

THE CURRENT

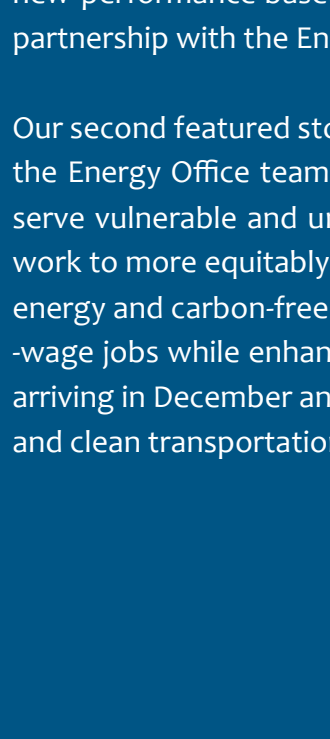
Hawaii State Energy Office
Clean Energy Update

Winter 2021

THE CURRENT serves Hawai'i's communities, businesses, and policy makers in making informed decisions about clean energy investments and policy. Hawai'i's clean energy sector is a significant driver for economic development to replace fossil fuel expenditures with home-grown industries that stimulate smart economic growth for future generations of Hawai'i.

BRIEFING SETS STAGE FOR NEW LEGISLATIVE SESSION

Scott J. Glenn, Chief Energy Officer



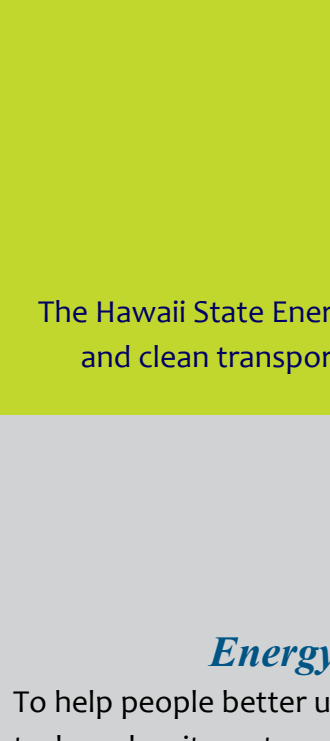
It's shaping up to be a busy session at the Hawai'i State Legislature. The Energy Office is closely following numerous energy-related measures making their way through both chambers. After the COVID-19 pandemic abbreviated the 2020 legislative session, lawmakers now have their hands full with addressing Hawai'i's historic budget shortfall, unfinished legislation from last year, and a raft of new bills. To help set the stage for energy issues during this year's session, on January 15 the Energy Office partnered with the Hawaii Energy Policy Forum (HEPF) and the Hawai'i Natural Energy Institute (HNEI) to present the annual [Legislative Energy Briefing](#). On behalf of HEPF, HNEI, and the Energy Office, mahalo to everyone who took part in speaking at the briefing and attending it.

Our first featured story in this issue of *The Current* recaps the legislative briefing, which was held virtually and drew a strong turnout of more than 400 attendees. Two dozen speakers represented a wide array of energy and community leaders, who shared their current situations, challenges, and 2021 solutions to help Hawai'i achieve a resilient, prosperous, carbon-free economy. The presentations addressed timely topics including energy assurance and resilience, the role of solar PV in Hawai'i's progress toward 100 percent clean energy and cutting-edge utility regulation with an overview of the new performance-based ratemaking. HSEO looks forward to building on the success of its inaugural partnership with the Energy Policy Forum to host this event again next year.

Our second featured story details the addition of three full-time AmeriCorps VISTA service members to the Energy Office team. The VISTAs were selected for their ability to strengthen HSEO's capacity to serve vulnerable and under-represented communities. We are excited to have them on board as we work to more equitably advance Hawai'i's clean energy and climate goals. A successful path to a clean-energy and carbon-free economy requires green economic development innovation that creates living-wage jobs while enhancing environmental and social justice. The VISTAs hit the ground running after arriving in December and were quickly contributing to the Energy Office's efforts to make clean energy and clean transportation more accessible and affordable for all Hawai'i residents.

FEATURED STAFF: PROGRESS THROUGH DATA GOVERNANCE AND ANALYTICS

*Troy Wooton, Data Science Specialist
Resiliency, Clean Transportation, and Analytics*



As the State of Hawai'i moves toward an ambitious 100 percent clean energy economy goal, much of the requisite work needed to make measurable leaps forward will be increasingly data-driven. From tracking the decarbonization of public- and private-sector vehicle fleets to monitoring and communicating the development of utility-scale renewable energy projects to community members and stakeholders, the Energy Office will continually look for ways to make effective use of data in leading the charge to realize a clean energy future for Hawai'i.

To accomplish its data-focused initiatives, HSEO's Resiliency, Clean Transportation, and Analytics Branch (RCA) hired Troy Wooton to fill the role of data science specialist. Troy is a recent University of Hawai'i graduate, having completed an M.S. degree in Information and Computer Sciences. Troy's prior research focused primarily on data visualization, interactive visual analytics, and the development of geospatial decision support platforms to monitor and track natural disasters. Troy will apply his knowledge and background to assist HSEO in developing a robust data management and data analytics framework—one which is grounded in sound data governance policy.

Robust data analytics depends heavily upon unfettered access to high-quality, well-documented datasets. Historically, much of HSEO's data-driven work has relied on "data in the wild," a phrase sometimes used to describe data that comes from different sources. The challenge in leveraging this sort of data stems from the high degree of variability in terms of naming conventions, encodings, file formats, and overall quality that is inherent to "data in the wild." "Incorporating data from outside sources is comparable to a game of telephone," Troy says. "By the time the data ends up in our hands it might have taken multiple hops to get there, and the nuances surrounding how it was collected are often lost in translation, necessitating further research efforts to disambiguate the underlying assumptions."

To overcome this challenge and streamline HSEO's data-driven efforts, Troy will collaborate with energy data stakeholders throughout Hawai'i in developing a data governance framework. This framework will enable the Energy Office to make more effective use of data by bringing it out of the wild and housing it in closer proximity to its demand. By culminating in a public-facing data application programming interface and visualization dashboard, this framework will also facilitate future collaborations with energy stakeholders, as well as the dissemination of pertinent energy information to the public.

OUR VISION

A Hawai'i-powered clean energy economy.

OUR MISSION

The Hawaii State Energy Office is committed to promoting energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy.

LEADING THE CHARGE

Energy Office Expands Social Presence With Instagram

To help people better understand energy basics, the Energy Office has launched an Instagram account to broaden its outreach into the community. The account features visually appealing, informative graphics that explain in simple terms the ins and outs of Hawai'i's energy ecosystem and what the state is doing to achieve its clean energy and climate goals.

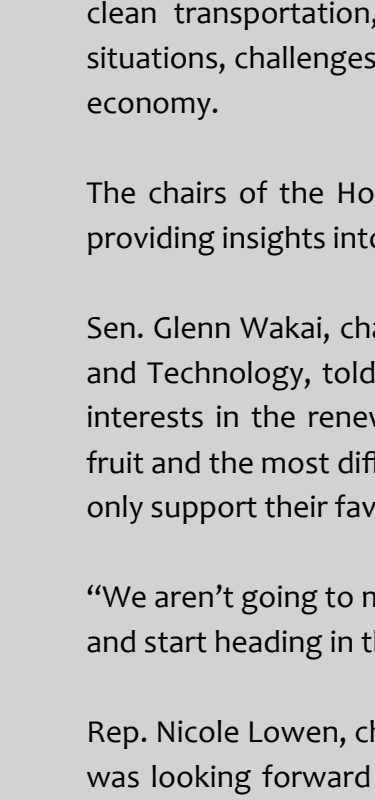
The account is managed by Revere Wood, an AmeriCorps VISTA member working in the Energy Office as part of the Climate Ready Hawai'i Cohort. "When I joined the Energy Office, I quickly realized that there was a lot to learn about our energy ecosystem," Revere says. "So, I'm excited to launch this Instagram account to help educate folks—like you and me—about clean energy systems, so we can all contribute to a more resilient, decarbonized Hawai'i."

North Shore Sustainable Communities Plan Virtual Meeting Set for March 4

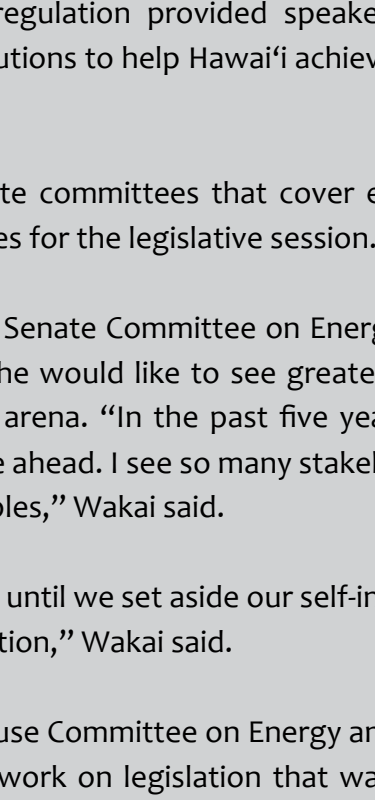
The City and County of Honolulu is updating the North Shore Sustainable Communities Plan (NSSCP), and it is asking for the community to share its vision for the area. The public will be able to provide input and ask questions during a virtual workshop from 5:30 p.m. to 7:30 p.m. on Thursday, March 4 via Zoom. The workshop also will be streamed on Facebook Live. The NSSCP sets forth a comprehensive vision for O'ahu's North Shore to 2045 and beyond. It includes policies, guidelines, and implementation actions informed by community input.

Study Examines Hawai'i's Offshore Wind Potential

The National Renewable Energy Laboratory is drafting a study that will model the costs and visualizations for potential floating offshore wind projects in marine regions around O'ahu. The final study funded by the U.S. Bureau of Ocean Energy Management will be published later this year and will be posted on the HSEO website. The study is intended to inform stakeholders including the public, electric utilities, and regulatory agencies about the potential for floating offshore wind technology in Hawai'i.



Energy Office Expands Social Presence With Instagram

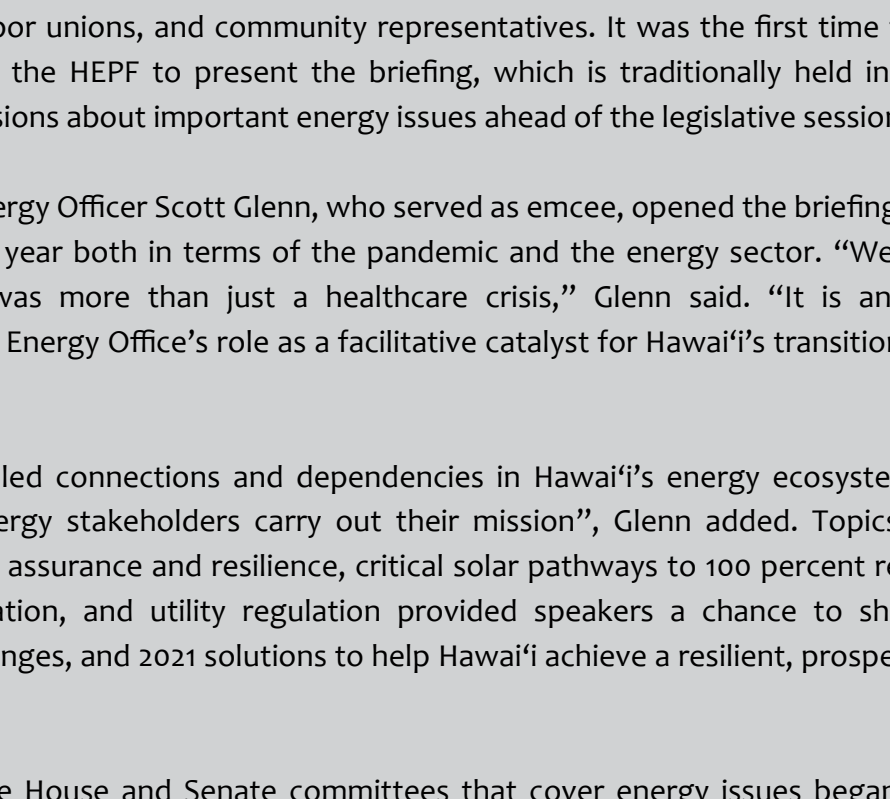


North Shore Sustainable Communities Plan Virtual Meeting Set for March 4



Study Examines Hawai'i's Offshore Wind Potential

Study Area: The map above shows the technical resource area within which NREL plans to compute the LOOE to provide geospatial diversity. The area includes federal waters less than 1,300 meters deep excluding marine sanctuaries.



THIS YEAR'S LEGISLATIVE ENERGY BRIEFING A HOT TICKET

The Hawaii State Energy Office joined with the Hawaii Energy Policy Forum (HEPF) to present this year's edition of the annual Legislative Energy Briefing focusing on the state's energy priorities, including ways the energy sector can help advance Hawai'i's economic recovery.

The virtual event on January 15 drew 432 attendees online and featured a robust agenda with two dozen presentations by leading Hawai'i legislators, public and private sector energy industry stakeholders, labor unions, and community representatives. It was the first time the Energy Office teamed up with the HEPF to present the briefing, which is traditionally held in early January to stimulate discussions about important energy issues ahead of the legislative session.

Hawai'i Chief Energy Officer Scott Glenn, who served as emcee, opened the briefing noting that 2020 was an impactful year more than just a healthcare crisis," Glenn said. "It is an accelerated and underscored the Energy Office's role as a facilitative catalyst for Hawai'i's transition to a carbon-free economy."

"COVID-19 revealed connections and dependencies in Hawai'i's energy ecosystem as it impacted how various energy stakeholders carry out their mission", Glenn added. Topics on the agenda, including energy assurance and resilience, critical solar pathways to 100 percent renewable energy, clean transportation, and utility regulation provided speakers a chance to share their current situations, challenges, and 2021 solutions to help Hawai'i achieve a resilient, prosperous, carbon-free economy.

The chairs of the House and Senate committees that cover energy issues began the briefings by providing insights into their priorities for the legislative session.

Sen. Glenn Wakai, chairman of the Senate Committee on Energy, Economic Development, Tourism, and Technology, told participants he would like to see greater cooperation among the competing interests in the renewable energy arena. "In the past five years we've picked all the low-hanging fruit and the most difficult years are ahead. I see so many stakeholders with conflicting interests that only support their favorite renewables," Wakai said.

"We aren't going to make progress unless we set aside our self-interest, put our paddles in the water and start heading in the same direction," Wakai said.

Rep. Nicole Lowen, chair of the House Committee on Energy and Environmental Protection, said she was looking forward to resuming work on legislation that was suspended last session due to the pandemic.

Lowen said her priorities this session include taking further steps for the state to lead by example on clean transportation, energy efficiency, and helping families and businesses save money. She highlighted decarbonizing transportation as an area where progress can be made. "This will be good for public health and the economy, while mitigating Hawai'i's contribution to the climate crisis," Lowen said. "My committee is working on a package of bills this year to support all these goals."

Several speakers shared stories about energy assurance and how their organizations worked to keep energy flowing to their customers in the face of pandemic-related and other challenges. One story stands out as an example of the important role solar battery storage is playing in assuring energy delivery year round.

The Kauai'i Island Utility Cooperative (KIUC) found itself in a tight situation last October when it lost the service of two oil-fired generating stations and its Green Energy biomass power plant was down for repairs. When overcast weather conditions reduced production from KIUC's solar facilities, the utility asked members to conserve energy and practice voluntary load reductions. Despite this, and even with cloudy conditions, KIUC was able to get enough charge from its solar battery systems to help with meeting the morning and evening peak demands.

"Batteries are now our single biggest generation source if you combine them. They really keep reliability up," said David Bissell, KIUC chief executive officer. "2020 was our best year ever for reliability and a lot of that is because of the new technology."

A new voice in the energy conversation, Eric Enos, executive director of Ka'ala Farm in Wai'anae, provided a community perspective on how to improve the process for siting the large-scale renewable energy projects that are needed for Hawai'i to reach its clean energy goals. Enos operates Ka'ala Farm, a community nonprofit that has served the Leeward Coast since 1976.

Enos said he feels there has not been enough outreach and engagement with communities that are being impacted by the projects. "I'm very much in favor of having the developers work with the communities right from the start so that we can address concerns and begin facilitating discussions on both sides," Enos said. "It doesn't always have to be a one versus the other situation. We can create some positive solutions."

Jay Griffin, chairperson of the Hawai'i Public Utilities Commission, wrapped up the briefing with a summary of the Commission's recent ruling on performance-based regulation (PBR) and how its implementation will align Hawaiian Electric's incentives with Hawai'i's clean energy goals.

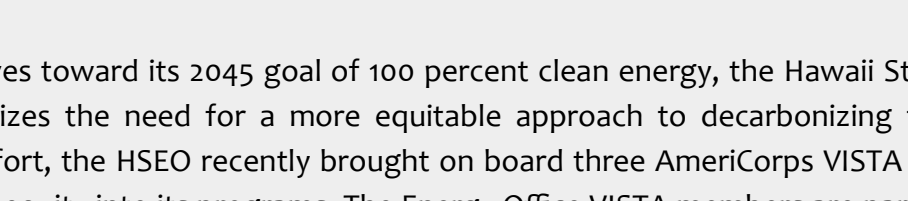
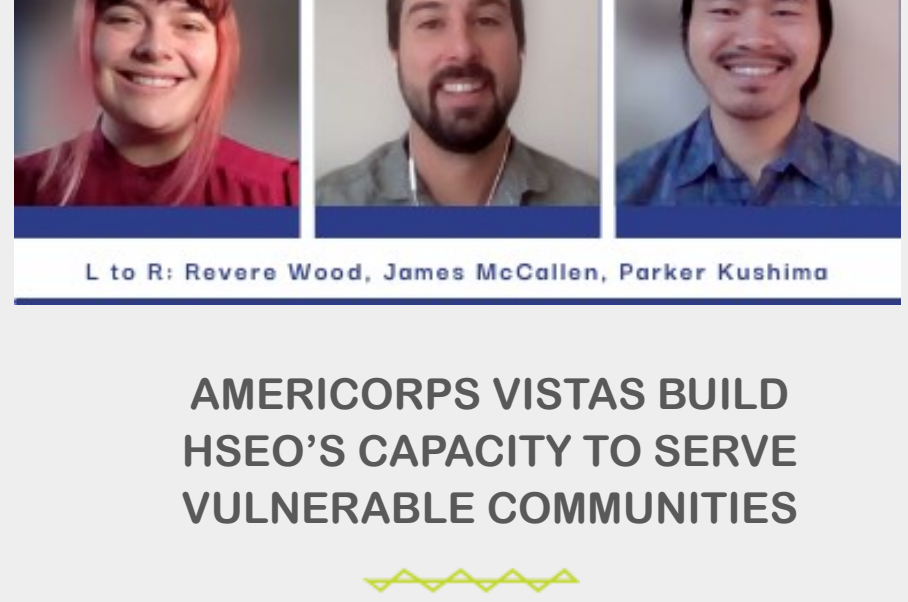
Under the previous "cost of service" regulatory regime there was little incentive for the electric utility to control costs, which led to higher rates, Griffin said. Under PBR, the utility's revenues will be subject to a cap indexed to inflation that is adjusted every five years.

The new regulatory structure provides an opportunity for the utility to better manage its costs and help Hawai'i meet its clean energy goals while producing savings for ratepayers, Griffin said. "We looked at a transformational framework that was consistent with the renewable energy goals that the state has set out, and to help align the utility's performance with the state's goals with a strong emphasis on cost management."

PBR is designed to incentivize the utility to add renewable power generation to the grid more rapidly through a "performance incentive mechanism" that rewards the utility for hitting its statutorily mandated renewable energy targets early. Griffin said the incentive is structured to be more generous for the utility during the first two years "to contribute to the economic recovery by creating as many clean energy jobs as possible."

The Energy Office looks forward to continuing its partnership with HEPF to present next year's Legislative Energy Briefing.

Visit [Legislative Energy Briefing 2021](#) for a video recording of the briefing and speaker presentations.



L to R: Revere Wood, James McCallen, Parker Kushima

AMERICORPS VISTAS BUILD HSEO'S CAPACITY TO SERVE VULNERABLE COMMUNITIES

As Hawai'i moves toward its 2045 goal of 100 percent clean energy, the Hawaii State Energy Office (HSEO) recognizes the need for a more equitable approach to decarbonizing the economy. To support this effort, the HSEO recently brought on board three AmeriCorps VISTA members to help the office build equity into its programs. The Energy Office VISTA members are part of a six-member Climate Ready Hawai'i VISTA-AmeriCorps cohort coordinated by the Hawai'i Climate Change Mitigation and Adaptation Commission and includes the Department of Land and Natural Resources, Department of Health, and Office of Planning.

HSEO's three VISTA members also will assist the state cohort in the development of a framework for the State Climate Commission to incorporate equity and anti-poverty strategies into climate change mitigation and adaptation.

The three HSEO VISTAs, Revere Wood, James McCallen, and Parker Kushima, are working with HSEO partners to develop strategies to help vulnerable and underserved communities by lowering energy costs and improving the benefits of clean energy projects that can provide higher wages, and short- and long-term employment opportunities.

Revere Wood serves as a community engagement and communications specialist. In this role, she helps the HSEO develop targeted outreach initiatives that better engage vulnerable communities in energy project decision-making and improve their access to energy conservation and clean energy resources. One of her projects includes the development and management of HSEO's Instagram account, @energyhawaii, where she creates visually pleasing educational content focused on helping individuals with little to no background in energy learn about clean energy sources and systems. The Instagram page will continue to develop and provide more in-depth resources to empower community member's engagement in Hawai'i's transition to a clean energy economy.

Before joining HSEO, Revere designed and implemented events to educate and promote the growth of the Aloha+ Challenge Goals through her work with the Hawai'i Green Growth Local2030 Hub—a public-private partnership committed to advancing state economic, social, and environmental goals. Revere also worked as a writer and coordinator for the WE Empower UN SDG Challenge, a global business competition for women entrepreneurs and social entrepreneurs advancing the United Nations Sustainable Development Goals.

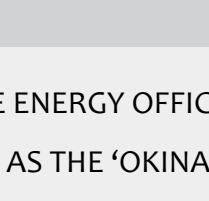
Revere additionally worked as an Outreach Coordinator with GRID Alternatives, a nonprofit organization that positively transforms the lives of low-income families by providing them access to clean, affordable solar energy, as well as hands-on training that reduce barriers to entering the solar industry. Revere graduated from the University of California, Riverside in June 2020 with a Bachelor of Science in Sustainability Studies with a concentration in Peace and Conflict Studies.

James McCallen serves as HSEO's energy affordability specialist. In this role, he assists the office with projects involving energy efficiency, renewable energy, clean transportation, and public education to help Hawai'i achieve a resilient clean energy economy. His projects include representing the HSEO in the newly formed Energy Equity HUI and building a list of all the financial assistance resources available to low- and moderate-income (LMI) residents across Hawai'i that help lower household energy utility bills. These resources will be used in future community outreach and engagement initiatives to improve LMI-residents' access to beneficial programs.

James worked as a health volunteer with the Peace Corps from 2017 to 2019 in the South Pacific island nation of Vanuatu. In Vanuatu, he primarily worked on issues of hygiene and sanitation, non-communicable diseases, and managed the design and planning of a sustainable, clean running water system for a community of 125 people. James has a Master of Public Health, with a concentration in Global Environmental Sustainability and Health, from Johns Hopkins Bloomberg School of Public Health. While obtaining his MPH, James worked as a Health Policy Fellow in the Maryland General Assembly, where he collaborated with state policymakers and community organizations on issues of environmental sustainability and zero waste policy. James also holds a BS in Biology and a BA in Chinese Language & Culture from Wake Forest University. He is originally from Long Island, New York.

Parker Kushima serves as the transportation affordability specialist in the Energy Office. Parker's scope of work includes data research, survey, and analysis towards improving affordable clean transportation options for Hawai'i's low-income and vulnerable communities. His projects include managing and representing the HSEO in the Transportation Equity Hui, an interdepartmental collaboration to prioritize the transition to safe, clean transportation. Parker is also assisting HSEO staff to support the development of smart, resilient community hubs for disaster preparedness and response. Parker also helps Revere with explaining technical content to make it more accessible to a wide audience for the Instagram education project.

Parker received a Bachelor of Science and Engineering in Electrical Engineering and a Certificate in Sustainable Energy from Princeton University in the spring of 2019. He was a Kupu/Kamehameha Sustainability Fellow in the summer of 2017, where he worked with sustainability data, and on community efforts for the restoration of Punaluu'Lo'i plots. As an Energy Engineering Intern (2018) with Hawai'i Energy, he helped create rebates for energy-efficient technologies and joined Energy Advisors on energy audits. His work focuses on increasing sustainable energy in Hawai'i in a way that is equitable and respectful to native and vulnerable communities. Parker graduated from Kamehameha Schools in 2015. He is originally from 'Ewa Beach, Hawai'i.



ENLIGHTENING NEWS & UPDATES

Patent-pending tech extracts energy from fresh, salt water
(University of Hawai'i News, 2/02/21)

North Shore wind farm settlement offers added funding, protections for endangered species
(Honolulu Star-Advertiser, 1/30/21)

Hawai'i Clean Energy Jobs Rise in December, But Still Below Pre-Pandemic Levels
(BW Research Partnership, 1/13/21)

US EIA Expects 19.5 GW of Solar Additions in 2021
KIUC Solar Pumped Hydro Storage Project Garner's Global Coverage
(Mercom India, 1/13/21)

FOR SCREEN READER USERS: THE HAWAII STATE ENERGY OFFICE RECOGNIZES THE USE OF DIACRITICAL MARKINGS OF THE HAWAIIAN LANGUAGE SUCH AS THE 'OKINA (ALSO CALLED A GLOTTAL STOP) AND THE KAHAKO (ALSO CALLED A MACRON). PLEASE NOTE THAT SCREEN READERS MAY NOT READ OR PRONOUNCE THE HAWAIIAN WORDS CORRECTLY.

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