology by 2024.

The State of Hawaii offers one of the best set of possible use cases for the operation of zero-emission flight powered by hydrogen fuel cell technology. The State has an opportunity to be an early adopter and a national and even global frontrunner in this area due to its unique geography, rich mix of renewable energy and the forward thinking policies under consideration.

With 10 commercial airports connecting millions of passengers - many on short range, interisland flights - the opportunity for adopting the very first zero emission flight routes is significant. Hilo to Honolulu is a sub 200 nautical mile journey, putting it well within the range (300 nautical miles and more) of the first zero-emission aircraft that will be entering the market within the next 2-3 years. Rapid, green transportation to better connect residents and tourists across the islands can bring economic benefit and greater State-wide cohesion.

Currently, a key barrier to airlines providing communities with more service is the economics of operating short-haul flights in small aircraft as jet fuel costs for smaller island operators are prohibitive. Low-carbon hydrogen is already cost-competitive with jet fuel today in some of these use cases, and promises substantially lower and more stable costs over time. Hawaii's rich mix of renewable energy from geothermal, wind, solar and hydro amongst other sources, provides 30% of the State's energy and creates the conditions necessary for generating green hydrogen to support aircraft propulsion and other heavy duty transportation. With support, strong business models for more interisland routes are possible.

By supporting the goals of this Senate Concurrent Resolution to develop and demonstrate zero emission interisland transportation, Hawaii is likely to further improve the economies of scale for green hydrogen production, providing a mechanism for cost-effectively increasing renewable consumption by using hydrogen as an energy storage vector. With this in mind, we also urge the Senate to encourage the Department of Business, Economic Development, and Tourism, Department of Transportation, Department of Land and Natural Resources, and other relevant departments to explore hydrogen production and refuelling as part of the infrastructure required to maximize zero emission transportation, with airports as an important setting for this infrastructure.

Furthermore, if acted upon, the resolutions proposed can create high-value, green engineering jobs in support of the development, demonstration and maintenance of zero emission transportation, as well as bolstering air quality for Hawaiians.

Sincerely,

Val Miftakhov, CEO, ZeroAvia