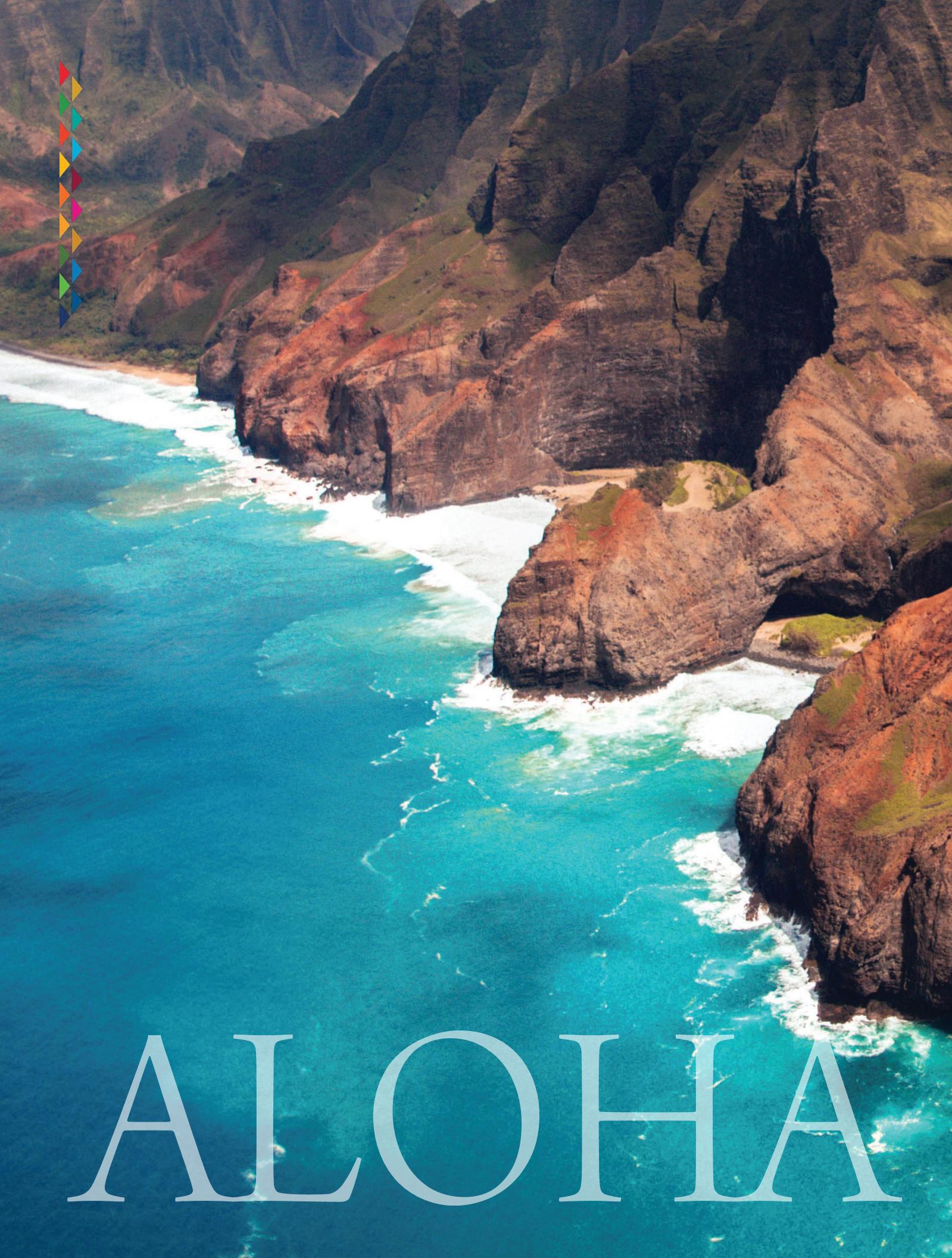


# 2023 HAWAII VOLUNTARY LOCAL REVIEW



The Future We Want for HAWAII





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# AKAHAI

## YOUTH OPENING STATEMENT

Our values, culture, and indigenous knowledge have strengthened Hawai'i and its people for a thousand years. Our kūpuna sustained our islands by maintaining a balanced system focused on caring for the 'āina. When we look at the ahupua'a structures we see thriving ecosystems, a vibrant culture, and reciprocal relationships. **'A'ohē hana nui ke alu 'ia.**

Familiarizing the people of the world with this way of thinking is a critical step to creating a brighter tomorrow. The future of Hawai'i and Island Earth depend on it. This mindset based on 'ike kūpuna, kuleana, mālama, and aloha, paired with today's modern technology and knowledge, has the potential to create a sustainable future for Island Earth. As Hawaiians, this is our mission and our vision. We believe that if we take care of the Earth, it will take care of us. And if we take care of each other, the world will be a richer and fairer place.

When we think of the Aloha+ Challenge, we think of the world the Sustainable Development Goals (SDGs) hope to achieve. It paints a picture of what we've accomplished and what we must still create. War, hunger, violence, racism, inequality are starting to seep into the minds of everyone, especially the youth. It shouldn't be normal for a young child to hear about a war and think nothing of it. It shouldn't be normal for a teenager to watch the news and not be affected by the pain of others.

We want our children to be future servant leaders, educated, compassionate, healthy, and thriving. We want to take them to our favorite beaches without having to dodge plastic on the sand. We see a planet empty of poverty and starvation. We see a world that puts the needs of community over the interests of business. We see equality and equal opportunities as the norm rather than the exception. We visualize a future for Hawai'i and Island Earth where we aren't harmed by the effects of climate change because we took steps now.

The future has limitless possibilities, but our current values and lifestyle will not preserve our planet for future generations. We cannot put off changing things any longer. We refuse to stand idle while 2030 looms closer and closer. We, the youth of Hawai'i, plead with you to act now. Let us look to the past for wisdom and to the future for survival. We only have one Island Earth, let us do our best to take care of it and each other. We are one species, with one planet, one chance. **He ali'i ka 'āina, he kauwā ke kanaka.**

*Collaborative Youth Opening Statement developed by Kamehameha Schools Kapālama Middle School students in the Ka'āmauloa educational pathway.*





# FOREWORD



In 2020, Hawai'i made history by becoming the first and only U.S. state to report our progress toward achieving the global Sustainable Development Goals (SDGs) by submitting a Voluntary Local Review to the United Nations. Since then, our resilience has been tested by the COVID-19 pandemic, supply chain disruption that threatened our clean energy transition, and food security concerns, all against the backdrop of a growing climate risk. As we approach the midpoint to achieve the 2030 Agenda, we reaffirm our commitment to the shared global goals by submitting our second report. This is a crucial time for us to assess challenges, evaluate our current progress, and navigate a clear course forward with unwavering accountability. Our Voluntary Local Reviews serve as critical reflection points that illuminate both our progress and areas in need of further transformation.

As I review our progress, I'm both inspired by successes and bright spots and moved to do better. This review is essential to a holistic stocktaking of how and where we need to accelerate action and partnership moving forward, and I commit my administration to ensuring that we create and steward the Hawai'i our children want to see. Sustainability is not merely an abstract concept in Hawai'i; it is woven into the very fabric of our culture and ethos. We embody this care — mālama — for one another, our communities, our oceans, and our land.

Hawai'i's leadership in sustainability, in fact, predates the SDGs agreed to by all members of the United Nations. In 2014, Hawai'i launched the Aloha+ Challenge, which has been embraced by every county and administration since. Anchored in indigenous wisdom, cultural traditions, and lived practices, our six goals provide a locally grounded framework to realize the global goals — and provide us a road map to securing a vibrant future for generations to come.

While our local government, civil society and businesses play a critical role in meeting the 2030 goals, it is our children — our keiki — who lead us with inspiration and urgency. Through their determination to shape the Future We Want for Hawai'i and Island Earth, they tap into the wisdom of our ancestors and bountiful natural environment, combining innovation with time-honored solutions. In submitting this report, the first formal report to be submitted to the United Nations in 'Ōlelo Hawai'i, our native language, we honor the legacy of our ancestors — our kūpuna — and embrace the promise of our shared future.

Mālama Pono,

Josh Green, M.D.

Governor of the State of Hawai'i



## INTRODUCTION

In 2014, Hawai‘i launched the Aloha+ Challenge: He Nohana ‘Ae‘oia, A culture of Sustainability. It identifies six priority areas and related targets to be achieved by 2030. The Aloha+ Challenge ensures these targets are achieved in a culturally and locally appropriate manner, aligning with Hawai‘i’s needs and values. Through progress towards these goals, Hawai‘i contributes to the United Nations 2030 Agenda for Sustainable Development, a comprehensive framework of 17 Sustainable Development Goals (SDGs) and 169 related targets. These goals address poverty, protect the planet, and foster prosperity for all.

As the halfway point to 2030 approaches, this second Voluntary Local Review (VLR) shares Hawai‘i’s current status and challenges. Each goal has specific indicators and targets that serve as milestones for measuring progress and highlights the actions and initiatives by state and county governments, contributions by civil society, the private sector, and community stakeholders.

Our VLR underscores the significance of local-level action. It showcases how our communities play an integral role in driving sustainable development. Their commitment and innovative solutions achieve notable advancements, demonstrating impactful transformation at the grassroots level.

VLRs serve as a knowledge exchange platform to share best practices and lessons learned among different regions and communities. We hope our VLR encourages similar journeys towards sustainable development, leveraging the experiences and successes of Hawai‘i.

A comprehensive and inclusive approach that encompasses all levels of governance is needed to achieve the SDGs. Assessing progress at the local level reveals valuable insights into the challenges and opportunities communities face, enabling tailored solutions that are rooted in local context and priorities.

Other VLRs submitted in the United States include City of Los Angeles, City of Orlando, City of Pittsburgh, and City of New York.

Globally, more than 365 VNRs were submitted to the United Nations since 2016.

This report was prepared with consideration of the Handbook for the Preparation of Voluntary National Reviews (VNR)s 2021 Edition and the guiding questions outlined in the Repository of Good Practices in VNR Reporting.



## METHODOLOGY AND PROCESS

HGG UN Local2030 Hub is well-positioned to coordinate and facilitate the second VLR due to the methodology and processes established in 2011. The approach involves continuously measuring and analyzing benchmark data on the Aloha+ Challenge Dashboard, an open-data platform that monitors progress on the six sustainability goals. Dashboard's cross-sector working groups convene quarterly to identify key priorities and coordinate policies and actions.

This report pulls from Dashboard data, including 37 targets and more than 280 indicators, informed by the priorities of Hawai'i's communities. Led by the HGG Network, the Dashboard's metrics were identified through a four-year stakeholder engagement process, which brought together technical experts and partners from various sectors including government, business, academia, philanthropy, civil society, and communities from all four counties.

HGG UN Local2030 Hub regularly and routinely engages stakeholders through quarterly working group engagements. These groups focus on key areas such as data, policy and legislation, next-generation leadership, local place-based natural capital solutions, and a CEO-led Sustainability Business Forum. The ongoing engagements serve as platforms for collaboration, knowledge-sharing, and decision-making. In addition, an annual partnership meeting is conducted which informs the working group agendas and priority setting for the next two years.

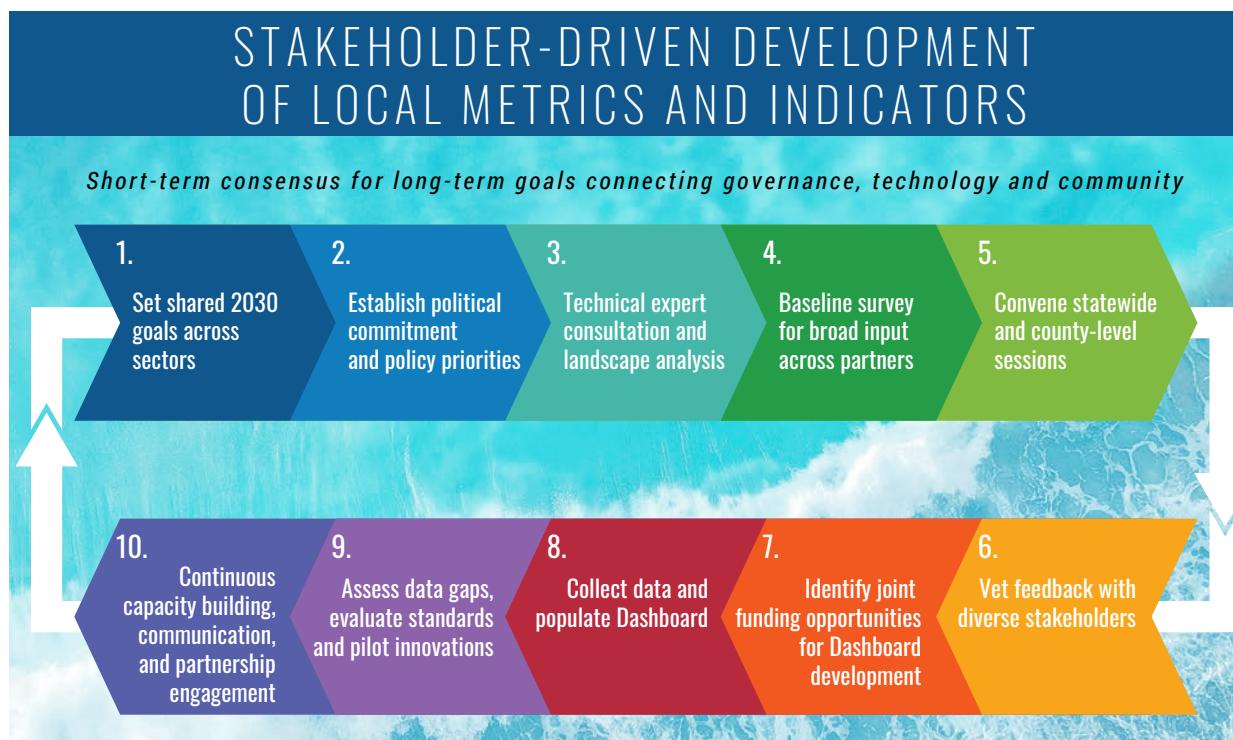
The VLR compiles insights, feedback, and contributions from these engagements and incorporates the latest data, leading to the creation of new metrics and prioritizes action.

Hawai'i's local framework and engagement process align with the United Nations Integrated Geospatial Information Framework (IGIF), which primarily focuses on executing the SDGs at the national level. Hawai'i customized this framework to encourage engagement at the subnational level, fostering a participatory approach where communities, organizations, and businesses contribute to sustainable development strategies. By aligning with the IGIF, Hawai'i leverages a globally recognized framework while tailoring it to our local context.

## TIMELINE

<b>2011</b>	HGG launches at the US-hosted Asia Pacific Economic Cooperation (APEC) meeting in Honolulu focused on a green and equitable recovery from the 2008 financial crisis, building on the earlier movement of Mālama Hawai'i shaped by Pinky Thompson and State Senator Kenneth Brown.
<b>2014</b>	State legislature unanimously endorses Aloha+ Challenge Resolution (SCR69); Aloha+ Challenge Declaration signed by the governor, mayors, and Office of Hawaiian Affairs (OHA), with the private sector and civil society partners launching Hawai'i's statewide sustainability framework; development of Aloha+ Challenge dashboard with localized targets and indicators begins.
<b>2015</b>	UN adopts the 2030 Sustainable Development Agenda; 193 countries adopted Paris Agreement at COP21.
<b>2018</b>	HGG accepts the invitation from the UN to become a Local2030 Hub at its annual partnership event.
<b>2020</b>	Hawai'i's first Voluntary Local Review covers six years of data on the Aloha+ Challenge.
<b>2021</b>	Hawai'i State Office of Planning publishes Hawai'i 2050 Sustainability Plan Charting a Course for the Decade of Action, which reviews existing statewide efforts related to the UN SDGs and outlines a commitment to guide the coordination and implementation of the state's sustainability and climate adaptation goals, principles and policies.
<b>2023 HALF WAY POINT</b>	Hawai'i's launches the second Voluntary Local Review, marking the 2022-2023 halfway point for the implementation of the 2030 agenda.
<b>2030 GOAL</b>	Target date for achieving the Aloha+ Challenge and the SDGs.

# METHODOLOGY AND PROCESS





# HA‘AHAA‘A

## YOUTH LEADERSHIP

Hawai‘i’s youth play a crucial role in driving the State’s sustainability efforts, inspiring others, and taking responsibility for shaping a sustainable and resilient future for their island home.

Grassroots organizations, school clubs, and community programs provide platforms for Hawai‘i youth to be environmental stewards and engage in conservation efforts such as beach cleanups, tree planting, and restoring native habitats.

Having witnessed firsthand the impacts of climate change, Hawai‘i’s youth are advocating for the transition to renewable energy sources. They understand the importance of sustainable food production and are active in revitalizing local food systems through community gardens and farm-to-school programs. By championing these causes, they contribute to a more sustainable and resilient food system that aligns with Hawai‘i’s rich agricultural history.

Youth understand the significance of their cultural heritage and the need to address social inequalities. They engage in efforts to preserve indigenous knowledge, language, and traditions, ensuring that these aspects of Hawai‘i’s culture are passed on to future generations. They advocate for social justice, inclusivity, and equality to foster a sense of belonging and unity among diverse communities, strengthening the fabric of Hawai‘i’s society.

In Hawai‘i, young people are not waiting for change; they are driving it. Their commitment to the SDGs is reshaping the trajectory of our islands so future generations can thrive in a Hawai‘i that is environmentally conscious, socially just, and culturally rich.

# ACTION SPOTLIGHTS



## SDG 18: VIBRANT CULTURE

Building on the process at the 2022 HGG Annual Partnership event, youth representatives outlined an optimistic, yet clear vision for the future they want for Hawai'i and Island Earth while acknowledging the challenges. The student speakers emphasized the importance of the Waipahu High School Academy of Natural Resources and its mālama 'āina education, career pathways, and mentorship. Project Kuleana (a project based on music to connect youth with their culture and knowledge) previewed the launch of the Aloha+ Youth Advisory Council, informed by the "Mo'o Method," inspiring youth to connect to mo'o to inform and empower their leadership. The youth panelists and HGG partners reinforced their commitment to release Hawai'i's second VLR led by youth, including the introduction of a new United Nations Goal: SDG 18: Vibrant Culture.

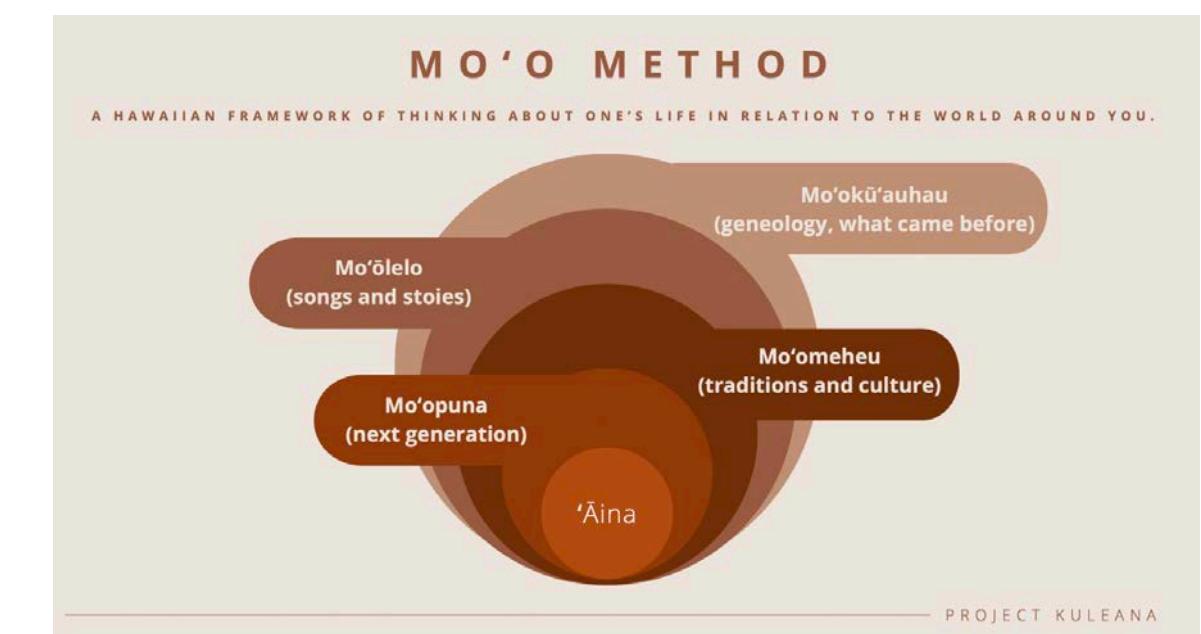


## HAWAI'I STATE STUDENT COUNCIL, DEPARTMENT OF EDUCATION

The Hawai'i State Student Council (HSSC) is a student-led organization that represents the voice of high school students. Composed of elected representatives from Hawai'i's high schools, its primary mission is to empower and engage students in their schools and communities. The HSSC is a platform for students to discuss and advocate for issues important to them, such as education policy, social justice, and environmental sustainability. HSSC provides leadership training and development opportunities including conferences, workshops, and community service projects.

## PROJECT KULEANA

Project Kuleana integrates traditional Hawaiian knowledge and values into sustainability initiatives to empower the next generation of Hawai'i leaders. It uses Hawaiian music to communicate. Students use the Mo'o Method to connect with their cultural heritage and develop an understanding of their responsibilities towards the land, culture, and community. Project Kuleana nurtures a connection between youth and their cultural roots, fostering a sense of kuleana and inspiring them to contribute to sustainable solutions using a holistic and systems-thinking approach.



# ACTION SPOTLIGHTS

## 17 ROOMS SPRING ACTIVITY DAY, PUNAHOU SCHOOL

At Punahou's Spring Activity Day, students showcased their leadership and commitment to creating a more sustainable and equitable environment. Building on their experience at the HGG Annual Partnership meeting, students used the 17 Rooms Process to bring together their peers in an interactive setting. The event started with an overview of the SDGs, which provided a framework for understanding global challenges and the collective effort required to address them. Students then discussed Punahou's sustainability and outreach initiatives. They brainstormed actionable next steps aligned with SDGs 5, 9, 10, 11, and 13, which encompass gender equality, innovation and infrastructure, reduced inequalities, sustainable cities and communities, and climate action. Students shared their ideas with the larger group during a closing report-out session. This event was a testament to the potential and capability of young leaders to drive positive impact.

## HAWAII STATE YOUTH COMMISSION

The Hawai'i State Youth Commission was established in 2016 with the passage of Act 152, which recognized the importance of youth involvement in decision-making and created a platform for youth voices. The youth-led Commission was established to advise policymakers and government officials on matters relating to youth (ages 14-20) and their needs ensuring their perspectives and concerns are considered in areas affecting them, such as education, health, employment, and social services.

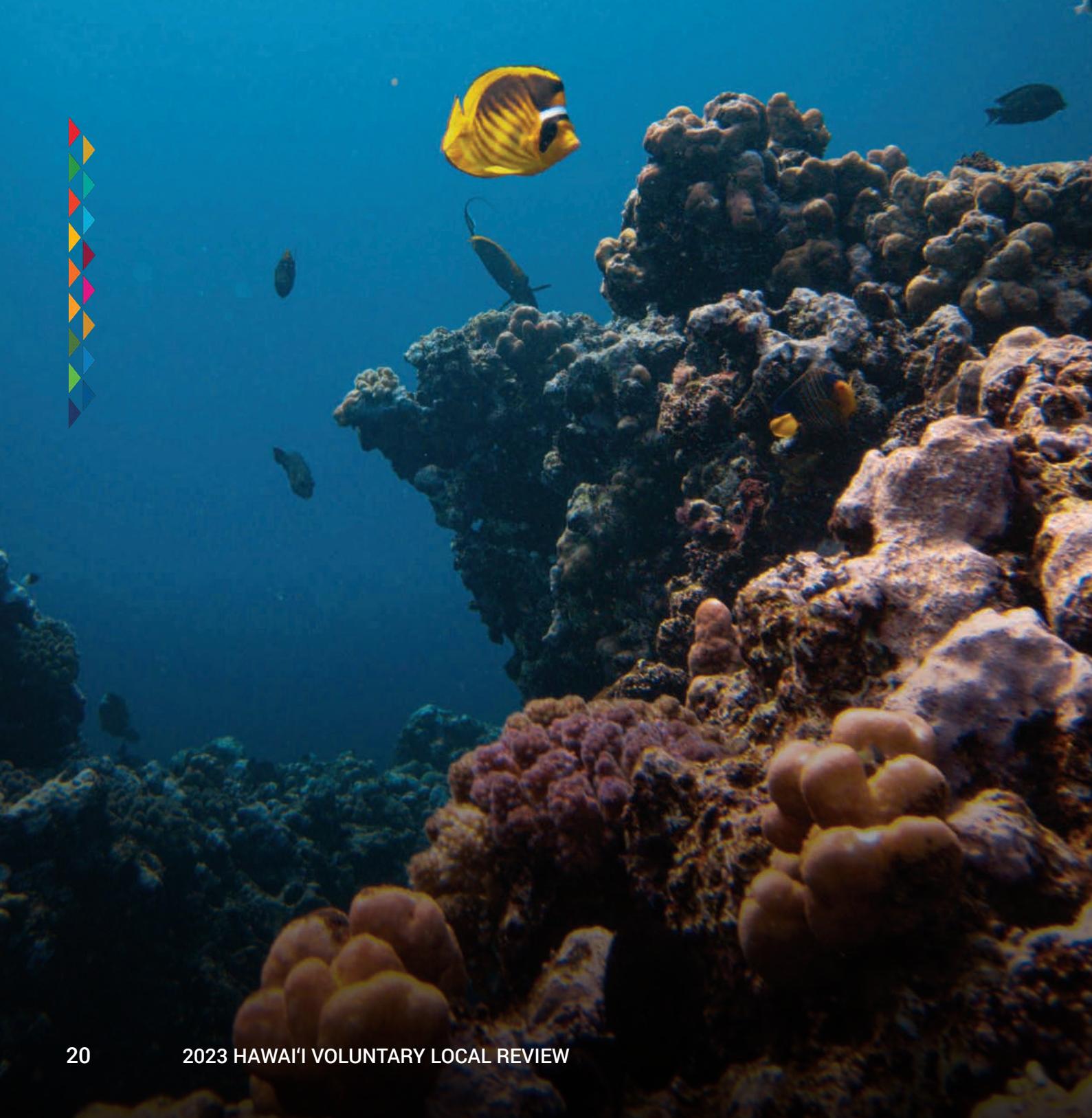


## KAĀMAULOA PATHWAY KAMEHAMEHA SCHOOLS

Kamehameha Schools (KS) developed a two-year pathway called "Kaāmauloa" to prepare students for leadership. Kaāmauloa, the thread that continues forever, connects the three piko ('i, 'o and 'a) linking our past, present, and future with no break in the line that continues in both directions. When completed sequentially, the two courses in this pathway take haumāna (students) on a journey from the lo'i kalo to the United Nations, as they follow the story of how Hawai'i's culture of sustainability came about, its importance to sustaining life and balance in the islands, and why that culture is as important today for the global community as it was for the ancient Hawaiians.

On this pathway, students rediscover the origins of their culture, learn about the diplomatic skills of their ali'i Hawai'i, meet individuals and organizations working to find local solutions to global problems in Hawai'i, and learn why the indigenous knowledge that sustained life in a canoe is now being embraced by the United Nations as a solution to the climate and sustainability problems faced by Island Earth. Haumāna then formulate their own civic action plan and become part of the solution by implementing their plan.

# AHONUI



## SUSTAINABILITY BUSINESS FORUM

The Sustainability Business Forum (SBF) is a voluntary CEO-led peer-to-peer initiative that supports candid dialogue and concrete action to achieve Aloha+ Challenge goals and the SDGs. SBF members are committed to aligning their company values with a triple-bottom-line approach to achieve economic prosperity, environmental stewardship, and community resilience. Through quarterly convenings, the SBF prioritized action on energy efficiency, local food, Environmental, Social, and Governance (ESG) reporting and implementation, and sustainable and regenerative tourism. This collective initiative of the private sector impacts the environment and communities by increasing and aligning their sustainability commitments.

In 2020, the SBF partnered with BlackRock, the world's largest institutional investor with more than \$10 trillion in assets managed to launch the Sustainable Investing Summit. In 2022, the SBF expanded the localized ESG Dashboard to further track business commitments and action on the SDGs and convened a Sustainable Investing Roundtable with BlackRock and other local and global leaders on sustainable investing.

# SUSTAINABILITY BUSINESS FORUM

Aligning the private sector with a climate-resilient and net-zero pathway is a key priority in achieving the Aloha+ Challenge and SDGs. In 2021, the SBF partnered with the City and County of Honolulu (C&C) on the Better Building Benchmarking Program. The bill, signed into law in 2022, establishes a benchmarking program for energy and water usage. With the first reporting deadline in the summer of 2023, the SBF is partnering with the C&C to support implementation, including publishing benchmarking data on the public Dashboard to increase transparency.

The SBF also works closely with UN agencies, the International Chamber of Commerce, and other national and global partners. A member of the UN Global Compact since 2019, the SBF is committed to the 10 principles of the Compact in the areas of human rights, labor, the environment, and anti-corruption.

Inspired by dialogues at the 2016 IUCN World Conservation Congress, SBF members focused on accelerating nature-based solutions (NBS) and market-based mechanisms including PES and carbon offsets. In partnership with The Nature Conservancy, the SBF established a valid market-based mechanism through the Kona Hema Carbon Offset Pilot Project. The lessons learned from the Kona Hema Carbon Offset Pilot are shaping future initiatives, and the SBF is developing other opportunities in carbon offset.

2023 priorities include increasing renewable energy and strengthening markets for local food production. The SBF launched two working groups or communities of practice to develop concrete action for the private sector and will continue to strengthen ESG reporting and localized metrics.

Building on the successful SBF model, members in the tourism industry are launching the Sustainable Tourism Forum (STF). The STF functions similarly to the SBF but will include broader membership similar to the UNGC model. All tourism operators in Hawai'i are encouraged to join. After a kickoff meeting in 2022, the STF prioritized visitor education, developing ESG metrics to account for the impact of the tourism sector, energy efficiency, and reducing plastic use. The STF is producing visitor education material on how to interact with the land, people, and culture and will launch other priorities in 2023.



# ACTION SPOTLIGHTS

## HEI CONSOLIDATED ESG REPORT

In 2023, Hawaiian Electric Industries (HEI) published its fourth annual Environmental, Social, and Governance (ESG) Report: *Laulima*. The report references the Native Hawaiian practice of laulima, or many hands working together, to highlight the core principles of sustainability ingrained in society and business practices in Hawai'i. The consolidated report also features American Savings Bank's inaugural ESG report, an update on subsidiary Pacific Current, and Hawaiian Electric's 12th annual sustainability report. The utility has set goals for significant carbon reduction by 2030 and net zero by 2045. Action on these ambitious time-bound goals is informed by a comprehensive, economy-wide decarbonization report completed in 2022. Key findings of the report emphasize electrification as necessary but not sufficient to meet Hawai'i's sustainability goals. A holistic, island-wide perspective requires aggressive energy efficiency standards and conservation to reduce the amount of renewable electricity and fuels needed to power our economy.

In an island context, the significance of tradeoffs between energy, food production, housing, and our other sustainability goals is acute. Alternative fuels, carbon sequestration, and policy are also vital components of decarbonization as communities consider how to use limited land resources. Hawaiian Electric is taking action guided by the decarbonization strategy and Climate Change Action Plan. Developing clean and reliable renewable energy and generation is a priority since retiring the last coal-powered energy plant in the state.



## ULUPONO INITIATIVE

A mission-driven venture of The Omidyar Group, Ulupono Initiative was founded in 2009 to improve the quality of life by working toward sustainable solutions that support and promote locally produced food, renewable energy, clean transportation choices, and better management of freshwater resources.

The intersectionality of renewable energy and local food production is increasingly apparent. Hawai'i's statewide decarbonization efforts rely heavily on electrification of the transportation sector, including finding sustainable solutions for large-scale shipping and imports. Ulupono has prioritized clean transportation to achieve intersectional 2030 goals through studies on the viability of rail transit in Hawai'i, supporting community initiatives to increase multimodal transportation choices, and assisting in the development of a successful bike-share model for Honolulu. Ulupono's transportation initiative includes reducing Vehicle Miles Traveled (VMT), which encourages people-centered solutions, resulting in building and creating sustainable communities. For more information, visit [ulupono.com](http://ulupono.com)

# ACTION SPOTLIGHTS

## OUTRIGGER RESORT & HOTELS

The tourism industry touches all areas of the economy and community in Hawai'i. As part of its overarching ESG initiatives, OUTRIGGER Resort & Hotels is working to strengthen its positive impact through the OUTRIGGER Zone, its global conservation initiative for guests, hosts, and local communities to help ensure that our natural environment can be appreciated for generations. Supporting coral reef restoration and propagation, OUTRIGGER has preserved, protected, and planted more than 100 football fields of coral and emphasizes guest education, beach cleanups, as well as other activities to help share indigenous knowledge.

## ALASKA AIRLINES

Alaska Airlines, a leader in aviation and tourism, was the first U.S. airline to remove plastic cups on board, eliminating more than 55 million plastic cups annually. In support of corporate commitments to reduce climate impact, the airline is choosing environmentally conscious alternatives such as paper cups and encouraging passengers to use their own reusable drink vessels and #FillBeforeYouFly. The initiative will eliminate the use of 2.2M pounds of plastic, equivalent to 24 Boeing 737s.



# ACTION SPOTLIGHTS

## HAWAIIAN AIRLINES

Hawaiian Airlines has committed to supporting local food production and food security. The Hawaiian Airlines Foundation awarded a \$100,000 grant to Kāko'o 'Ōiwi to advance Native Hawaiians cultural and spiritual practices that support local food production. The funding will support a wash-and-pack facility to process locally grown crops including kalo (taro), 'ulu (breadfruit), 'uala (sweet potato), and hō'i'o (warabi). The effort reflects the priority to support and empower small farmers and supports the airline's commitment to source 40% locally made food and beverages for Hawai'i-based catering by 2045. The airline also committed to replacing 10% of conventional jet fuel with Sustainable Aviation Fuel (SAF) by 2030 and launched a partnership with Par Hawai'i, the state's largest provider of energy products. The partnership will study the viability of SAF production in Hawai'i with locally grown oil-yielding crops.

## KAMEHAMEHA SCHOOLS

Kamehameha Schools (KS) is educating the next generation green workforce by providing hands-on learning and internships at high school, undergraduate, and graduate levels. Aligned with the Aloha + Challenge 2030 goals, professional development pathways are available for students specifically interested in renewable energy. With an educational mission for Native Hawaiians, KS also emphasizes 'āina-based (place-based) learning and partners with the Council for Native Hawaiian Advancement to support emerging 'ōiwi leaders through the E Ola! learner outcomes. KS continues to develop the next generation of leaders and is a founding member of Kanaeokana, a network of more than 50 Hawaiian language, culture, and 'āina-based schools and organizations.





# PA‘AHANA

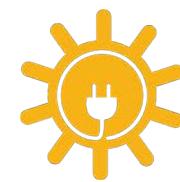
## DASHBOARD

The Aloha+ Dashboard ([www.alohachallenge.hawaii.gov](http://www.alohachallenge.hawaii.gov)) measures progress on the six priority areas identified through the Aloha+ Challenge and tracks Hawai‘i’s contribution towards all 17 UN Sustainable Development Goals for 2030. The open-data platform supports accountability and transparency with community-driven metrics to inform statewide and county-level decision making. The VLR is part of the ongoing Aloha+ Challenge stakeholder engagement process through partner-driven working groups, forums, and other convened processes to update the data, identify new metrics, and set priorities for action.

**HAWAI‘I GREEN GROWTH**  
UN LOCAL2030 HUB

# OVERVIEW OF THE GOALS

The Aloha+ Challenge identifies six priority goals and local metrics that are delivering against the global United Nations 2030 Sustainable Development Goals (SDGs).



## CLEAN ENERGY TRANSFORMATION



## SOLID WASTE REDUCTION



## LOCAL FOOD PRODUCTION AND CONSUMPTION



## SMART SUSTAINABLE COMMUNITIES

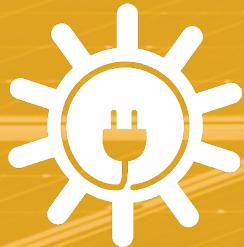


## NATURAL RESOURCE MANAGEMENT



## GREEN WORKFORCE AND EDUCATION





## CLEAN ENERGY TRANSFORMATION

Achieve 70% renewable energy for the electricity sector by 2030, with 40% from renewables and 30% from efficiency, with a goal of 100% by 2045.



### CLEAN ENERGY TRANSFORMATION

Electricity:  
Renewable/Efficiency

**39.97%**

Renewable Energy Statewide in 2021

✓ On Track

Average Fuel Use

**3,371.18**

Spent per Person on Petroleum in 2019

✓ On Track

Statewide Net Greenhouse  
Gas Emissions

**13.77**

Million Metric Tons of Carbon Dioxide  
Equivalent Emissions in 2017

✓ On Track

Total Energy Use

**33,806**

Thousand Barrels of Oil Consumed  
in 2020

✓ On Track

Transportation

**472 M**

Gallons of Petroleum Used for  
Ground Transportation in 2022

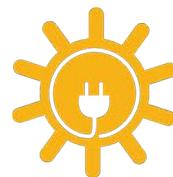
✗ Needs Improvement

Business Sector  
Energy Efficiency

**6.7%**

Average Percentage Reduction in Energy  
Used in the Business Sector in 2021

💡 Measuring



## CLEAN ENERGY TRANSFORMATION

The Clean Energy Transformation goal is one of the most ambitious in the 2030 agenda, building on the 70% renewable energy target set by the Hawai'i Clean Energy Initiative in 2008. Hawai'i increased its ambition in 2015 by making the commitment to 100% renewable electricity by 2045 into State law, with the four Counties in 2017 committing to achieve 100% renewable energy in the transportation sector by 2045.

### SDGs



### AT A GLANCE



#### RENEWABLE ENERGY — ON TRACK:

Hawai'i's goal of 70% Renewable Portfolio Standard (RPS) for the electricity sector by 2030 is on track, with a statewide average of 39.97% RPS in the electricity sector as of 2021.



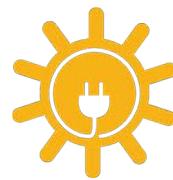
#### ENERGY EFFICIENCY — ON TRACK:

Hawai'i's target to meet the energy Efficiency Standard for 4,300 gigawatt-hours (GWh) of electricity savings by 2030 is on track, with the remaining amount of cumulative savings needed to reach the target at about 1,000 GWh as of 2018. The EEPS target was met through 2018 and the 2030 target is projected to be reached under the achievable potential — BAU scenario.



#### CLEAN TRANSPORTATION — NEEDS IMPROVEMENT:

Not currently on track to meet the 2030 clean transportation goal to reduce petroleum usage to 165 million gallons per year, and used approximately 472 million gallons per year as of 2022.



# CLEAN ENERGY TRANSFORMATION

## ANALYSIS—MEANS OF IMPLEMENTATION—CHALLENGES

Hawai‘i implemented Renewable Portfolio Standards (RPS) to monitor and track the percentage of energy sales derived from renewable sources in each county and statewide. As of 2021, Hawai‘i achieved an impressive 39.97% RPS in the electricity sector. Recent data indicates that Hawai‘i is making good progress towards meeting the EEPS target by 2030. Assuming a business-as-usual scenario, cumulative savings of 1,000 GWh are still needed to reach the target.

All four counties have committed to achieving 100% renewable energy in the transportation sector by 2045 including replacing conventional vehicles with EVs and establishing a robust EV infrastructure across the islands. By investing in charging infrastructure and providing incentives for EV adoption, the State is facilitating the use of EVs.

While progress has been made, it is important to acknowledge that Hawai‘i is challenged in meeting the 2030 clean transportation goal of reducing petroleum usage to 165 million gallons per year. As of 2022, the State still relies on approximately 472 million gallons of petroleum annually.

As part of Hawai‘i’s clean energy transformation, the State aims to reduce total annual fossil fuel use to below the 2008 level by 2030. One indicator used to track progress is the expenditure per person on petroleum, which reflects the State’s heavy reliance on imported crude oil and petroleum products.

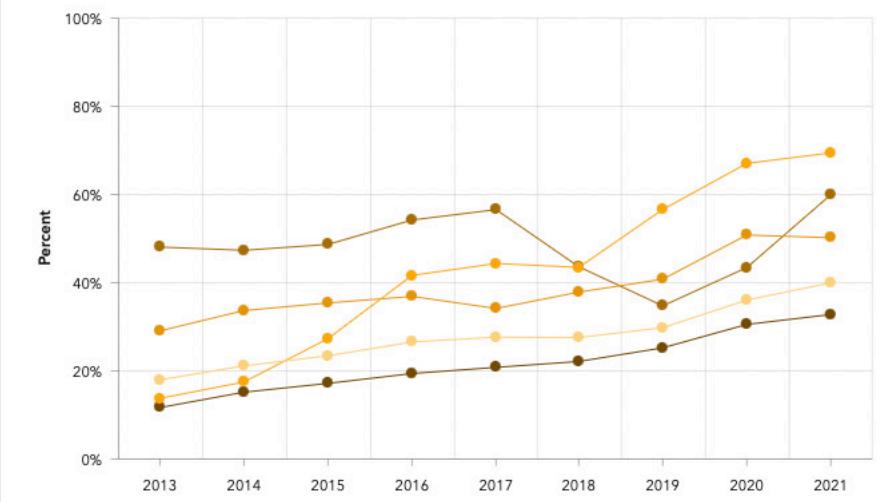
However, it is important to note that the proportion of per capita expenditures for imported petroleum used to power electricity has been declining since 2015, remaining below the 2008 level. This indicates that less money is being spent on petroleum for electricity generation per person. A significant drop can be observed between 2014-2020, with per capita expenditures decreasing from \$938 to \$412 during that period. Hawai‘i’s continued investment in clean energy is expected to drive this trend further.

# 39.97%

Renewable Energy Generation Statewide Average

ON TRACK

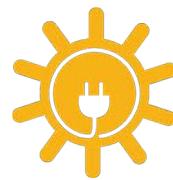
Renewable Energy Generated by County with Statewide Comparison



Data chart

Details





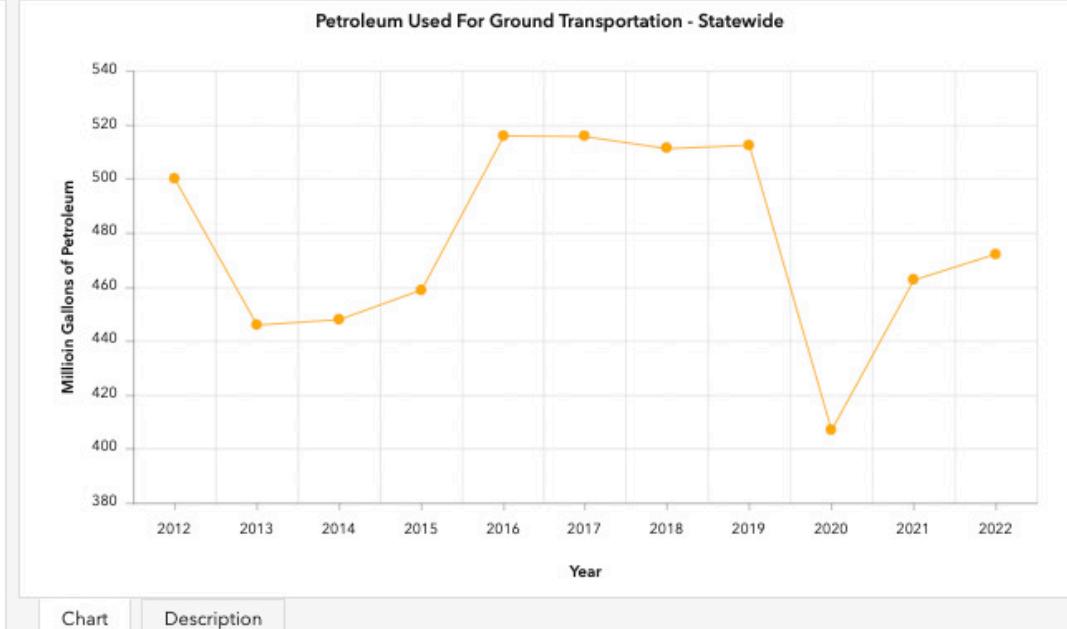
## CLEAN ENERGY TRANSFORMATION

Hawai'i's goal is to reduce statewide greenhouse gas emissions to below 1990 levels by 2030. The "Hawai'i Greenhouse Gas Emission Report for 2017," prepared by ICF and the University of Hawai'i Economic Research Organization (UHERO), projects a baseline scenario of 8.88 million metric tons of CO<sub>2</sub> Net GHG emissions (including sinks, excluding aviation) for 2030, a reduction from 13.77 in 2017. The Hawai'i Climate Commission developed strategies and recommendations for climate change mitigation and adaptation with a State target of reducing emissions to net zero by 2045.

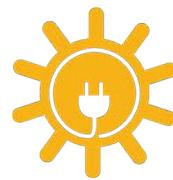
# 472

Million Gallons of Petroleum Used for Ground Transportation

NEEDS IMPROVEMENT



In 2020, all State agencies were required to implement Hawai'i Climate Commission's strategies and recommendations into their plans and decisions to achieve climate targets. The Commission provides specific programmatic recommendations that prioritize the mitigation of greenhouse gasses through the elimination and reduction of emissions, the preservation of cultural, biological, and public resources through adaptation, the accelerated sequestration of carbon, the production of local foods, protection of public health and ecosystems, and the adoption of nature-based solutions and building resilience to climate change.



## ACTION SPOTLIGHTS

### CLEAN ENERGY WAYFINDERS PROGRAM, HAWAII STATE ENERGY OFFICE

The Clean Energy Wayfinders program, operated by the Hawai'i State Energy Office, is a community engagement initiative focused on promoting clean energy and sustainability. It offers educational resources, outreach events, and workshops to increase awareness and understanding of clean energy technologies and practices. The program covers a range of topics, including energy efficiency, renewable energy, electric transportation, and sustainable building practices. The program includes diverse voices and perspectives, and its ultimate goal is to support Hawai'i's commitment to a clean, sustainable, and resilient energy future.

### ENERGY EQUITY HUI

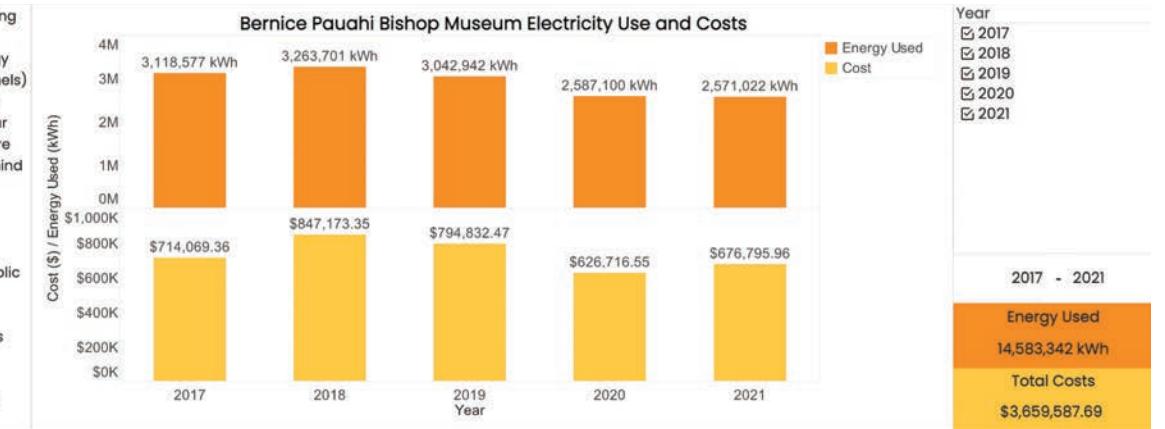
The Energy Equity Hui is a collaborative effort addressing energy inequities. The Hui brings together community members, organizations, and policymakers to identify and work toward solutions that ensure equitable access to clean and affordable energy for all residents. The Hui recognizes that energy equity is crucial in building a sustainable and just energy system. It seeks to address the disproportionate impact of high energy costs on low-income communities and marginalized populations. Through research, advocacy, and community engagement, the Energy Equity Hui promotes policies and initiatives that increase energy affordability, improve energy efficiency, and expand access to renewable energy resources. By fostering collaboration and amplifying the voices of those affected, the Hui drives change to create a more equitable and sustainable energy future.



Bishop Museum is committed to reducing the amount of energy we use on our campus and producing as much energy from renewable sources (e.g., solar panels) as we can. We currently have 720 solar panels set up across our campus on our Konia building, on the Science Adventure Center (SAC), and a ground mount behind SAC.

In 2021, Bishop Museum:

- Installed over 2000 LED lights in all public areas and collection spaces.
- Replaced all refrigerators and freezers with Energy Star efficient units.
- Installed Smart Strips in all office and collection spaces



This metric aligns with the following United Nations Sustainable Development Goals:

SDG 7 | Affordable and Clean Energy  
SDG 12 | Responsible Consumption and Production

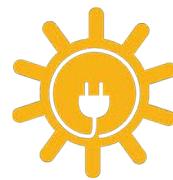


This metric aligns with the following Hawai'i Local 2030 Hub Goals:  
Clean Energy Transformation | 01 Electricity: Renewable/Efficiency  
Clean Energy Transformation | 03 Greenhouse Gas Emissions  
Clean Energy Transformation | 04 Total Energy Use



### SUSTAINABILITY DASHBOARDS, BISHOP MUSEUM

In February 2022, Bishop Museum launched its public-facing sustainability dashboards that monitor resource usage and the effects of sustainability initiatives and operational changes. Bishop Museum is committed to reducing the energy used on its campus and to producing renewable energy. Bishop Museum has 720 solar panels installed and implemented energy efficiency measures across operations. Aligning their data with the Aloha+ Challenge and the UN Sustainable Development Goals allows Bishop Museum to show guests that their effort is just one part of a much larger system of monitoring and improvement.



## ACTION SPOTLIGHTS

### CHARGE UP HAWAI'I, HAWAIIAN ELECTRIC

Charge Up Hawai'i is Hawaiian Electric's initiative focused on EV charging solutions to support Hawai'i's shift to clean energy and electrified transportation. Hawaiian Electric highlights the benefits of electric transportation for businesses such as reduced operating costs, environmental sustainability, and supporting the State's clean energy goals. Charge Up Hawai'i offers information on the different types of EV charging stations available and associated costs and incentives, as well as guidance on the installation process, utility requirements, and support available from Hawaiian Electric. Charge Up Hawai'i assists businesses in understanding and implementing EV charging infrastructure to meet the growing demand. The utility is conducting a survey to inform decision-making and ensure that the development of EV infrastructure and programs aligns with the needs and interests of the people of Hawai'i.

### ILLUMINATION HAWAI'I

Illumination Hawai'i brings the conversation of climate mitigation and decarbonization in an island context to the forefront as the global community works to achieve 2030 sustainability goals. In Hawai'i, sustainability is ingrained in culture and rooted in indigenous knowledge and values of stewardship and aloha 'āina. Although these values persist in Hawai'i today, islanders are often at the forefront of global climate change and are faced with finding universal solutions. Illumination Hawai'i prompts us to take action with data-driven decision making as we look to indigenous knowledge to navigate solutions for Hawai'i and Island Earth.





## LOCAL FOOD PRODUCTION AND CONSUMPTION

*At least double local food production with a goal of 20-30% of food consumed is grown locally.*



### LOCAL FOOD PRODUCTION and CONSUMPTION

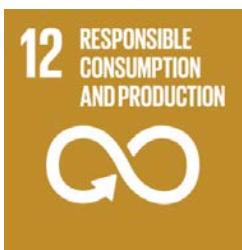
Local Foods Production	Labor and Land Resources	Processing
<b>104,635,130</b> Pounds of Food Locally Produced in 2018	<b>1,100,000</b> Acres of Farmland in Use in 2021	<b>10</b> Number of Commercial Kitchens in 2018
<span style="background-color: #f08080; border: 1px solid black; padding: 2px;">✖ Needs Improvement</span>	<span style="background-color: #f08080; border: 1px solid black; padding: 2px;">✖ Needs Improvement</span>	<span style="background-color: #ffd700; border: 1px solid black; padding: 2px;">❑ Measuring</span>
Distribution		Consumption
<b>90</b> Number of Farmers Markets in 2018	<b>578,595,000</b> Agricultural Products Sold in USD in 2016	
<span style="background-color: #ffd700; border: 1px solid black; padding: 2px;">❑ Measuring</span>	<span style="background-color: #ffd700; border: 1px solid black; padding: 2px;">❑ Measuring</span>	



# LOCAL FOOD PRODUCTION AND CONSUMPTION

This Aloha+ Challenge goal builds upon the Sustainable Hawai'i Initiative and the Hawai'i 2050 Sustainability Plan developed in 2008, which first launched the goal of doubling local food production by 2030.

## SDGs



## AT A GLANCE



### LOCAL FOOD PRODUCTION — NEEDS IMPROVEMENT:

Production of most crops has not increased at a pace that will double local food production by 2030. Food production, import, and export data have not been available since 2009, and investment is needed to reestablish the State's agricultural statisticians to monitor progress.



### FARMS AND PRODUCERS — UPWARD TREND:

There was a 4% increase in the number of farms and producers from 2012 to 2017. As of 2021, there were more than 7,000 farms on 1.14 million acres.



### HEALTH, NUTRITION, AND ACCESS — NEEDS IMPROVEMENT:

Due to the Covid-19 pandemic, Hawai'i's food insecurity increased from 11.2% to 16.8% between 2018 and 2020, according to a 2021 research study from the College of Social Sciences, UH Mānoa and First Insurance Company of Hawai'i.



# LOCAL FOOD PRODUCTION AND CONSUMPTION

## ANALYSIS—MEANS OF IMPLEMENTATION—CHALLENGES

In 2018, the data showed that approximately 104.6 million pounds of food were produced. It is important to note that this is a rough estimate and relies on voluntary reporting, making the data incomplete and subject to variations.

Unfortunately, data on food production, import, and export have not been available since 2009, highlighting the need for investment in reestablishing the state's Agricultural Statistics Service. Having reliable and up-to-date data is crucial for monitoring progress and making informed decisions regarding local food production efforts.

One strategy for reaching increased production goals is increasing access to land that supports the production, processing, distribution, and consumption of local food. In 2021, Hawai'i had 1.1 million acres of farmland in use statewide, a general downward trend with a decrease of 22% of land in farms since 2000. The number of farms in Hawai'i is based on its farm definition of \$1,000 or more of agricultural sales. That data suggest that while less land is being farmed, the total number of farms is growing, indicating an increase in small farms.



### Gap between Minimum Wage & Living Wage - Statewide

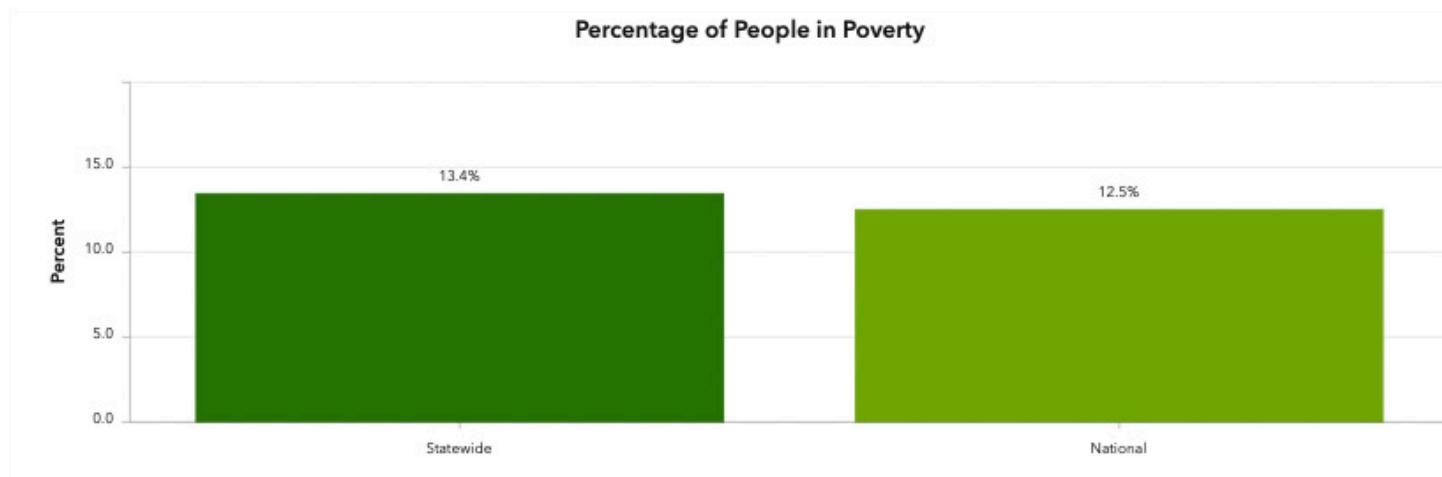
<b>Two adults (both working) with two children</b>	\$25.42	\$10.10	<b>\$15.32</b>
LIVING WAGE	\$25.42	\$10.10	<b>\$15.32</b>
MINIMUM WAGE	\$10.10		<b>\$15.32</b>
THE GAP			<b>\$15.32</b>
<b>Two adults (1 working) with two children</b>	\$40.40	\$10.10	<b>\$30.30</b>
LIVING WAGE	\$40.40	\$10.10	<b>\$30.30</b>
MINIMUM WAGE	\$10.10		<b>\$30.30</b>
THE GAP			<b>\$30.30</b>
<b>Single adult with two children</b>	\$46.74	\$10.10	<b>\$36.64</b>
LIVING WAGE	\$46.74	\$10.10	<b>\$36.64</b>
MINIMUM WAGE	\$10.10		<b>\$36.64</b>
THE GAP			<b>\$36.64</b>
<b>Two adults (both working) with 1 child</b>	\$20.85	\$10.10	<b>\$10.75</b>
LIVING WAGE	\$20.85	\$10.10	<b>\$10.75</b>
MINIMUM WAGE	\$10.10		<b>\$10.75</b>
THE GAP			<b>\$10.75</b>
<b>Two adults (1 working) with 1 child</b>	\$36.48	\$10.10	<b>\$26.38</b>
LIVING WAGE	\$36.48	\$10.10	<b>\$26.38</b>
MINIMUM WAGE	\$10.10		<b>\$26.38</b>
THE GAP			<b>\$26.38</b>
<b>Single adult with 1 child</b>	\$38.57	\$10.10	<b>\$28.47</b>
LIVING WAGE	\$38.57	\$10.10	<b>\$28.47</b>
MINIMUM WAGE	\$10.10		<b>\$28.47</b>
THE GAP			<b>\$28.47</b>
<b>Two adults (both working) with no children</b>	\$15.06	\$10.10	<b>\$4.96</b>
LIVING WAGE	\$15.06	\$10.10	<b>\$4.96</b>
MINIMUM WAGE	\$10.10		<b>\$4.96</b>
THE GAP			<b>\$4.96</b>
<b>Two adults (1 working) with no children</b>	\$30.13	\$10.10	<b>\$10.03</b>
LIVING WAGE	\$30.13	\$10.10	<b>\$10.03</b>
MINIMUM WAGE	\$10.10		<b>\$10.03</b>
THE GAP			<b>\$10.03</b>
<b>Single adult with no children</b>	\$19.43	\$10.10	<b>\$9.33</b>
LIVING WAGE	\$19.43	\$10.10	<b>\$9.33</b>
MINIMUM WAGE	\$10.10		<b>\$9.33</b>
THE GAP			<b>\$9.33</b>

A skilled labor force of farmers and ranchers is integral for building on Hawai'i's history of agricultural abundance and developing a healthy, viable local food system. However, the next generation of farmers, ranchers, and agricultural entrepreneurs are facing similar challenges as those in other regions, including economic viability and the difficulty of acquiring a living wage.

Land and water access pose significant challenges. Current land lease arrangements often hinder farmers' ability to plan and make long-term investments in cultivation. Water rates also vary significantly, creating financial barriers for farmers and impacting their profitability. Some areas face water access challenges due to aging irrigation infrastructure, further exacerbating the difficulties faced by farmers.

To address these barriers and create opportunities for more farms, it is essential to invest in agricultural parks located in areas with the potential for long-term land leases and reliable, affordable water supply. It is also crucial to consider the provision of affordable housing for farmers within or near these agricultural parks. Access to affordable housing could alleviate financial burdens and enable farmers to focus on their agricultural activities without the added burden of housing expenses.

Community participation in food production, education, and farming training programs could play a prominent role in shifting the social paradigm of local agriculture. While the goal of doubling local food is focused on food such as fruits, vegetables, dairy, and proteins, value-added products made in commercial kitchens can provide much-needed additional income for food entrepreneurs. More data and informational resources are needed to connect small businesses and farmers to commercial kitchens.





# LOCAL FOOD PRODUCTION AND CONSUMPTION

Apart from commercial kitchens, processing facilities encompass a range of establishments including dairies, packaging, and agriculture-related facilities such as vacuum cooling plants, slaughterhouses, experimental stations, and marshaling yards. Processing facilities are paramount for local agricultural production, specifically for beef and milk production.

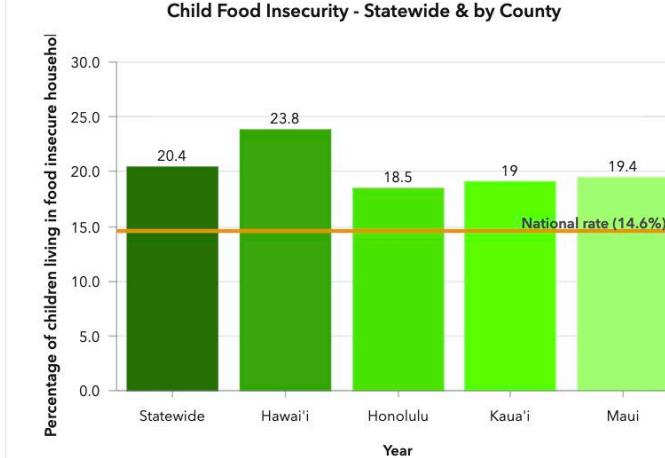
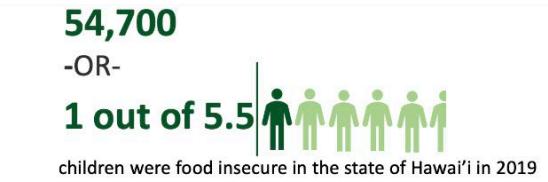
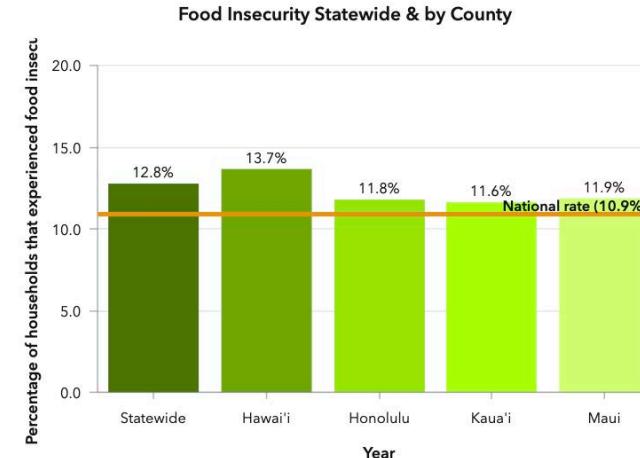
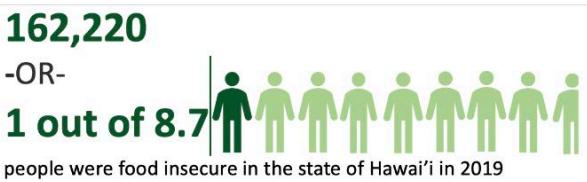
The State's farm-to-school program, established in 2015, supports school gardens, nutrition education, and the procurement of locally grown food for schools. This program promotes healthy eating habits among students and provides a market for local farmers.

Wholesale distribution to grocery stores and institutions makes local food accessible on a broader scale. By establishing efficient supply chains and distribution networks, Hawai'i can ensure that locally grown produce reaches grocery store shelves and institutional cafeterias.

Consumption of locally grown food is also critical. Several barriers currently hinder the widespread consumption of food, most significantly the consistent availability of local food in desired quantities. Ensuring a steady and reliable supply of locally grown produce and products is necessary to meet consumer demand. This requires effective coordination and communication among farmers, distributors, and retailers to ensure a consistent flow of local food throughout the year.

Reliable data tracking of imported and local food is required for understanding the State's food sourcing and self-sufficiency. While data from 2010 indicated that 11.6% of the food available was locally produced, with 88.4% sourced from imports, having updated and comprehensive metrics on an annual basis would provide a more accurate picture.

The COVID-19 pandemic further highlighted the importance of food security. While Hawai'i experienced relatively low COVID-19 infections and deaths, food insecurity increased, rising from 11.2% to 16.8% between 2018 and 2020. This builds off of broader equity issues such as poverty rate and minimum wage to living wage ratios.





## ACTION SPOTLIGHTS

### TRANSFORMING HAWAII'S FOOD SYSTEMS TOGETHER

Transforming Hawai'i's Food Systems Together (THFST) is a collaborative, multi-stakeholder endeavor to create a sustainable and resilient food system. Bringing together academics, farmers, policymakers, educators, state agencies, and community organizations, THFST addresses the challenges and opportunities within the food system. The project emphasizes the importance of supporting local agriculture, promoting sustainable farming practices, improving access to nutritious food, and fostering community engagement. By facilitating collaboration, knowledge sharing, and innovative solutions, THFST can transform Hawai'i's food system to be more equitable, environmentally sustainable, and economically viable.



### MAUI FOOD INNOVATION CENTER, UNIVERSITY OF HAWAII MAUI COLLEGE

The Maui Food Innovation Center (MFIC) is Hawai'i's first in-state business incubator fostering and accelerating the growth and education of agribusinesses and food entrepreneurs. A part of the University of Hawai'i Maui College, MFIC provides technological expertise, innovative training, industry consultation, a state-of-the-art manufacturing facility, and a resource hub for new and established food entrepreneurs endeavoring to bring their products to market locally, regionally, and nationally.

### ALOHA HARVEST

Aloha Harvest prevents food waste by diverting quality excess food from landfills and ensuring it reaches those in need. The largest food rescue and redistribution organization in Hawai'i, the organization works with food donors, such as wholesale distributors, grocery stores, restaurants, and hotels to collect surplus food at no cost. This rescued food is redistributed to recipient agencies dedicated to feeding the hungry who prepare and distribute the food to individuals and communities in need, ensuring that it is used efficiently and effectively. In 2022, Aloha Harvest partnered with 414 food donors and 148 recipient agencies, successfully redistributing over 3 million pounds of good food that would have otherwise gone to waste.





## NATURAL RESOURCE MANAGEMENT

*Reverse the trend of natural resource loss (mauka to makai) by increasing freshwater security, watershed protection, community-based marine management, invasive species control, and restoration of native species*



### NATURAL RESOURCE MANAGEMENT

#### Increase Fresh Water Capacity

**12**

Million Gallons per Day of Water Recharge, Conservation and Reuse in 2022

✖ Needs Improvement

#### Watershed Forest Area

**173,000**

Acres Protected Watershed as of 2022

✖ Needs Improvement

#### Marine Managed Areas

**6.17%**

Nearshore Waters Designed as Marine Managed areas in 2022

✖ Needs Improvement

#### Invasive Species Control

**68%**

Action Items in Implementation as of January 2023

▶ Near Target

#### Native Species Managed

**5.5%**

Native Species Managed Listed as Threatened or Endangered as of 2016

▢ Measuring



## NATURAL RESOURCE MANAGEMENT

This goal was informed by existing conservation commitments such as the State's target to protect 30% of priority watershed forests by 2030. Key conservation targets include the Hawai'i Fresh Water Initiative freshwater security recommendations and the Hawai'i Interagency Biosecurity Plan for invasive species. The Sustainable Hawai'i Initiative added a goal to effectively manage 30% of Hawai'i's nearshore waters by 2030.

### SDGs



### AT A GLANCE



#### FRESH WATER SECURITY — NEEDS IMPROVEMENT:

Hawai'i made slight progress towards the freshwater target with an increase of approximately 12 million gallons per day (mgd) in 2022 of freshwater capacity relative to a baseline of 0 mgd and a goal to reach 100mgd by 2030.



#### WATERSHED PROTECTION — UPWARD TREND:

Hawai'i is at 20.5% (or 173,000 acres) of the 30% target to protect watershed forests under high-level protection.



#### MARINE MANAGEMENT — NEEDS IMPROVEMENT:

6.1% of Hawai'i's near-shore waters are established as marine management areas against a target of 30%.



#### INVASIVE SPECIES CONTROL — ON TRACK:

68% of the Hawai'i Interagency Biosecurity Plan's 147 recommended actions have been initiated, are ongoing, or are completed.



#### NATIVE SPECIES — NEEDS IMPROVEMENT:

5.5% of Hawai'i's native plants are listed as threatened or endangered, but make up nearly half (45%) of all the threatened or endangered plants in the United States.



# NATURAL RESOURCE MANAGEMENT

## ANALYSIS—MEANS OF IMPLEMENTATION—CHALLENGES

Conservation is prioritized as the most efficient and cost-effective approach to managing water demand. Enhancing water efficiency in agriculture is particularly important, targeting a 10 mgd increase in water security through improved irrigation practices.

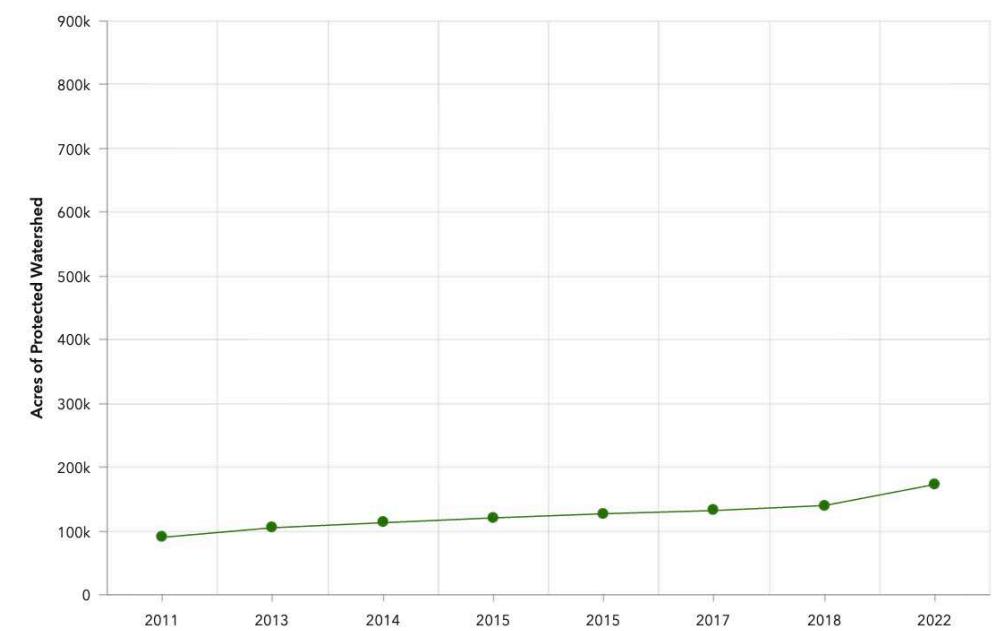
The built environment significantly impacts the natural water recharge process, with a 7.5% increase in development and paved areas statewide from 2005-2011. Changes in upland forests, such as the introduction of invasive species, also reduced direct water recharge. To mitigate these effects, protection of upland forests is increasing, as well as the development of green infrastructure to enhance water recharge. To enhance sustainable stormwater management, stormwater utilities are now authorized and expected to contribute to increased freshwater capacity.



# 173,000

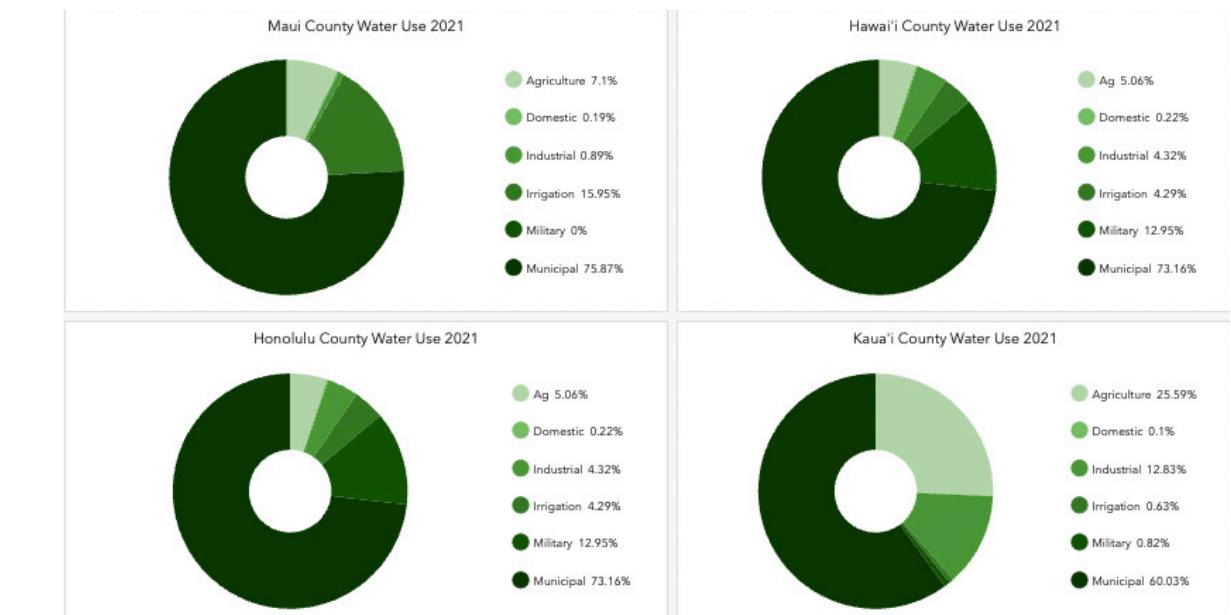
Acres of Watershed Protected

NEAR TARGET



Water reuse is a means to achieve water security and reduce wastewater discharge into the ocean. The goal is to increase the current reuse capacity from approximately 16% to 50 mgd by 2030, matching water with proper and safe end use and eliminating barriers to recapture and reuse. This will require overcoming the barriers to residential, industrial, and agricultural applications and changing the paradigm surrounding recycled water. Decentralizing water infrastructure and encouraging residential, industrial, and agricultural applications of recycled water can significantly contribute to water conservation efforts.

Hawai'i increased its water security by 12mgd: 3mgd from water conservation through a water security pilot program, water audits, and water utility conservation programs; one mgd is from water reuse; and notably, eight mgd from water recharge through funding made available in 2021 for doubling watershed protection through the Hawai'i's Fresh Water Blueprint.





## NATURAL RESOURCE MANAGEMENT

To protect watershed forests, which are important in maintaining the quality and quantity of freshwater resources, the State implemented strategies such as controlling invasive species, promoting reforestation, supporting land conservation, enhancing forest management practices, and engaging local communities.

Priority watersheds, which constitute approximately 20% of the land area in the Hawaiian Islands [843,000 acres], receive special attention and protection. In 2022 around 21% (173,000 acres) of these priority watersheds were under a high level of protection.

Native forests support freshwater supply by acting as natural sponges, absorbing rainfall and cloud moisture, and capturing water. Invasive species pose a substantial threat to this process. For example, invasive strawberry guava demands 27% - 53% times more water than native forests. Invasive plants in East Hawai'i alone cause an estimated reduction of 85 million gallons of groundwater recharge per day, equivalent to filling 130 Olympic-sized swimming pools with fresh water daily.

Effective management of the Marine Managed Areas (MMAs) includes a suite of adaptive approaches balancing sustainable use, restoration, and conservation measures. 6.04% of Hawai'i's nearshore waters are designated as MMAs. Challenges to effective management include overfishing, pollution from land-based sources, climate change, and invasive species. A range of policies combat these challenges such as community-based management, time and area closures for fisheries replenishment, reasonable laws to encourage sustainable fishing practices, and effective enforcement combined with systematized monitoring to assess effectiveness.

2020 data show Hawai'i's ocean economy provides 15% of Hawai'i's jobs and 7.8% of the total economy annually in revenue. Habitat conservation, sustainable fishing practices, collaborative partnerships, investing in technologies that support sustainable ocean practices, and education on ocean literacy safeguard the marine ecosystem, support local communities, and ensure the long-term sustainability of ocean-related industries.





## NATURAL RESOURCE MANAGEMENT

The 2017-2027 Interagency Biosecurity Plan to mitigate the risk of invasive species consists of 147 action items to reach a 10-year vision of a sustainable, biosecure Hawai'i. 68% of the 147 action items are completed or ongoing.

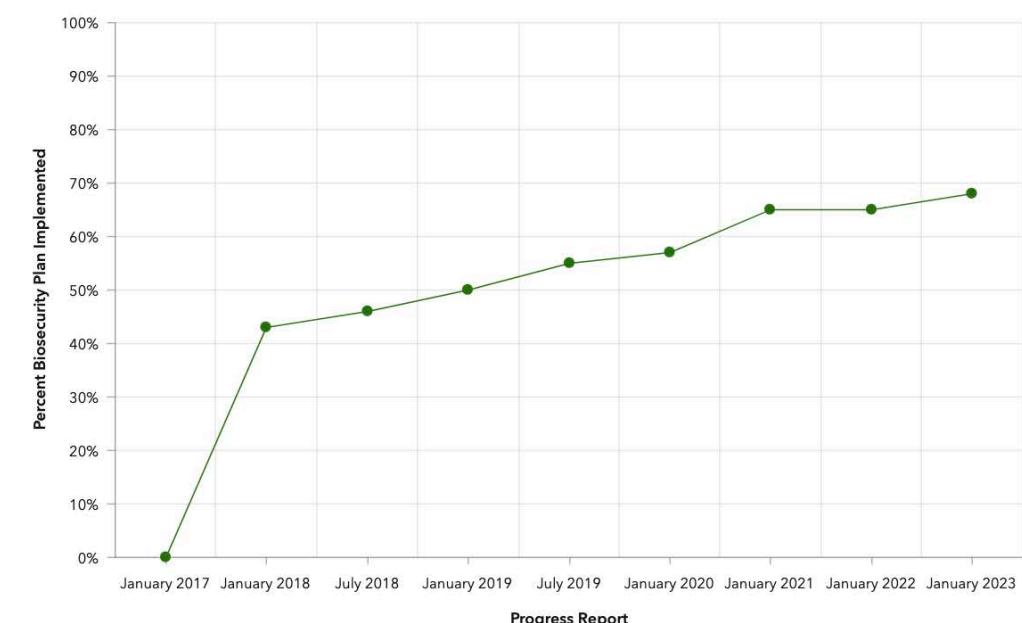
Invasive species cause billions in economic loss each year and threaten native plants, decrease the reliability of freshwater resources, and put agricultural productivity, cultural resources, and human health at risk. The most cost-effective strategy for managing the threat is border biosecurity to enhance the detection and control of pests and diseases at ports of entry, and post-border biosecurity protects the spread of invasive species.

Hawai'i has a rich diversity of approximately 8,000 native species, varying in status from common to extremely rare. Among these, 7% are federally listed as threatened and endangered (T&E) species, and efforts are underway to manage 77% of them. This means that 5.5% (77% of the 7%) of total native species in Hawai'i are under-managed. Some native species populations, including common ones like 'ōhi'a and koa trees, are declining as a result of insufficient management and funding. Hawai'i has more than 18 times the national average of threatened and endangered plants, many of which are unique to Hawai'i and at high risk of extinction.

# 68%

Biosecurity Plan Implemented

NEAR TARGET





# ACTION SPOTLIGHTS

## GENKI ALA WAI PROJECT

The Genki Ala Wai Project is an innovative approach using Effective Microorganisms® to address a serious pollution problem in the Ala Wai Canal, an urban waterway. The canal was built in the 1920s to drain the traditional taro wetland agriculture and extensive coastal wetlands and fishponds of the ahupua'a for development of hotels and the tourism industry. The Canal became the last stop for the Makiki, Mānoa, and Palolo Valley rivers before draining into Waikīkī beach, and in present day carries significant flood risk and pollution for nearby marine habitats. The Genki Ala Wai Project uses beneficial microorganisms, or "Genki Balls," to digest and oxygenate toxic sludge in the canal, providing a real-time bioremediation solution to a challenging water quality and urban pollution problem. Since the start of the project in 2019, monitoring shows noticeable improvements in water quality parameters supported by recent sightings of the endangered monk seal and other reef fishes swimming in the canal.



## NATURAL RESOURCES SECTOR PARTNERSHIP, KUPU

Kupu convenes the Natural Resources Sector Partnership (NRSP), which brings together educators and industry to prepare and inspire Hawai'i's students for natural resource professions. The NRSP's working groups focus on building career awareness, connecting students to the community and the environment, and investing in college and career preparation. Kupu also runs the Hawai'i Youth Sustainability Challenge (HYSC), which empowers high school students to create environmental solutions in their schools and communities. This year, 17 teams at 14 schools are tackling projects on renewable energy, waste reduction, food security, native forest conservation, and more. HYSC provides funding, mentorship, and training.



## ACTION SPOTLIGHTS

### O'AHU INVASIVE SPECIES COMMITTEE (OISC)

OISC works to eradicate the most detrimental and incipient invasive species and invasive species that have not yet become widely established. Most of the target species are designated as the world's worst according to the Global Invasive Species Database. OISC crews. In addition to early detection and rapid response at ports of entry, outreach programs educate the public about invasive pests and provide a means to report them. OISC presents to classrooms and student groups about watershed health and the implications of invasive species and gives them avenues to help. Teachers are given a Little Fire Ant (LFA)-based curriculum to K-12 students so that students can test for LFA at home and around their school campus and send them to OISC for species identification. Several detections of LFA on O'ahu have come from student-submitted samples.





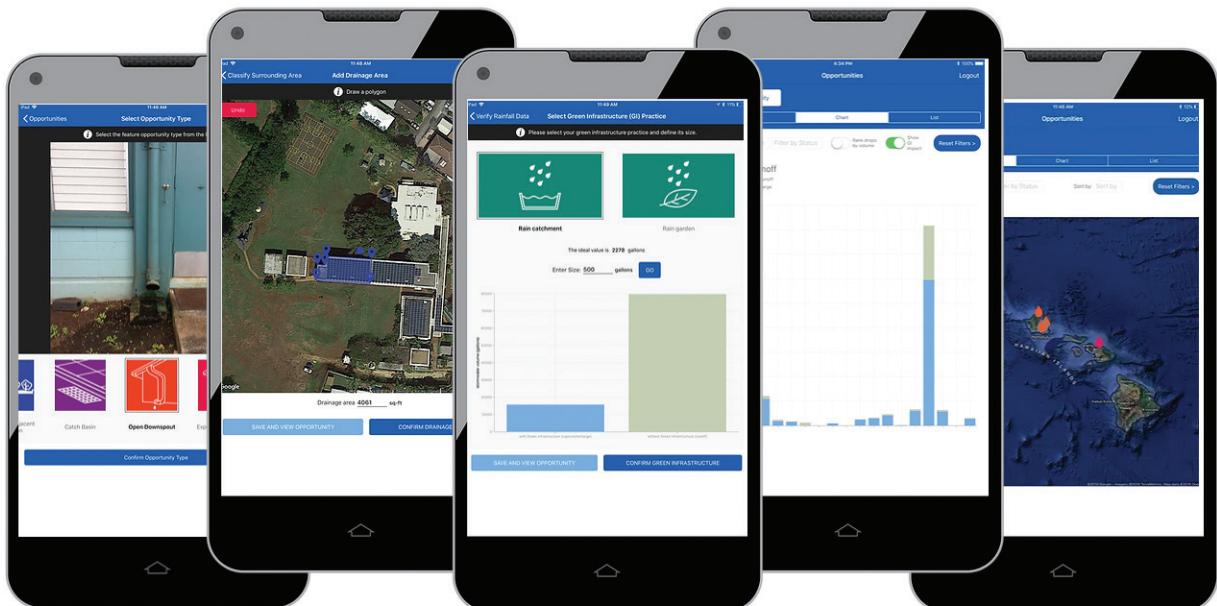
## ACTION SPOTLIGHTS

### FOLLOW THE DROP APP, 3R WATER

3Rwater is a climate technology company with a mission to build water security and resiliency. 3R develops technology tools that address some of the most pressing issues in water management today. Follow the Drop is a mobile application and data platform designed to support municipal green infrastructure initiatives. Through an easy-to-use tool, 3R is engaging communities to address stormwater runoff and build resiliency. In addition, 3Rwater co-developed a school curriculum with Kupu that empowers and engages youth by providing them with the tools and knowledge to actively contribute to the development of climate resilience measures.

#### Follow the Drop™

Mobile Application



### KAIMUKI RAIN GARDEN, TREES FOR KAIMUKI

This community-based initiative was a partnership involving EnVision Kaimukī, the City and County of Honolulu's Urban Forestry Division, Smart Trees Pacific, the National Park Service, The Outdoor Circle, and Trees for Honolulu's Future. The community came together to plan, plant, and care for a new rain garden with native trees and plants on 11th and Harding Avenues in Kaimuki. The rain garden will provide shade and habitat, recharge groundwater, and reduce flood risk. The group hopes this can be a model for other communities.





## SOLID WASTE REDUCTION

*Reduce the solid waste stream prior to disposal by 70% through source reduction, recycling, bioconversion, and landfill diversion methods*



### SOLID WASTE REDUCTION

Total Solid Waste Diversion

**27%**

Solid Waste Diverted from Landfills  
in 2021

✖ Needs Improvement

Total Solid Waste Generation

**2,570,478**

Tons of Solid Waste Generated in 2021

✖ Needs Improvement

Recycling

**695,931**

Tons of Recycling and Composted  
Materials in 2021

✖ Needs Improvement

Source Reduction

Coming Soon

Reuse

Coming Soon

Measuring

Measuring



## SOLID WASTE REDUCTION

This goal recommits to a law that mandated solid waste stream reduction by 50% by January 1, 2000. This was increased in 2020 to 70% waste reduction by 2030.

### SDGs



## AT A GLANCE



### WASTE DIVERSION — NEEDS IMPROVEMENT:

27.1% of solid waste was diverted from landfills, not including waste-to-energy a decrease from 43% in 2015 against a target of 70% diversion by 2030.



### SOLID WASTE GENERATION — NEEDS IMPROVEMENT:

Solid waste generation rate was 2.5 tons in 2021 compared to 1.6 tons in 2021.



### RECYCLING — UPWARD TREND:

695,931 tons of recycled and composted material as of 2021.



# SOLID WASTE REDUCTION

## ANALYSIS—MEANS OF IMPLEMENTATION—CHALLENGES

One primary obstacle to reducing waste is the limited infrastructure for waste diversion. Hawai'i lacks sufficient facilities for recycling, composting, and waste-to-energy conversion. Due to its remote location, recycling tends to be more expensive compared to landfill disposal, hampering the viability of waste reduction programs.

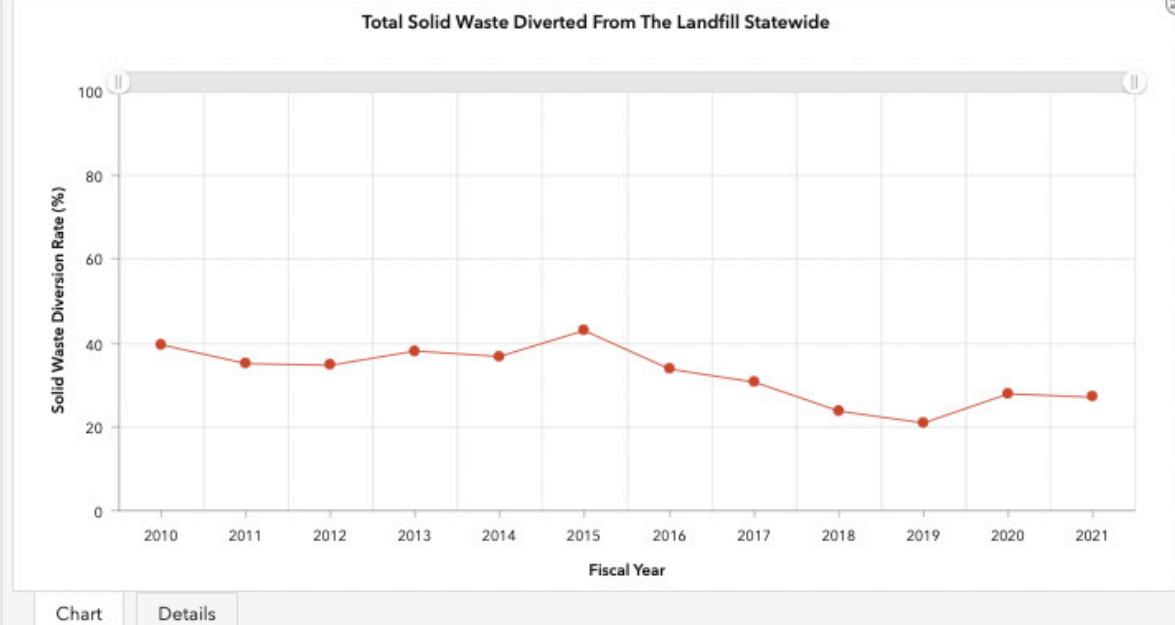
To address these challenges, the Office of Solid Waste Management (OSWM), operating under the Department of Health, oversees the Deposit Beverage Container (DBC) Program; Electronic Waste, and Television Recycling and Recovery Program; and Glass Advance Disposal Fee (ADF) Program. These programs, as well as increased investment, public education, and policy can help Hawai'i achieve its waste diversion goals.



**27%**

Diverted from Landfill

**NEEDS  
IMPROVEMENT**



While incineration is not calculated into the solid waste diversion rate, in 2022 54.3% of waste was redirected from waste disposal facilities, combining both diversion and incineration tonnage. H-POWER, located on Oahu, produces approximately 10% of the island's electricity by incinerating waste. This process reduces the volume of waste going to the landfill by 90%, with only 10% (ash) sent to the landfill which has helped to conserve landfill space and extend its life.

Recycling rates have fluctuated in recent years and are currently up to 695.9 thousand tons as of 2021, an increase from 485.2 thousand tons in 2019. Composting and bioconversion are integral to solid waste reduction goals, and they provide a myriad of benefits such as producing biofuels, compost for food production, reducing use of pesticides and fertilizers, and creating green jobs.

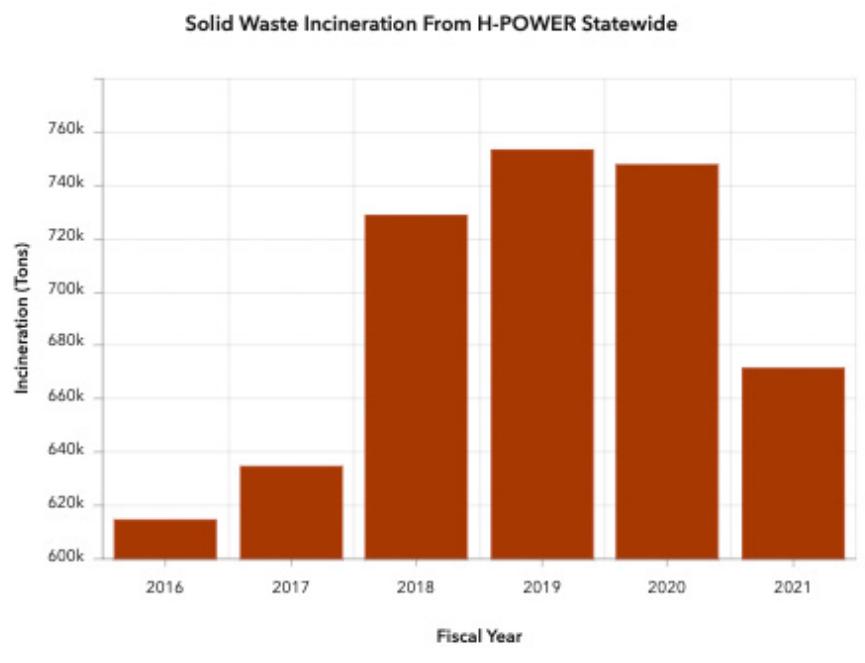
Hawai'i defines source reduction as 1) minimizing the quantity or toxicity, or both, of the waste produced and (2) reducing the creation of waste either by redesigning products or by otherwise changing societal patterns of consumption, use, or waste generation.

Quantifying source reduction is challenging, and in most cases, it is only possible to estimate the amount. Source reduction involves practices such as using less material to accomplish a task, reusing products in their original form, or using repairable, refillable, and durable products that have a longer useful life. By implementing source reduction practices, less waste is generated, and the overall environmental impact of waste management is lessened.

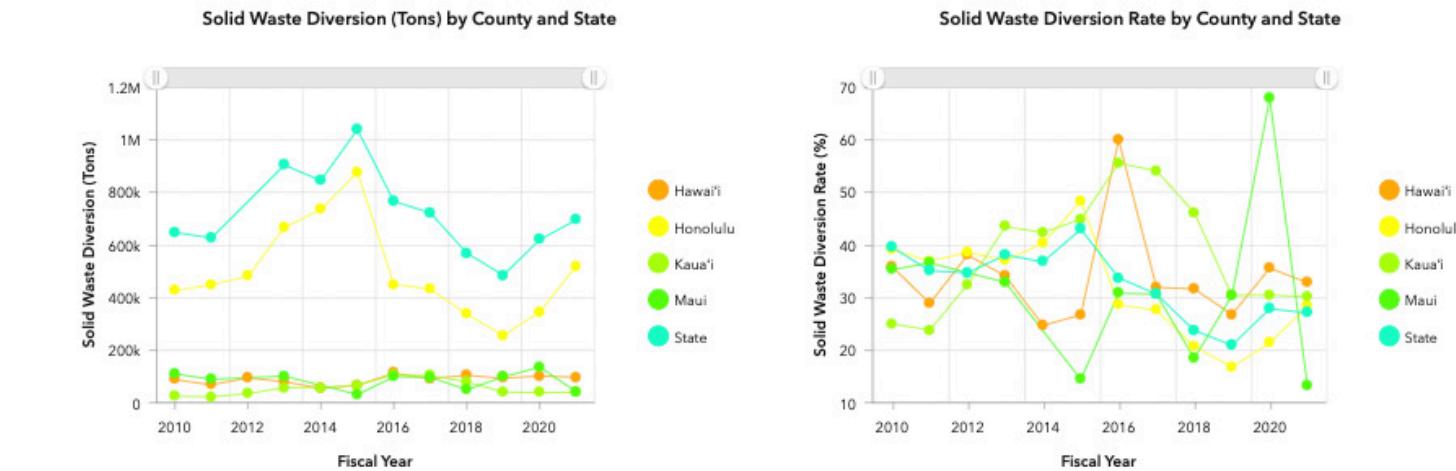


# SOLID WASTE REDUCTION

In 2019, the State established a plastic source reduction working group consisting of public sector stakeholders, business and industry representatives, and grassroots organizations. The group develops recommendations for reducing single-use plastics, as well as ways to reuse, recycle and recover plastic. Counties have taken significant steps to curtail single-use plastic proliferation. As the counties prepare their new Integrated Solid Waste Management Plans, which will be shaped by the added challenges of landfill capacity and the slower global market for recyclables, ongoing community participation in source reduction efforts will be critical to ensure sustainable operations.



## Solid Waste Diversion by County and State





## ACTION SPOTLIGHTS

### IN-VESSEL COMPOSTING SYSTEM, SUSTAINABLE COASTLINES HAWAI'I

The Sustain Events Program by Sustainable Coastlines Hawai'i provides a waste diversion service for events. Waste diversion staff and educators manage the event's waste while providing inspiration for guests who want to learn more. Compostable materials and food waste are taken to produce nutrient-dense compost. Sustainable Coastlines and partners recently collaborated to purchase a Green Mountain Technologies Earth Flow In-Vessel composting system, which is operated at Full Circle Farm in Waimānalo. The system can process up to 1,000 pounds of food scraps and green waste per day. The system also provides opportunities for community education and service learning around food waste, diversion, and composting as a solution. This project is an innovative solution for the diversion of food waste from landfill or incineration and introduces an opportunity for implementation at scale.



### WINDWARD ZERO WASTE SCHOOL HUI

The Windward Zero Waste School Hui reduces waste in schools and promotes sustainable practices. The organization, founded by parents, teachers, and community members, develops waste reduction plans and implements sustainable practices such as composting, recycling, and reducing single-use plastics at schools, and provides educational resources and workshops.



## ACTION SPOTLIGHTS

### ZERO WASTE O'AHU, KAUA'I, MAUI, HAWAI'I

Collaborative Zero waste groups across the four counties are part of the larger zero waste movement: **Zero Waste Kaua'i** educates, inspires, advocates, and assists the government, businesses, residents, and visitors in transitioning to a zero-waste society. Zero Waste Maui provides resources to learn about zero waste principles and living waste-free and offers opportunities to clean beaches, advocate for local policy, and develop creative solutions. **Zero Waste O'ahu** provides education and outreach, designs and pilots zero waste projects that can be scaled, conducts waste audits to inform targeted waste reduction methods for businesses and office spaces, and creates and supports dynamic policy at the state and county level. **Zero Waste Hawai'i**, an initiative led by the County of Hawai'i Department of Environmental Management Solid Waste Division & Recycling Section, promotes sustainable practices and provides recommendations for activities residents can engage in to reach community zero waste goals and carry out the Zero Waste Implementation Plan.



### RE-USE HAWAI'I

Re-use Hawai'i is a nonprofit established in 2006 in response to O'ahu's solid waste problem. It is committed to strengthening the community through waste reduction, the availability of affordable resources, creation of green jobs, and (re)cultivation of a circular economy.

Over a third of O'ahu's waste stream is debris from demolition. Re-use Hawai'i provides deconstruction services as a sustainable alternative to demolition. Deconstruction is the disassembly of structures by hand to recover materials for reuse. These building materials, plus salvaged furniture, appliances, and more are available as an affordable resource for the community at their Redistribution Centers in Honolulu and Kailua-Kona. In FY22, Re-use Hawai'i diverted 442 tons of material from the landfill, providing affordable resources for 20,726 residents.

In addition to the Deconstruction and Redistribution programs, the organization developed a Workforce Development Program (WFD), where job training is provided to individuals facing barriers to employment. In fiscal year 2022 (FY22), WFD provided 25 individuals with job training.



## SMART SUSTAINABLE COMMUNITIES

*Increase livability and resilience in the built environment through planning and implementation at the state and county levels.*



### SMART SUSTAINABLE COMMUNITIES

#### Mobility and Accessibility

**9,017**

Annual Vehicle Miles Traveled per Vehicle in 2021

✖ Needs Improvement

#### Affordable Housing

**82.2**

Housing Affordability Index as of 2021 Q4

✖ Needs Improvement

#### Economic Prosperity

**34.7%**

Households Below the Self-Sufficiency Standard (SSS)

✖ Needs Improvement

#### Resilience and Disaster Management

**0.4**

Hawai'i Overall Social Vulnerability Index Rating as of 2020

✖ Needs Improvement

#### Land Use Impacts

**7.183**

Number of People per Acre of urban Land in 2021

▢ Measuring

#### Open, Public and Green Spaces

**1,019.2**

Sq. Feet of State Parks per Capita in 2020

▢ Measuring

#### Connection to Place

**15%**

Ahupua'a Managed with Community Based Plans in 2018

▢ Measuring

#### Greenhouse Gas Mitigation

**19.13**

Percent Reduction of CO<sub>2</sub> Emissions Since 2015

▢ Measuring



## SMART SUSTAINABLE COMMUNITIES

The smart sustainable communities goal was informed by public, private, and community stakeholder recommendations and reflects data on targets from affordable housing to health to disaster resilience.

### SDGs



## AT A GLANCE



### AFFORDABLE HOUSING — NEEDS IMPROVEMENT:

Residents throughout Hawai‘i spend an average of 49-55% on housing and transportation costs combined. The housing affordability index shows a downward trend, fluctuating from a rating of 98.5 in Q1 of 2015 to 82.2 in Q4 of 2021.



### ECONOMIC PROSPERITY — UPWARD TREND:

The number of households classified below the Self-Sufficiency Standard (SSS) income level improved slightly from 45.5% in 2014 to 34.7% in 2020. However, in 2020 9% of people were below the federal poverty line and 33% were ALICE (Asset Limited, Income Constrained, Employed) households.



### DISASTER MANAGEMENT & RESILIENCE — NEEDS IMPROVEMENT:

Hawai‘i’s vulnerability increased from 0.468 in 2018 to 0.400 in 2020 on a scale of 0-1 ranging from the least to the most vulnerable on the Social Vulnerability Index. The index denotes vulnerabilities based on U.S. census variables and social factors. More comprehensive data are needed to assess resilience, and a local index is being developed expanding on the CDC/ATSDR SVI methodology by adding an additional “exposure to hazards” theme.



### MOBILITY — UPWARD TREND:

Annual Vehicle Miles Traveled per Vehicle decreased slightly from an average of 9,465 in 2015 to an average of 9,017 in 2021. Data show that 67.2% of commuters drive alone to work, 13.5% carpool, with only 4.9% taking public transportation.



# SMART SUSTAINABLE COMMUNITIES

## ANALYSIS—MEANS OF IMPLEMENTATION—CHALLENGES

The goal of Aloha+ Challenge goal for Mobility and Accessibility is to provide safe, affordable, and diverse transportation options including promoting alternatives such as walking, biking, carpooling, and public transit. According to the data, Hawai'i's share for active transportation (walking and biking) is relatively low, at around 5.2%. Nevertheless, the State made progress in recent years, with an increase from 4.7% in 2009 to 5.2% in 2021.

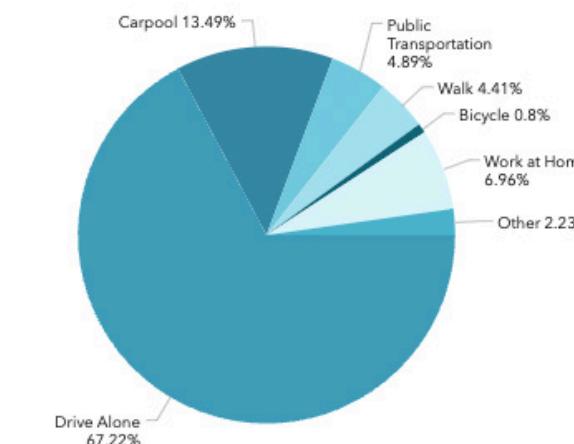
The State has an increase in EV registrations, with more than 12,000 EVS in 2020, and the development of several public transportation projects. Challenges remain in reducing the number of single-occupancy vehicles with 67% of residents commuting alone to work in 2021, a major contributor to traffic congestion and greenhouse gas emissions.

To address these challenges, the State implemented a Complete Streets policy across all counties prioritizing the safety and convenience of all road users, including pedestrians, bicyclists, and public transit riders. To meet this goal, investment in public transportation infrastructure and alternative transportation options will be needed, as well as addressing the underlying issues of housing affordability and urban sprawl.

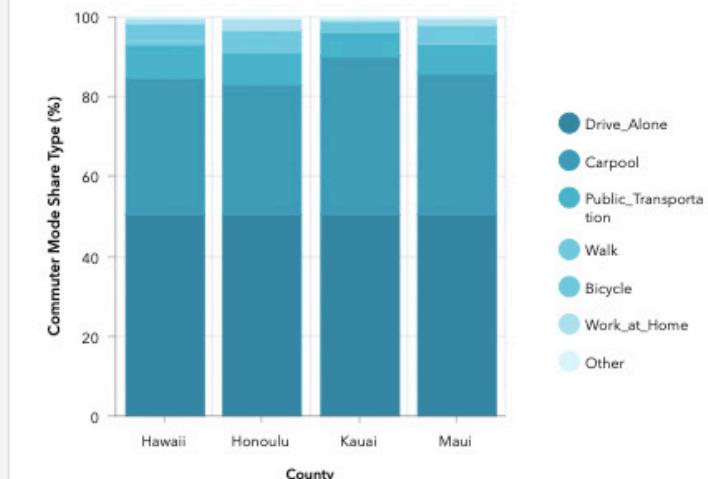


Commuter Mode Share Percentage  
Statewide

(2021)



Commuter Mode Share by County  
(2021)

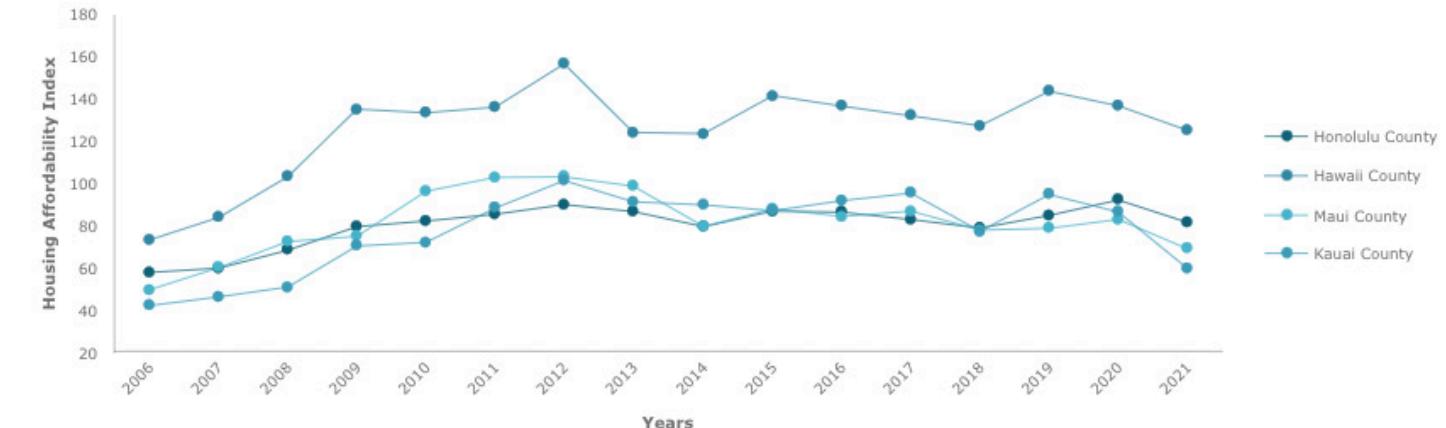


Housing affordability is a pressing issue, with many families cost-burdened, spending more than 30% of their income on housing. Housing and transportation are significant expenses - residents allocate an average of 49-55% on housing and transportation costs combined.

The housing affordability index assesses whether a typical family earns enough to qualify for a mortgage loan on a typical home based on the most recent price and income data. A value of 100 indicates that a typical family has exactly enough income to qualify for a mortgage loan.

To increase affordability, it is critical to maximize the use of urban areas and construct and maintain multi-unit affordable housing that remains at or below 30% of income. The State implemented various policies and programs to increase affordable housing including incentives and financial mechanisms such as federal tax credits, low-interest loans, and negotiated land costs to make projects available. Hawai'i Housing Finance and Development Corporation facilitated the development of 12,209 affordable housing units since its inception in 2006 and remains committed to increasing housing affordability.

Housing Affordability Index by County





## SMART SUSTAINABLE COMMUNITIES

Hawai‘i’s largest industry is tourism, which provides employment for many residents. Economic vulnerability is exacerbated by Hawai‘i’s heavy reliance on the tourism and food services industries, which account for around 70% of jobs. Fluctuations in the visitor industry, influenced by factors like natural disasters, climate change impact, political events, and epidemics or pandemics pose significant risks to the economy.

In addition to the high cost of living and limited economic diversity, other factors impact mobility and accessibility. High poverty rates, limited vehicle access, and crowded housing conditions make evacuations more challenging during emergencies and can impede a community’s ability to prevent loss of life and financial damages during various disasters.

Developing an effective risk management strategy necessitates fostering community resilience, enhancing public awareness of the impacts of acute shocks and stressors, and providing information about shelter provision. Opportunities to achieve this include implementing integrated and cross-sector statewide community resilience plans, with a particular focus on public education. By strengthening community resilience and enhancing public understanding, the State can better prepare for and respond to the challenges posed by climate-related hazards and fluctuations in the tourism industry.

Tracking urban density is a crucial tool for understanding regional land use patterns and evaluating progress. By measuring the proportion of people per acre of urban land, it becomes possible to monitor changes in population distribution and assess the effectiveness of efforts to promote more efficient use of existing urban areas.

Addressing water quality and preserving healthy streamflow and baseflow conditions are essential for maintaining a thriving ecosystem and ensuring quality of life. By prioritizing responsible land use, Hawai‘i can create more resilient and livable communities while safeguarding its natural resources.

As urban density increases, the State is working towards equitable access and distribution of Hawai‘i’s public, open, and green spaces, and cultural sites by tracking and evaluating the provision of parks. The focus extends to beach, city, dog, and recreation-specific parks, as well as hiking trails, camping areas, community facilities, and cultural sites.

The Aloha+ Challenge also outlines a sense of belonging and responsibility by enhancing appreciation of ‘Āina (people + place) and connection to neighbors and community. The progress towards this goal is being tracked through various measures, including increasing the percentage of ahupua‘a managed with community-based plans through 2030. The concept of ahupua‘a is a traditional land division in Hawai‘i that extends from mauka (mountain) to makai (ocean) and serves as a holistic system for resource management and governance to ensure the land supports and sustains the community.

In 2010, OHA developed a methodology grounded in the Native Hawaiian perspective of resource management to determine the percentage of land in Hawai‘i that was managed sustainably based on the economic, environmental, cultural, and historical resources. OHA data shows that 15% of ahupua‘a landowners have a community-based resource management plan, which is an increase from 12% in 2011.

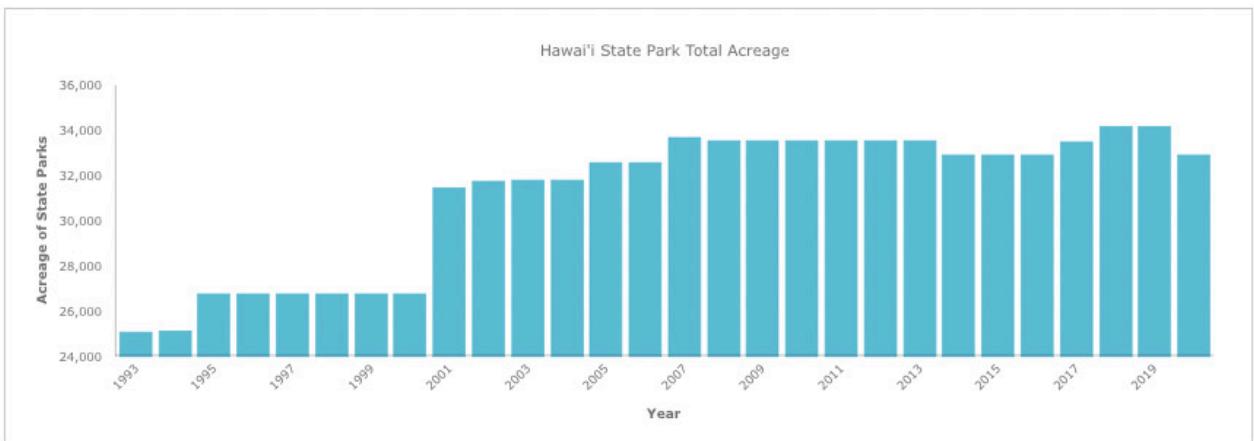




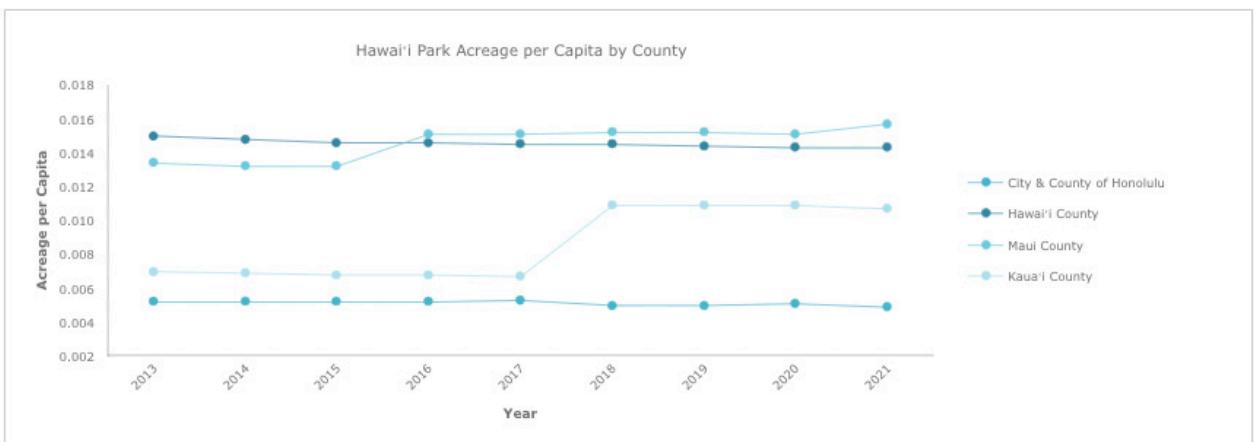
## SMART SUSTAINABLE COMMUNITIES

Hawaiian language revitalization is central to preserving cultural practices and fostering identity. The revival and use of the Hawaiian language serve as a cornerstone for cultural expression, connecting native peoples with their heritage and creating a deeper understanding of their roots.

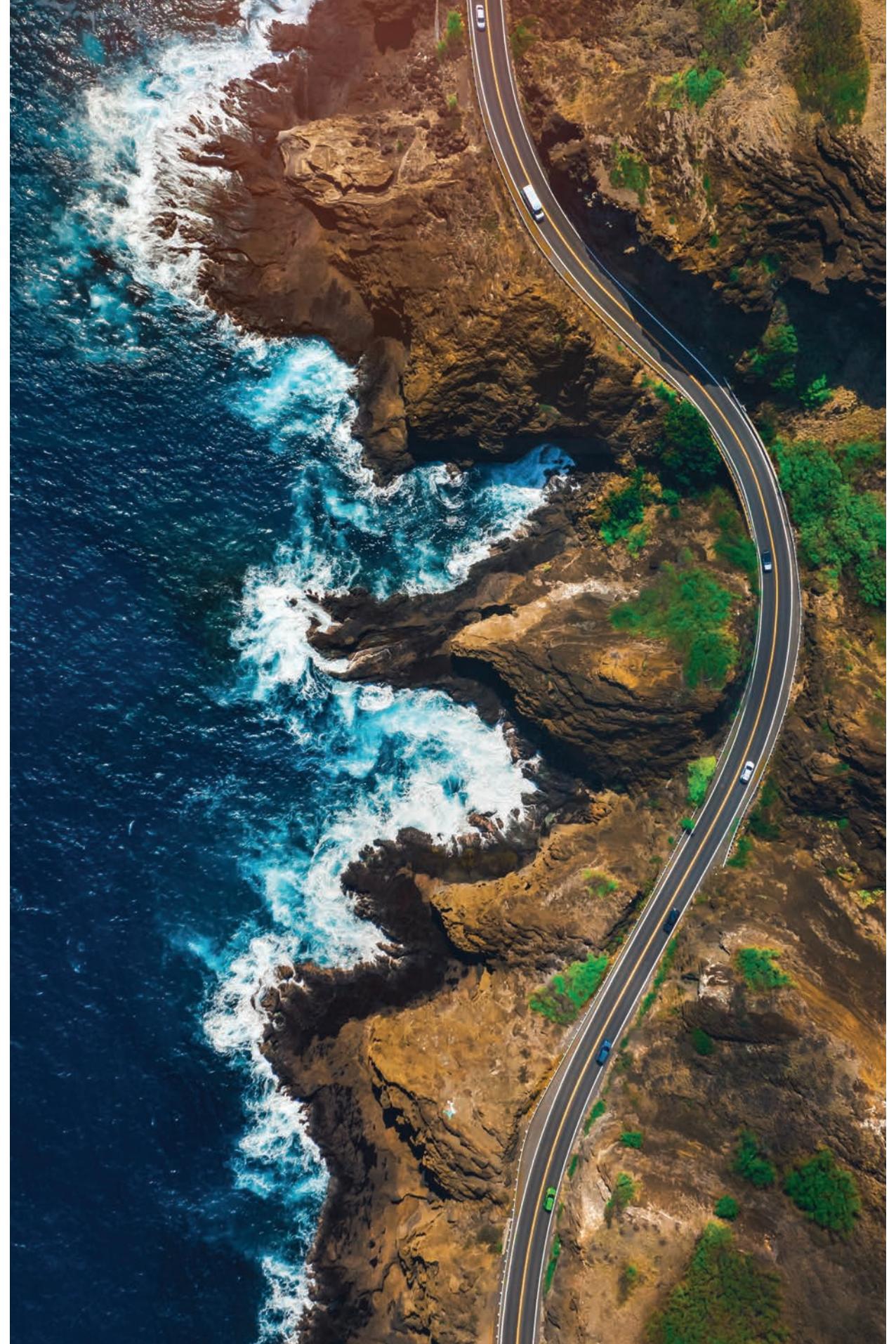
### State Parks And Historic Sites



Source: Department of Business, Economic Development & Tourism (DBEDT) Databook



Source: Department of Business, Economic Development & Tourism (DBEDT) Databook

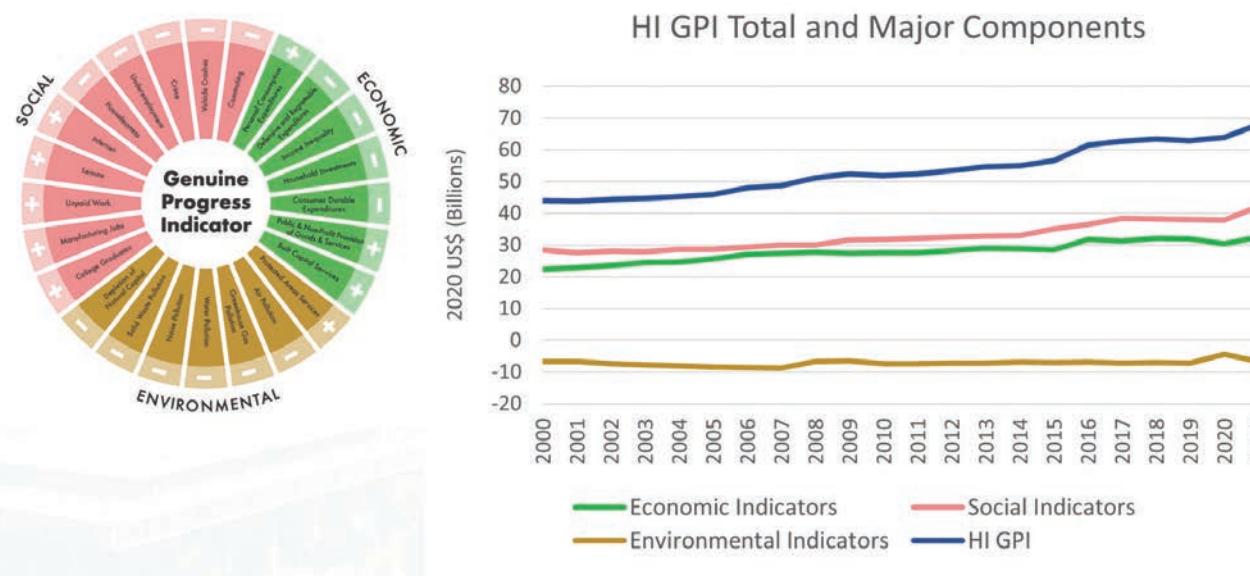




## ACTION SPOTLIGHTS

### HAWAII'S GENUINE PROGRESS INDICATOR

Hawai'i's Genuine Progress Indicator is a measure of well-being and sustainability beyond traditional economic indicators. It takes into account social, economic, and environmental perspectives including factors such as income distribution, education, health, crime rates, pollution, natural resource depletion, and volunteer work. It is intended to capture the overall quality of life and the sustainable development of communities. The GPI encourages policies that promote the equitable distribution of resources, protect natural resources, and improve overall societal well-being. From 2000 to 2021, Hawai'i progressed on average of 2.1% each year.

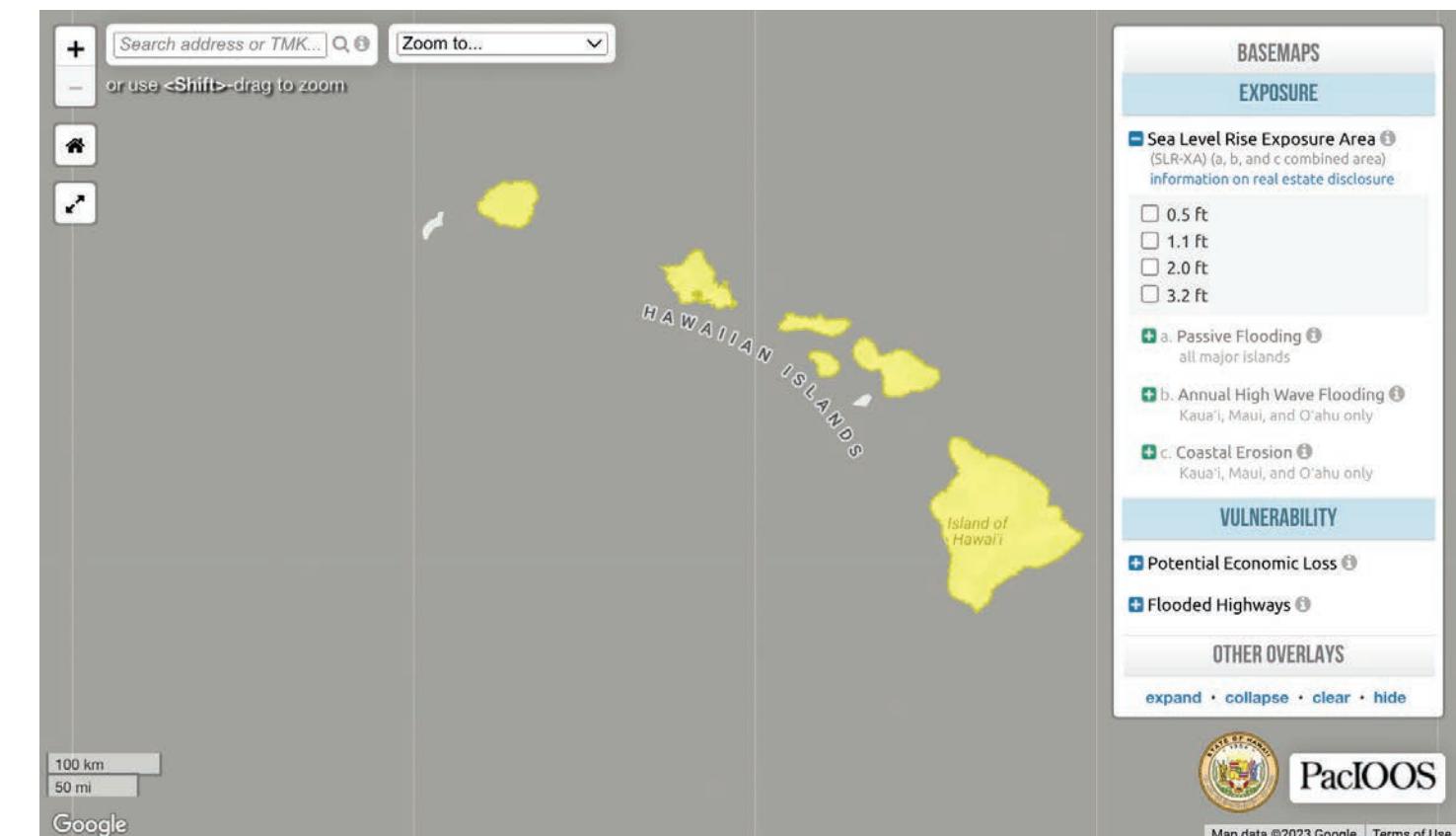


### PACIFIC DISASTER CENTER

The University of Hawai'i's Pacific Disaster Center (PDC) has had significant accomplishments in Disaster Risk Reduction. In 2022, PDC was named laureate of the United Nations Sasakawa Award for Disaster Risk Reduction, which is awarded every three years to organizations that have made a substantive impact in reducing disaster risk. PDC addressed the complex challenges of disaster management and promoting resilience with advanced modeling and analytical tools that enhanced early warning systems and decision making, enabling governments, communities, and organizations to better understand and mitigate risks of natural hazards. PDC promotes knowledge sharing, partnerships, and empowers communities.

### SEA LEVEL RISE VIEWER

The Pacific Islands Ocean Observing System (PacIOOS) Shoreline Change Hawai'i is an online tool that provides information on sea level rise (SLR) and shoreline change. The tool was developed by the University of Hawai'i and assists planners, policymakers, and other stakeholders in making informed decisions related to coastal management and climate adaptation. The tool features a range of data and information, including interactive maps, visualizations, and graphs that illustrate historical trends and projected future impacts. It also includes other factors that can influence shoreline change, such as coastal erosion, storms, and tidal fluctuations. The tool also raises awareness of the potential impacts of SLR on Hawai'i's coastal communities and ecosystems and promotes proactive measures to reduce the risks and vulnerabilities.





## ACTION SPOTLIGHTS

### MERRIMAN'S WAIAMEA

In 2022, Chef-Owner Peter Merriman and Sustainability Director Jessie Merriman led the initiative to make Merriman's Waimea the first carbon-neutral restaurant in Hawai'i. In addition to offsetting more than 500 metric tons of annual carbon emissions, Merriman's Waimea partnered with local scientists at Blue Ocean Barns and farmers at Hawai'i Island Goat Dairy to create the world's first low-emission goat cheese. By feeding dairy goats a seaweed supplement consisting of limu kohu, the animals' methane output is reduced by roughly 85 percent. Merriman's Waimea is reducing its dependence on natural gas by installing electric induction equipment and is working with the wine and spirit industry to design a climate-friendly alternative to glass bottles.

To engage the community and encourage a climate-friendly dining experience, Merriman's Waimea identified and labeled the most sustainable dishes on their menus and continues to prioritize sourcing local ingredients, practices farm-to-table principles, promotes sustainable seafood choices, and raises awareness about sustainability. Their commitment to environmental stewardship and responsible business practices sets an exemplary standard in the industry, reducing carbon footprint, supporting local farmers and fishermen, protecting marine ecosystems, and contributing to the preservation of natural resources. These processes will inform their other restaurant locations in Hawai'i.

### HAWA'I CLIMATE DATA PORTAL

The Hawai'i Climate Data Portal (HCDP) is an online resource that provides access to climate data including historical climate trends, projections of climate conditions, and climate-related impacts such as sea level rise and ocean acidification. The project, developed by the University of Hawai'i's Pacific Islands Climate Science Center in collaboration with various government agencies, nonprofits, and academic institutions, includes information from the Hawai'i Mesonet, a network of weather stations that collect real-time weather data. There are currently 25 Mesonet stations in operation across Hawai'i, 24 of which are already integrated into the HCDP. The data is presented in a user-friendly format that is accessible to a broad range of stakeholders and easily visualized in the Aloha + Challenge Dashboard.





## ACTION SPOTLIGHTS

### VIBRANT HAWAII'

Vibrant Hawai'i is a collaborative effort focusing on promoting innovation, entrepreneurship, and sustainable economic growth. Vibrant Hawai'i offers a range of resources and tools including access to capital, business support services, and community development programs. The initiative promotes key industries such as tourism, agriculture, and renewable energy and seeks to leverage the unique strengths and assets of each island to drive economic growth.



### COMMUNITY INVESTMENT VEHICLE (CIVIC), ALA WAI WATERSHED COLLABORATION

The Ala Wai Watershed Collaboration established a watershed management district for the Ala Wai Watershed, the Community Investment Vehicle (CIVic). The CIVic enables shared decision-making that engages government, businesses, landowners, community stakeholders, and cultural practitioners at all stages of watershed project planning, including design, implementation, and long-term maintenance. The CIVic incorporates and activates the Mālama Implementation Tool into its project assessment and management processes.

### ĀINA ALOHA ECONOMIC FUTURES

Āina Aloha Economic Futures (AAEF) is a group of Native Hawaiian leaders who identified the need for Native Hawaiian voices, values, and experiences to influence the post-COVID economic recovery. The group developed the Huliau Action Agenda and the AAEF Declaration guided by four guiding principles: Āina Aloha, ‘Ōpū Ali‘i, ‘Imi ‘Oi Kelakela and Ho‘okipa. The AAEF tool measures, benchmarks, and advances the values in AAEF’s Declaration to move Hawai‘i closer to a future guided by Native Hawaiian culture, perspectives, and values.



# ACTION SPOTLIGHTS

## MĀLAMA IMPLEMENTATION TOOL, ALA WAI WATERSHED COLLABORATION

The Ala Wai Watershed Collaboration (AWWC) is a network of community, government, and business partners committed to a more resilient and prosperous Ala Wai Watershed. The AWWC collaborated with 'Āina Aloha Economic Futures and Stantec, a global engineering and consulting firm, to develop a comprehensive project assessment tool to support its partners in project development efforts. The Mālama Implementation Tool is a community-driven project assessment tool that prioritizes native Hawaiian values, locally relevant measures of success, practical implementation considerations, and design economics. Distinct from other project assessment rubrics, the Mālama Implementation Tool broadens the user's understanding of stewarding the environment and each other by developing mainstream planning perspectives through local and indigenous knowledge systems.

The tool reflects the six goals of the Aloha+ Challenge throughout its 28 measures of success and creates a visual report of which Aloha+ goals are being pursued. A high score indicates a project with high levels of community engagement, support for green job opportunities, the transition to a circular economy, and an emphasis on the application of Hawaiian cultural values and knowledge. Using the tool, the AWWC conducted an 18-month feasibility study of eight partner-led projects in early 2021 with the support of grant funding from the Department of Interior. Collaboration partners' eight projects address various opportunities for improved sustainability and resiliency of the watershed from mauka to makai.

		Project Assessment Tool		Project Score Total	Maximum Possible Score (based on answered questions)	Percent of Maximum Possible Score (Range is -100 to +100)	
		User-Entered Values Below	Score	0	0	#DIV/0!	
"Audience"		Score Subtotal by Category Count within each Category →		0	0	0	0
		Recovering and creating ancestral ecological knowledge	Score	Moves Away from 'Āina Aloha (-8)	No Movement/Not Applicable (0)	Moving toward 'Āina Aloha (2)	Practicing 'Āina Aloha (4)
General Evaluator Group		Decreases opportunity to increase ancestral ecological knowledge		Does not increase or decrease ancestral/ create new ecological knowledge	Provides opportunity to increase ancestral/ create new ecological knowledge	Provides increased ancestral and new ecological knowledge	Provides increased ancestral and new ecological knowledge
General Evaluator Group		Community Design/ Place-Based Governance		Does not increase or Decrease involvement of community in design, construction, and/or maintenance of project; or plans to re-engage community after project initiation (adaptive mgt). No Transparency/ Communication about project to community	Transparently identifies and engages vital stakeholders (with diverse outreach media), or plans to re-engage community after project initiation (adaptive mgt)	Transparently identifies and engages vital stakeholders (with diverse outreach media), or plans to re-engage community after project initiation (adaptive mgt)	Transparently identifies and engages vital underrepresented and marginalized (present or absent) stakeholders, and plans to re-engage community after project initiation (adaptive mgt)
General Evaluator Group		Economic Diversification/ Green Workforce Opportunities		Decreases diversity in economy or opportunities for Green Workforce development	Does not increase or decrease diversity in economy or opportunities for Green Workforce development	Increases economic diversification and green workforce opportunities	Increases economic diversification and green and non-green workforce opportunities
General Evaluator Group		Supports the vibrancy and integrity of Hawai'i environments (land, water, ocean, sky, and native flora and fauna)		Produces environmental damage	Has no impact, or a net neutral impact, on Hawai'i environments	Contributes in a demonstrable manner to the vibrancy and integrity of Hawai'i environments as a secondary or indirect focus of activities	Focuses on improving the fertility or integrity of the environment as a core activity and supports others to engage in similar efforts
General Evaluator Group		Positively impacts community well-being, equity, cohesion, capacity, and empowerment		Harms community well-being, creates community division, or undermines community self-determination	Does not impact, positively or negatively, community well-being	Improves community well-being, especially related to meeting basic needs, and contributes to building community cohesion and the capacity of individuals in the community	Improves community well-being, especially related to meeting basic needs, directly strengthens community cohesion, and builds the capacity of individuals, 'ohana, and organizations
General Evaluator Group		Supports Hawaiian cultural vitality and the application of 'ike kupuna including the use of 'olelo Hawai'i and symbiotic, ancestral relationships to 'Āina		Diminishes Hawaiian cultural vitality, limits the use of 'olelo Hawai'i, constrains relationships to 'Āina, fails to recognize the value of 'ike kupuna, or gives non-cultural practitioners authority to determine the cultural validity of assessments by cultural practitioners	Uses Hawaiian cultural symbols and some 'olelo Hawai'i but does not incorporate Hawaiian values, 'ike kupuna, or the importance of relationships to 'Āina	Applies Hawaiian cultural values in its operations, engages in periodic 'āina 'āina activities, includes the use of 'olelo Hawai'i, and recognizes the value of 'ike kupuna	Incorporates 'ike kupuna and Hawaiian cultural vitality in its core goals, engages 'olelo Hawai'i as a key component in its work, strengthens community-level symbolic relationships to 'Āina, and assists other entities to achieve the same
General Evaluator Group		Increases hiring, career readiness, and leadership opportunities for target groups (in preferential order: Hawai'i residents, expatriate Native Hawaiians, and Hawai'i-born individuals who wish to return)		Hires non-Hawai'i residents for a majority of open positions or includes a majority of non-Hawai'i residents in the upper leadership of the organization	Does not provide a net gain in employment or career opportunities, or hires individuals in the target group only for lower-end positions but not for management or leadership roles	Hires individuals in the target group for 50% of positions, including some management or leadership positions, but does not provide training opportunities to ensure upward career ladders for its employees, or focuses on career readiness/training for Hawai'i residents	Hires individuals in the target group for 80% of positions, including upper leadership positions, and provides training opportunities to ensure upward career ladders for its employees, or focuses on career readiness/training for Hawai'i residents, or leads efforts to build manufacturing, food production, energy self-sufficiency, technology, education, or other sectors that would help to diversify Hawai'i's economy
General Evaluator Group		Contributes to building a circular economy to create regenerative outcomes for 'āina, natural resources and communities		Takes finite natural resources to make products intended to have a limited life cycle after which the products become wastes that must be disposed, or perpetuates reliance on single-use products and imported items	Does not involve the use, creation, demolition, or disposal of items or structures, and does not involve the purchase of single-use items and imported items	Develops or provides alternatives to single-use products, or creates programs to help communities reduce their reliance on single-use products and imported items	Contributes to "return and reuse" practices where products or structures can be disassembled at the end of their useful life cycle and reused, refurbished, or recycled; or sales up programs to help communities reduce their reliance on single-use products and imported items
General Evaluator Group		Improves Hawai'i's long-term energy sustainability in ways that are supported by impacted communities		Relies on non-renewable energy sources and does not implement measures to reduce consumption, or generates renewable energy sources that are not supported by the impacted communities	Has no positive or negative impact on Hawai'i's energy sustainability and does not create issues that affect communities	Generates renewable energy to meet at least 75% of its energy needs and does so in ways that does not raise concerns of others in the community	Engages in efforts to assist 'ohana, organizations, or businesses to reduce their energy consumption and generate renewable energy, in ways that are supported by impacted communities, to create a net positive impact on Hawai'i's energy self-sufficiency



## GREEN WORKFORCE AND EDUCATION

*Increase local green jobs and education to implement the Aloha+ Challenge sustainability goals*



### GREEN WORKFORCE and EDUCATION

'Āina-Based Education and Community Engagement

**20**

School Community Sites in 2017

Measuring

Transformational Learning and Education Attainment

**85.9%**

Hawai'i Students Graduated High School on Time in 2021

Measuring

Equitable Access to Education

**13.4%**

Youth (ages 16-24) Not Attending School and Not Working in 2021

Measuring

Workforce and Professional Development

**3.2%**

Workforce Unemployment February 2023

Needs Improvement

Innovation and Entrepreneurship

**47.6%**

Survival Rate of Start-Up Business After 5 Years in 2023

Measuring

Sustainable Tourism

**46**

Number of Certified Ecotourism Businesses in 2021

Needs Improvement

Economic Diversity

**-1%**

Growth of Hawai'i's Strong Traded Economic Clusters in 2016

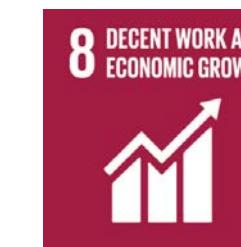
Measuring



## GREEN WORKFORCE AND EDUCATION

This goal identifies the importance of education, jobs, innovation, and an integrated green economy in achieving Hawai'i's sustainability goals.

### SDGs



## AT A GLANCE



### WORKFORCE DEVELOPMENT — NEEDS IMPROVEMENT:

Hawai'i experienced a significant increase in unemployment due to the COVID-19 pandemic, with the unemployment rate jumping from a low of 2.4% in March 2020 to a peak of 23.4% in May 2020, and it continues to fluctuate. As of February 2023, the unemployment rate decreased to 3.2%.



### EDUCATIONAL ATTAINMENT — UPWARD TREND:

85.9% of students graduated high school on time as of 2021. Of residents 25 and older, 92.3% have at least a high school diploma, and 32.9% have at least a bachelor's degree as of 2018.



### EQUITABLE ACCESS — UPWARD TREND:

In 2021, 86.6% of youth (16-24 years old) were attending school or employed, slightly up from 85% in 2010.



### SUSTAINABLE TOURISM — NEEDS IMPROVEMENT:

46 businesses were certified as sustainable eco-tourism businesses as of January 2020, but better metrics and more data are needed to measure sustainability in the tourism industry.

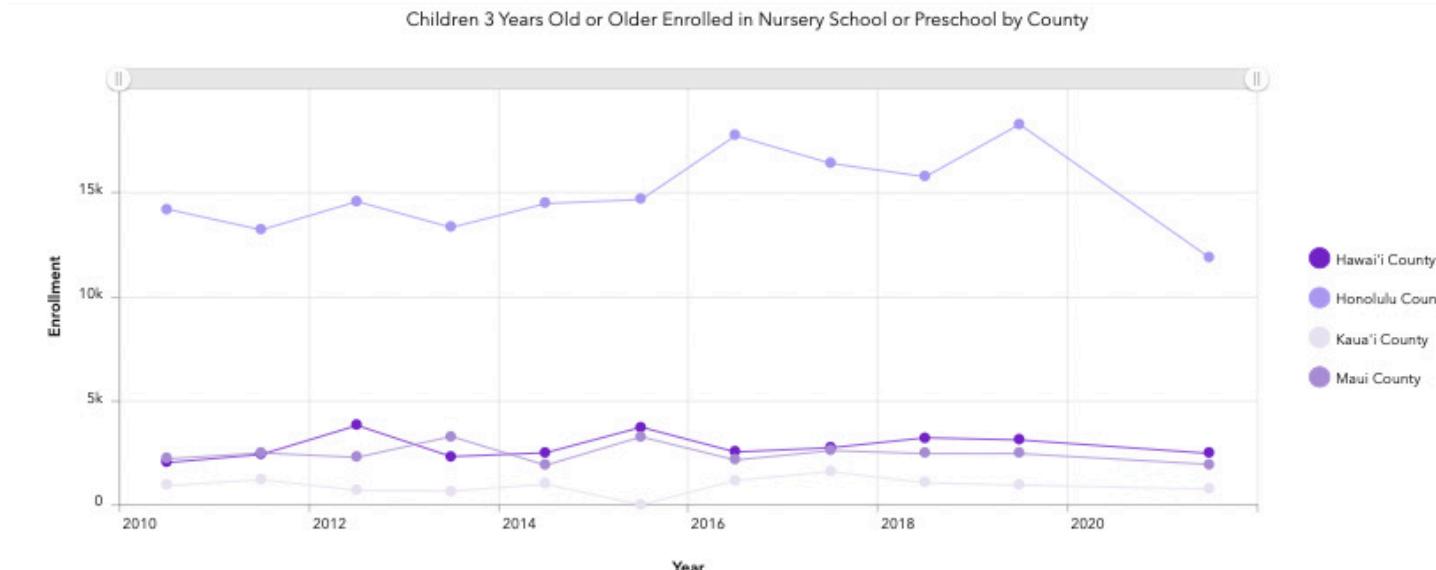


# GREEN WORKFORCE AND EDUCATION

## ANALYSIS—MEANS OF IMPLEMENTATION—CHALLENGES

Hawai'i's commitment to 'āina-based education and stewardship is centered around community engagement and empowerment, cultural heritage preservation, and environmental conservation. An example is the Nā Hopena A'o Program, or HĀ, a framework that focuses on developing competencies that strengthen a sense of belonging, responsibility, excellence, aloha, and total well-being. School Community Councils (SCC) provide a way for families and the community to participate in decision-making.

Hawai'i is committed to providing equal access to quality education and learning opportunities for all residents, ensuring they acquire the knowledge and skills needed to thrive and build a sustainable future. The State faces persistent disparities in education outcomes, particularly for Native Hawaiian students and those from low-income backgrounds. The high cost of living in Hawai'i exacerbates these challenges, making it difficult for families to support their children's education effectively. The COVID-19 pandemic added immense challenges due to remote learning and the need for support services.



To tackle these issues the Hawai'i Department of Education implemented various initiatives and programs, such as the Strive HI Performance System, which offers schools support and resources to improve student outcomes.

The University of Hawai'i's Hawai'i Graduation Initiative increases educational capital by addressing the participation and graduation of students, particularly Native Hawaiians, low-income students, and those from underserved regions. According to the most recent data available, 43 percent of working-age adults hold a postsecondary degree.

Although progress has been made, the percentage of students that graduate high school on time has increased only slightly from 83.1% in 2015 to 85.9% in 2021. The percentage of children enrolled in nursery school or preschool fell from 24,800 in 2019 to 17,100 in 2021.

Hawai'i recognizes the importance of equitable access to education and is committed to ensuring that all students have the resources and opportunities they need to succeed. The State identified several key areas for improvement including early childhood education, support for at-risk students, and access to post-secondary education and training.

One notable program is the expansion of dual credit programs, allowing high school students to earn college credits providing a head start on their higher education journey and preparing them for future success.

Another focus is on targeted support for at-risk students, including those experiencing homelessness and from low-income households. To increase access to post-secondary education and training, the State has partnerships with community colleges and vocational schools and supports initiatives such as the Hawai'i Promise Program that provides free tuition for qualified University of Hawai'i Community College students with financial needs.

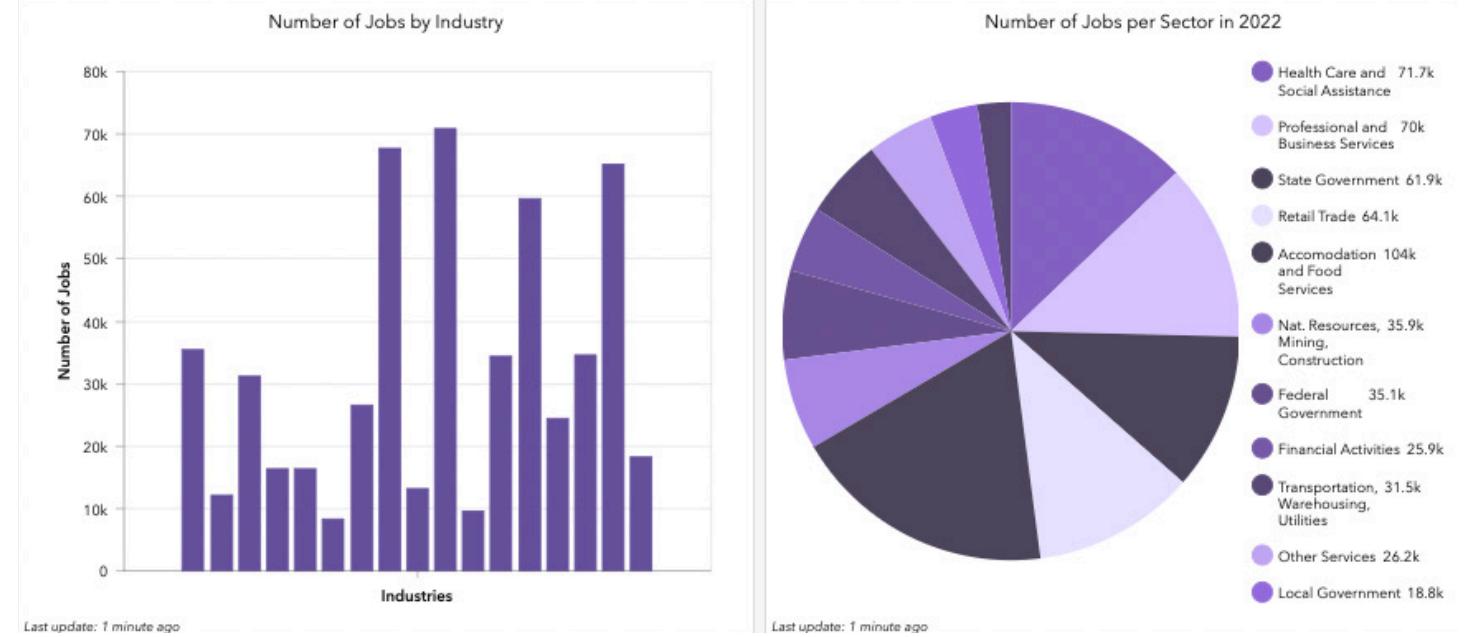


## GREEN WORKFORCE AND EDUCATION

The term “green jobs” encompasses a wide range of work that contributes to Hawai‘i’s economy, communities, and sustainability goals, including professional work, entrepreneurship, non-traditional work, subsistence-based livelihoods, cultural practices, and volunteerism. By creating pathways to nurture and support green jobs, Hawai‘i can foster economic growth while advancing the sustainability agenda.

Recognizing that innovation and entrepreneurship are critical components of sustainable economic growth and job creation, programs and initiatives to encourage and support entrepreneurship including access to funding and capital, creating supportive business ecosystems, and investing in research and development. Hawai‘i has innovation hubs and programs to support the growth of emerging industries such as clean energy, aerospace, and life sciences. Additionally, Hawai‘i’s focus on indigenous knowledge and traditional practices led to programs that support indigenous entrepreneurship and culturally rooted innovation.

The backdrop of COVID-19 made evident the increasing need to transform Hawai‘i’s tourism industry into a more environmentally and socially sustainable sector. The industry needs to reduce its carbon footprint, protect natural resources, and support local businesses and culture. The State implemented several initiatives to address the challenge such as the Green Business Program, which recognizes businesses committed to sustainability, and the Sustainable Tourism Certification Program, which certifies hotels and other accommodations that meet specific sustainability criteria. As visitor arrivals return to pre-pandemic levels, it is crucial for the tourism industry to prioritize sustainability in order to support Hawai‘i’s green recovery, enhance the quality of life for local communities, and preserve island culture and heritage.





## ACTION SPOTLIGHTS

### PLEDGE TO OUR KEIKI, KANU HAWAII'

The Pledge to our Keiki, modeled after the innovative and internationally recognized Palau Pledge, will support the Department of Education and the nearly 170,000 students in environmental sustainability and service learning. Launched by the Republic of Palau, the Palau Pledge is a written agreement all visitors to Palau must sign before entering the country that promotes responsible, sustainable tourism with a focus on protecting the country's environment and culture.

The Pledge to Our Keiki is a promise for sustainable tourism. It raises awareness about environmental issues, promotes responsible behavior among tourists, and encourages local communities to take ownership of their natural resources. People, governments, and businesses can sign the online "Pledge to Our Keiki" as their first act of service and a commitment to leaving Hawai'i better than they found it.



### GLOBAL EDUCATION PROGRAM, PACIFIC AND ASIAN AFFAIRS COUNCIL

The Global Education Program (GEP), an initiative of the Pacific and Asian Affairs Council (PAAC), provides resources to teachers and students in Hawai'i and the Pacific region to promote global awareness, understanding, and engagement. It offers professional development workshops, cultural exchanges, and classroom resources designed to help teachers incorporate global perspectives into their curriculum and help students develop the knowledge, skills, and attitudes necessary to thrive in an increasingly interconnected world.



## ACTION SPOTLIGHTS

### KAUNALEWA

Kaunalewa is a non-profit organization that empowers Native Hawaiian communities through education, training, and resources to address social, economic, and environmental issues. It supports the development of culturally responsive educational programs that are grounded in traditional Hawaiian values and traditions. Kaunalewa is committed to protecting and preserving the natural environment and promotes sustainable practices that protect the islands' unique ecosystems and natural resources.



### SUSTAINABILITY AT UNIVERSITY OF HAWAI'I

The University of Hawai'i integrates sustainability across operations, education, research, and community engagement. It offers three sustainability-focused degrees: Bachelor of Arts in Sustainability Studies, Bachelor of Applied Science in Sustainability Science Management, and Bachelor of Applied Science in Sustainable Community Food Systems. The University also offers world-class programs offering BA, MA, and doctoral degrees which integrate sustainability topics across multiple colleges.

At the University of Hawai'i at Mānoa, the Institute for Sustainability and Resilience provides campus-wide leadership and coordination for interdisciplinary education, research, and outreach related to climate change, environmental sustainability, and community resilience in Hawai'i and abroad. The goal is to equip students to meet critical environmental challenges, with a focus on the climate crisis.

The University of Hawai'i Office of Sustainability helped complete the inaugural AASHE STARS reports for five of the 10 UH campuses. STARS is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance. The metrics used in STARS help inform campus leadership on how UH is progressing on UH Sustainability Policy EP 4.202 and RP 4.208. All five campuses scored bronze in STARS.



## ACTION SPOTLIGHTS

### GOOD JOBS HAWAI'I

The University of Hawai'i's Good Jobs Hawai'i strengthens the economy by promoting quality job opportunities and workforce development. A state-wide collaboration, Good Jobs Hawai'i serves as a bridge between job seekers and employers, enhancing job quality, increasing workforce skills, and fostering economic prosperity. It offers free skills training in high-demand sectors such as healthcare, technology, clean energy/skilled trades, and creative industries that can lead to better-paying jobs.





HO‘OHIKI

## COUNTY COMMITMENT

City and County of Honolulu

Hawai‘i County

Maui County

Kaua‘i County



## CITY & COUNTY OF HONOLULU

"I am thrilled to shine a spotlight on the bright spots within the City and County of Honolulu through the Voluntary Local Review. This comprehensive assessment highlights the exceptional achievements and innovative initiatives that showcase our commitment to the Aloha+ Challenge. From renewable energy advancements to community-driven projects, Honolulu is a beacon of sustainability and resilience. Let us celebrate these accomplishments and continue to foster a vibrant and thriving Honolulu that sets an example for other communities around the world."

—Hon. Rick Blangiardi,  
Mayor  
City & County of Honolulu

# CITY AND COUNTY OF HONOLULU

The City and County of Honolulu (C&C) is committed to ambitious climate, sustainability, and resilience goals and is recognized nationally and internationally for its progress. C&C has seen progress towards removing carbon emissions in the electricity sector, attributed in part to the closing of the island's last coal-fired power plant in 2022. Grid-scale solar projects, rooftop solar, and battery infrastructure are integral in the transition to renewable energy sources.

C&C passed an ordinance in 2022 for a "Better Buildings Benchmarking Program" that requires owners of buildings larger than 25,000 square feet to report their energy and water usage. Comprehensive transportation planning strategies prioritize safe, clean, affordable, and accessible transportation systems. As an example, O'ahu is transitioning its City fleet to more sustainable options, notably, the addition of 17 electric buses and the installation of chargers to support the electric fleet.

This transition to a greener transportation alternative will reduce greenhouse gas emissions and improve air quality. In 2021, C&C took a significant step in addressing climate change and reducing fossil fuel emissions by releasing its first-ever Climate Action Plan (CAP). Developed through a comprehensive engagement process involving community members, stakeholders, and various departments, the CAP outlines nine strategies and 47 actions. The goal is to reduce emissions by 45% by 2025 and to reach carbon neutrality by 2045.

- Recognizing the importance of diversification and market opportunities, C&C established a \$3 million grant program to provide funds to more than 60 local farmers on O'ahu.
- Waste reduction is another key focus for the C&C. To tackle the issue of single-use plastics, an ordinance passed in 2019 banning polystyrene foam and disposable plastic food ware. C&C is also engaged in a collaborative pilot program with community organizations to reduce food waste through food recovery, redistribution, and composting.
- Integrating sustainable and environmental values into C&C plans, policies, and programs is a priority for O'ahu. C&C made significant water and energy efficiency upgrades to its facilities through a City-wide Energy Savings Performance Contract initiated in 2020. This contract delivers substantial energy, water, and cost savings and improves the overall performance of City buildings and operations. The Department of Parks and Recreation launched its Energy Savings Performance Contract in 2022 to enhance the park experience and the environment while saving a projected \$97 million over the next 20 years.
- The Honolulu Climate Change Commission updated its Sea Level Rise Guidance report, which informs C&C plans, policies, and programs with the most recent scientific data.



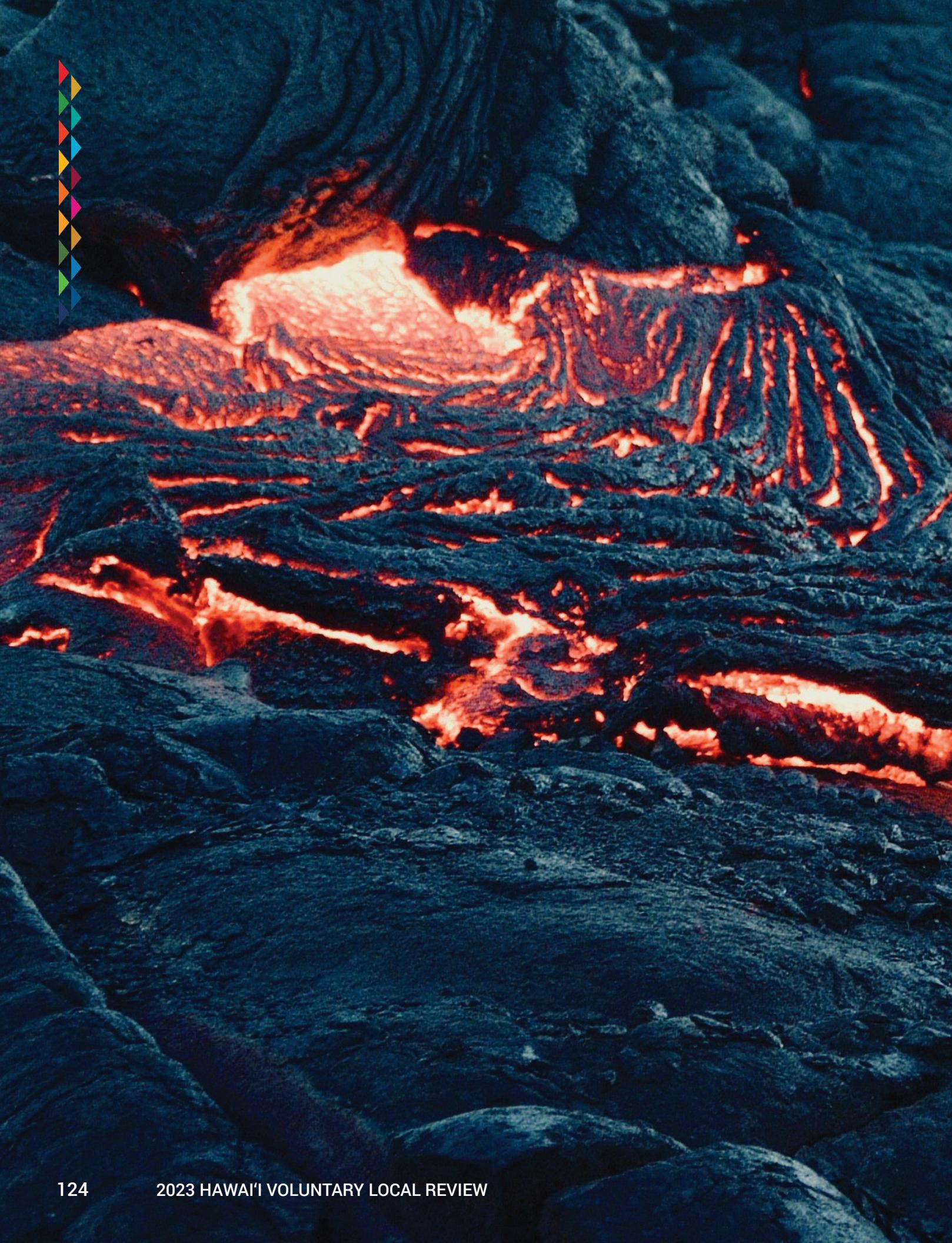
# ACTION SPOTLIGHT

## O'AHU COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY

Public, private, and civil society partners developed the 2022 C&C of Honolulu Comprehensive Economic Development Strategy 2022 (O'ahu CEDS), a "sail plan" designed to steer economic development, recovery, and long-term resilience. The plan serves as a guiding framework for federal, state, and county-level funding, policy, and economic development initiatives over the next five years as part of a broader effort across Hawai'i with the Economic Development Alliance of Hawai'i.

Informed by collective expertise, the plan prioritizes eight economic clusters including green industries such as local agriculture, renewable energy, and regenerative tourism. The focus aims to reduce reliance on fossil fuels, protect island ecosystems, and create quality jobs that bolster the economy while supporting environmental and community health. Integral to economic considerations, the CEDS centers on social equity strategies to increase community resilience in the face of future shocks and stressors. The O'ahu CEDS reflects a commitment to building an inclusive, regenerative island economy that prioritizes the needs of all residents.





## HAWAI'I COUNTY

"I am thrilled to emphasize the significance of the Voluntary Local Review and showcase the remarkable achievements of Hawai'i Island. Our collective efforts have brought forth a multitude of bright spots that illuminate our commitment to sustainability and resilience. From renewable energy initiatives to community-driven projects, the County of Hawai'i Island is blazing a trail toward a prosperous and vibrant future. Let us continue to harness this momentum, working together towards a resilient and equitable Hawai'i Island that thrives economically, socially, and environmentally."

—Hon. Mitch Roth,  
Mayor,  
Hawai'i County

# HAWAII COUNTY

The County of Hawai'i is committed to forging a sustainable island where its residents can thrive for generations to come. Its efforts to date have been driven by a focus on economic development and infrastructure investment that reflects community values and respects the Island's rich culture, history, and environment.

This approach emphasizes the balance between natural, cultural, and economic capital. Initiatives that align with historic and natural resources and are not intrusive to Island communities are encouraged. The Tourism Strategic Plan and the Destination Management Action Plan emphasizes responsible tourism, effective communication with visitors based on the concept of pono, place-based education for residents, and sustainable infrastructure with a focus on preserving the health of natural resources and the well-being of its people.

One of the County's key objectives is to ensure a resilient and renewable energy system while reducing costs for its residents. Approximately 60% of the island's energy is generated from renewable sources. Managed by the Department of Research and Development, the energy program focuses on regulatory and legislative initiatives, renewable energy programs, economic development endeavors, and energy emergency preparedness.

- In 2022, the County dedicated federal funds to make public transportation more accessible by providing free bus services through Hele-On. Additionally, the County's Multi-Modal Transportation Master Plan establishes new fixed bus routes, vanpool services, and bike-share programs to promote sustainable transportation options.
- Hawai'i Island received a Department of Energy grant to work in a mentor-mentee program with sister cities Namie, Japan, and Lancaster, California, putting Hawai'i Island in the running for a Hydrogen Hub grant that could bring a prospective \$1 billion in funding for clean energy.
- The Research and Development Department's Climate Change Program supports initiatives that safeguard the natural and cultural assets of Hawai'i Island, while focusing on mitigation and adaptation to climate change. The County is currently completing its Integrated Climate Action Plan, which is an inter-departmental effort to analyze actions the County can take to address and combat climate change.
- Hawai'i Island monitors greenhouse gas emissions across the island, with a particular focus on the transportation, agriculture, and solid waste sectors identified as areas in need of improvement.



- To promote a diversified and sustainable food sector, the County's Food Systems Program supports agriculture, forestry, aquaculture, and related natural resource development. The program provides financial assistance, research coordination, data for decision-makers, and advocacy of local farmers. During the Covid-19 pandemic, the Department of Research and Development connected local producers with federal funding opportunities. In partnership with Hawai'i Farm Bureau, the County developed the Hawai'i Island Farm Product Purchase Program to procure food from local producers and distribute it to food-insecure households.
- Affordable housing is a top priority and the county has plans to initiate the construction of eight new affordable housing projects by the end of 2023, providing an additional 778 units for residents.
- In 2021, the Department of Research and Development, Community First, and the University of Hawai'i Hilo partnered to develop Kuleana Health, a two-year program focusing on community health literacy and reducing health disparities among minority and vulnerable communities.
- The County's Workforce Development Board promotes a healthy workforce by coordinating with educational institutions, economic development organizations, businesses, and government agencies and facilitating the Hawai'i County Workforce Development Board and the Local Area Plan (2020-2024).

# ACTION SPOTLIGHTS

## HELE-ON BUS

Since June 2022, the Hele-On bus service has operated free of charge for all passengers, enhancing accessibility and promoting public transportation. Operated by the County of Hawai'i Mass Transit, the service covers various routes across the island, including Hilo, Kona, Puna, and other areas.

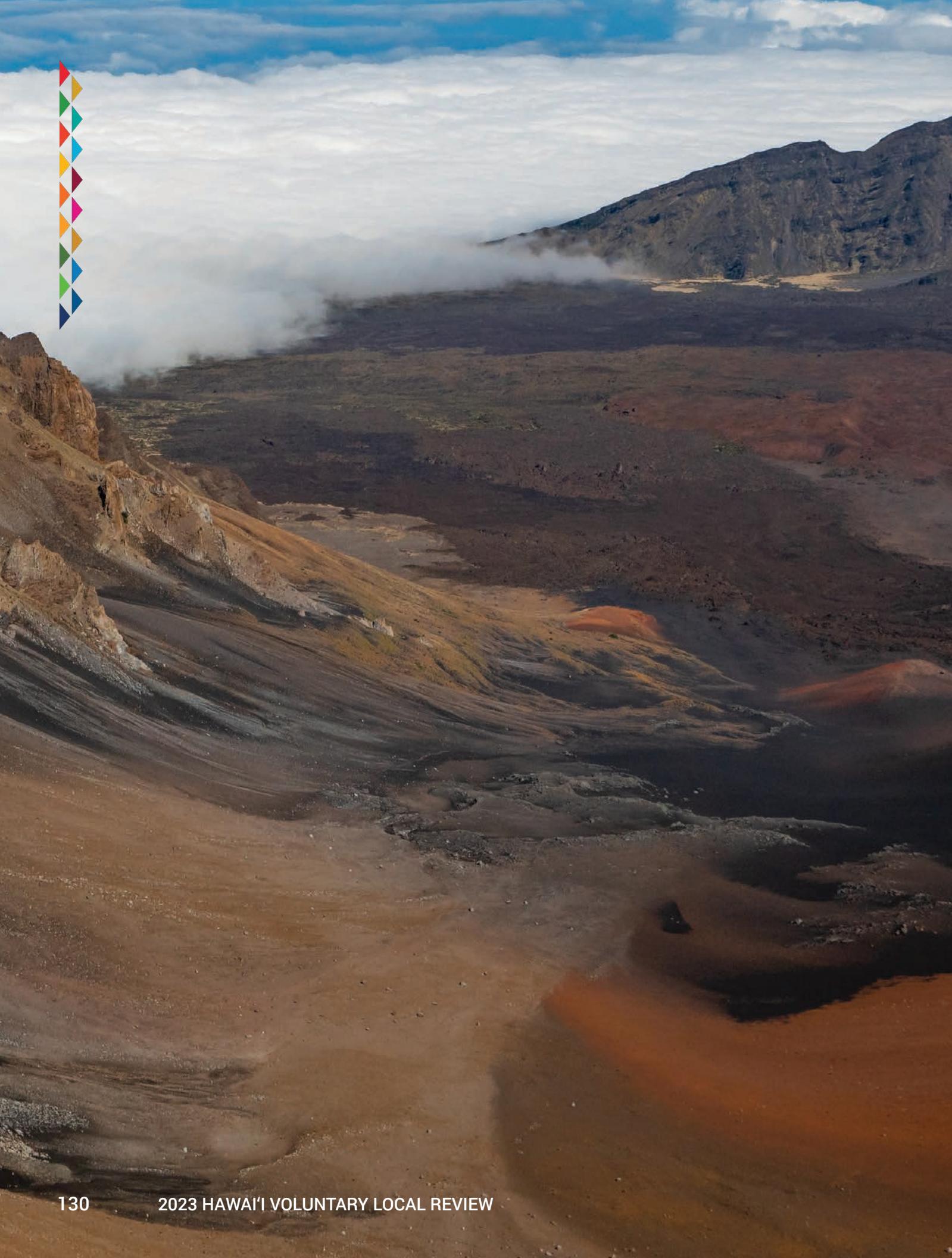
The bus service reduces traffic congestion, provides transportation options for those without private vehicles, lowers transportation costs for individuals and families, and contributes to a more sustainable and environmentally friendly transportation system. The funding for the free service is made possible through federal funds from the Coronavirus Response and Relief Supplemental Appropriations Act and the American Rescue Plan Act.



## HAWAI'I COUNTY SUSTAINABILITY SUMMIT

In December 2022, the Hawai'i Sustainability Summit brought together businesses, nonprofits, community, and government leaders from across the state. Building upon the progress made during the inaugural Sustainability Summit in 2021, this event had a clear objective: "Building Partnerships for Policy." Hosted by the County of Hawai'i and HGG, the summit sought to foster collaboration and cooperation among participants, transcending organizational boundaries, and paving the way for collective action and transformative policy changes that benefit all the islands.

By bringing together stakeholders from various sectors, the summit sought to break down silos and develop shared priorities including identifying gaps and opportunities and catalyzing comprehensive policy shifts that address pressing challenges to achieve resilience for the islands. The Hawai'i Island Sustainability Summit represented a crucial milestone in advancing sustainability and creating a prosperous future for Hawai'i by setting an agenda on how to move forward. One direct outcome of this was a proposed bill that would create a new cabinet-level Office of Sustainability, Climate, Equity and Resilience.



## MAUI COUNTY

"I recognize the profound significance of the Voluntary Local Review, which underscores our island's unwavering commitment to the Aloha+ Challenge. It serves as a powerful testament to our collective dedication in safeguarding our environment, strengthening our communities, and preserving our unique cultural heritage. Let us reaffirm our commitment to this transformative journey, working hand in hand to build a resilient and sustainable Maui that future generations can proudly call home."

—Hon. Richard Bissen,  
Mayor,  
Maui County

# MAUI COUNTY

Maui County demonstrates a strong commitment to sustainable development by building resiliency within its communities.

- In 2021, the County passed an Ordinance adding “Mitigate Climate Change and Work Toward Resilience” as a goal of the Countywide Policy Plan. This reflects the County’s dedication to reducing carbon emissions, addressing the impact of sea-level rise, and promoting the usage of renewable and green technologies.
- To improve operations efficiency and reduce water and energy usage the County implemented Energy Savings Performance contracting, with a 20-year contract launched in 2022, projecting to create over 40 jobs in engineering, project management, and maintenance support. Phase 1 of the project includes an estimated reduction of more than 2,000 tons of greenhouse gas emissions annually and a 33% reduction of potable water consumption.
- Maui is transitioning all public and private ground transportation to 100% clean transportation by 2045. By 2035, the County aims to transition its fleet vehicles to 100% clean transportation. In line with these goals, it is deploying a public electric vehicle (EV) charging network. The first phase includes installing 14 new Level 2 EV charging stations for public use on Maui and Molokai.
- In 2022, the office released the County’s first climate action and resiliency plan, including strategies for reducing emissions while building local resilience against climate change impacts. The report is available in English and in ‘Ōlelo Hawai‘i, demonstrating the County’s commitment to preserving Hawaiian values, culture, and language.
- Countywide Climate Change Vulnerability Assessment will integrate existing departmental vulnerability assessments, the County’s multi-hazard mitigation plan, and ongoing community vulnerability assessments. This planning will provide an integrated, high-level climate change vulnerability study that can guide County policies, projects, and budget priorities.
- The Maui County Sea Level Rise Proclamation, in recognition of already occurring impacts of climate change including sea-level rise, directs planning and all County departments to consider sea-level rise in their programs and planning regulations.



- The Office of Innovation and Sustainability was formed in 2023 as a cross-functional internal working group to focus on key actions and initiatives to support the environmental, social, and economic well-being of Maui and its residents. Priorities include affordable housing, water, infrastructure, economic development, and environmental protection.
- In 2023 Maui announced a commitment to manage and mitigate 100,000 axis deer, which are detrimental to the natural environment and native species.

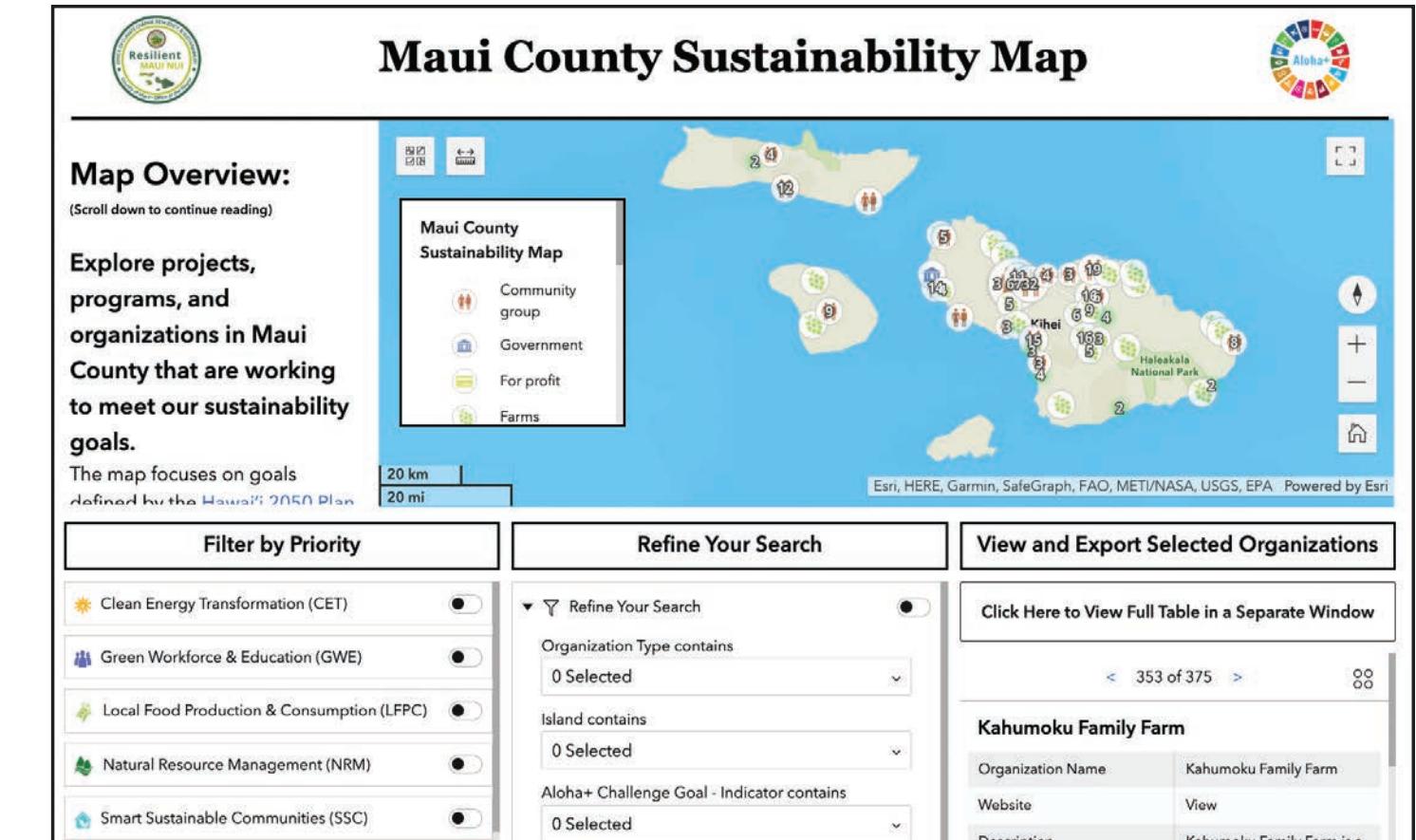
# ACTION SPOTLIGHTS

## HAWAII ENERGY CONFERENCE

The annual Hawai'i Energy Conference brings together experts in the energy field to share knowledge and experiences. A major theme is the role of renewable energy in Hawai'i's future, and attendees explored how to reach 100% renewable energy by 2045. Topics such as energy storage, grid modernization, and community-based renewable energy projects were discussed with energy industry leaders, policymakers, researchers, and entrepreneurs.

## MAUI SUSTAINABILITY MAP

In 2021, Maui Sustainability Initiative partnered with HGG and the County to develop a community resource to raise awareness of and increase collaboration among sustainability organizations by documenting and mapping the sustainability organizations within the County. The map is available on the Aloha+ Dashboard and includes organizations working on one or more of the Aloha+ Challenge sustainability goals. Organizations can be searched by organization type(s), geography, or Aloha+ Challenge goal. Organizations, projects, programs, and businesses are based on their alignment with Aloha+ Challenge priorities and their specific indicators.





## KAUA'I COUNTY

"As Mayor of Kaua'i, I am immensely proud of our island's commitment to the Aloha+ Challenge. The release of our Voluntary Local Review signifies the strides we've made in protecting Kaua'i's beauty and resilience. Let us continue to collaborate and innovate, ensuring a sustainable future that honors our past and nurtures our communities with the spirit of aloha."

—Hon. Derek Kawakami  
Mayor,  
Kaua'i County

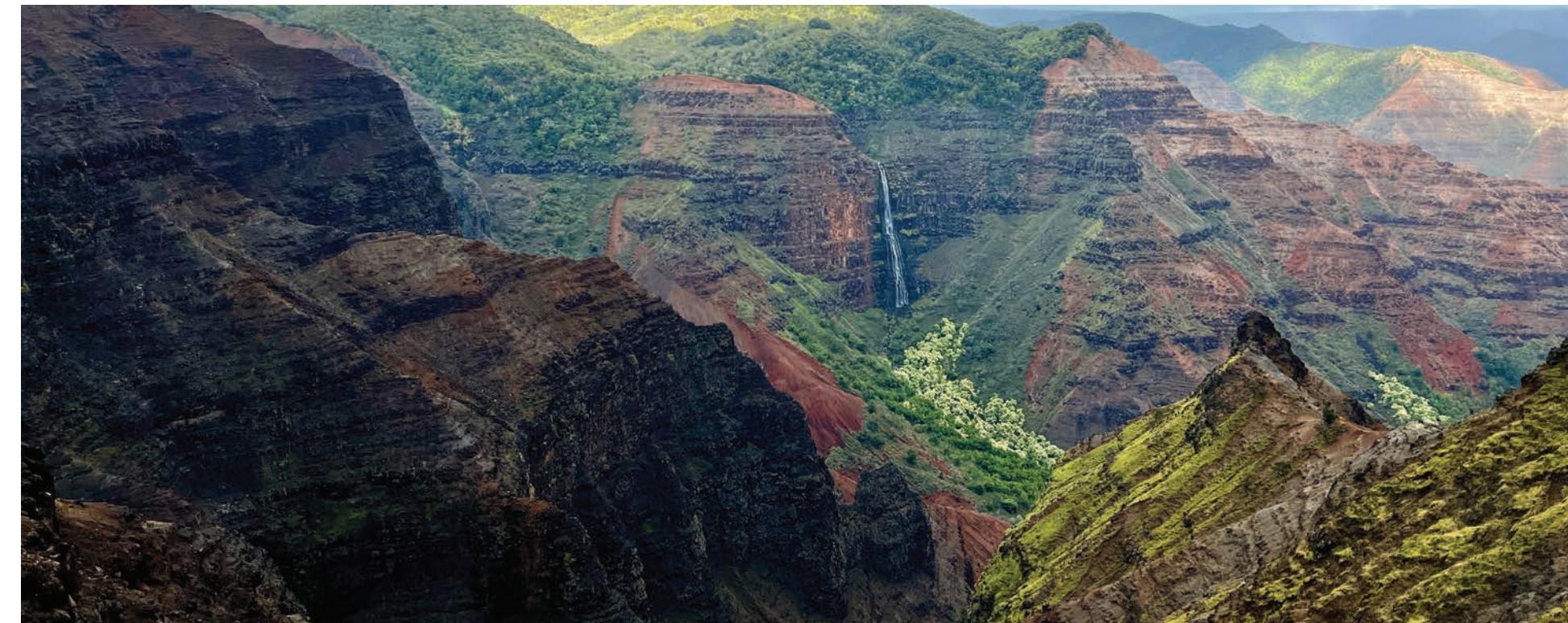


## KAUAI COUNTY

The County of Kaua'i is firmly committed to sustainability and has achieved significant milestones in renewable energy generation. In 2021, Kaua'i Island Utility Company successfully achieved 70% renewable generation, making it the first county in the State to meet the 70% renewable energy goal set for 2030. This accomplishment led to KIUC being honored as the Electric Cooperative of the Year by the Smart Electric Power Alliance.\*

- The County is dedicated to transitioning its bus and vehicle fleet to 100% electric by 2035 and expanding the island's public EV charger network.
- Kaua'i uses energy management information systems across its operations to reduce energy consumption and improve overall energy efficiency.
- The Resiliency Team led by the Planning Department is developing the Kaua'i Climate Adaptation and Action Plan (CAAP). The plan will integrate community and scientific knowledge to provide a comprehensive framework for adapting to and mitigating the impacts of climate change on people, places, and natural built systems.
- The County is progressing on multi-modal transportation transformation, such as the Planning Department's Lihue Civic Center Mobility Hub Plan, the Office of Economic Development's Energy Transitions Initiative Partnership Project, the launching of the GetAroundKauai website to highlight alternative transportation modes and routes, and the Coconut Marketplace Mobility Hub Plan.
- Kaua'i is committed to preserving the Hawaiian culture and natural resources and balancing the demands of tourism. The County is addressing actions identified in the Hawai'i Tourism Authority Destination Management Action Plan by adding more County park ranger positions, continuing to shut down illegal transient vacation rentals, and developing stewardship agreements at five different sites.
- To further alleviate the pressures of tourism on local communities, the County is piloting a paid visitor parking system for Po'ipū, Lydgate, and Black Pot beach parks. The intent is to manage visitor impact and ensure a more sustainable tourism experience for both visitors and residents.

- The County is identifying infrastructure needs, upgrading aging infrastructure, and implementing regulations for new construction to enhance resilience. In 2022, the County was awarded \$24.8 million through the Rebuilding American Infrastructure with Sustainability & Equity, or RAISE, grant program to improve approximately 3.3 miles of Po'ipū Road, from Kōloa Town to the Po'ipū resort district of Kaua'i. The project includes roundabouts, bicycle lanes, sidewalks, pedestrian crossings, bus stops, landscaped medians, resurfaced roadways, and drainage improvements. This project will commence in the coming years and will improve safety for school children and commuters by making roadways improvements and adding pedestrian and bicycle infrastructure. The County plans to create "a shared use path" from Waimea to Kekaha to connect the Island's leeward communities and promote alternative transportation options.
- The County's Housing Agency, in collaboration with private developers, is constructing 400 new affordable housing units in the Pua Loke site in 'Ele'ele marking a record for Kaua'i and addressing the need for housing and affordable options.



# ACTION SPOTLIGHTS

## Hawai‘i Green Growth Meeting in Kaua‘i and Mālama Hulē‘ia

In May 2023, for the first time since COVID, more than 50 HGG Network members convened on Kaua‘i Island to review the Aloha+ Challenge and VLR components. Co-sponsored by Kaua‘i and the Hawai‘i State Energy Office, the event included HGG members and community organizations showcasing their sustainability and green workforce efforts and discussing opportunities.

A site visit with Mālama Hulē‘ia at Alakoko fishpond grounded participants in ‘aina-based practices such as removing invasive red mangroves and guinea grass, to restore a free-flowing, healthy, and productive Hulē‘ia ecosystem. A talk story session helped participants learn about Mālama Hulē‘ia’s efforts to reestablish wildlife habitats, traditional forms of productivity, and ultimately revitalize the history and culture of the Hulē‘ia.

Inspired by the United Nations (UN) World Café method and the Local 2030 Islands Network Island Café at the 2023 Communities of Practice Meetings in Honolulu, participants engaged in small group discussions with a focus on data and what to include in Hawai‘i’s second VLR. Groups explored the use of data in decision-making among their respective organizations and communities and how to better promote the VLR report being published to the United Nations at the High-Level Political Forum in July 2023.

## KAUA‘I ISLAND UTILITY COOPERATIVE (KIUC)

KIUC is a not-for-profit member-owned electric cooperative serving 35,000 customers on Kaua‘i with the cleanest, most reliable, and most affordable electricity in Hawai‘i. Over the past 10 years, KIUC has shown that utilities can aggressively transition from fossil-fuel generation to renewables without compromising reliability and still provide affordable electricity. KIUC reduced its greenhouse gas emissions by nearly 60% and is working to reach 100% renewable generation by 2033. In 2021, nine years shy of the 2030 deadline, KIUC reached a 70% renewable energy portfolio and often generates 100% renewable energy on sunny days. KIUC offers programs to reduce member energy use, encourage greater adoption of EVs, and through its renewable projects is supporting the expansion of agriculture on Kaua‘i.





# MĀLAMA

## LOCAL-GLOBAL

"In the UN call for a Decade of Action - local action will be key for the world to deliver the SDGs by 2030. The Local2030 Islands Network is answering the call to provide leadership, practical solutions and a strong voice for ambition toward locally-driven sustainable development for implementation of the Samoa Pathway."

—H.E. Amina J. Mohammed,  
Deputy Secretary-General,  
United Nations

# LOCAL-GLOBAL

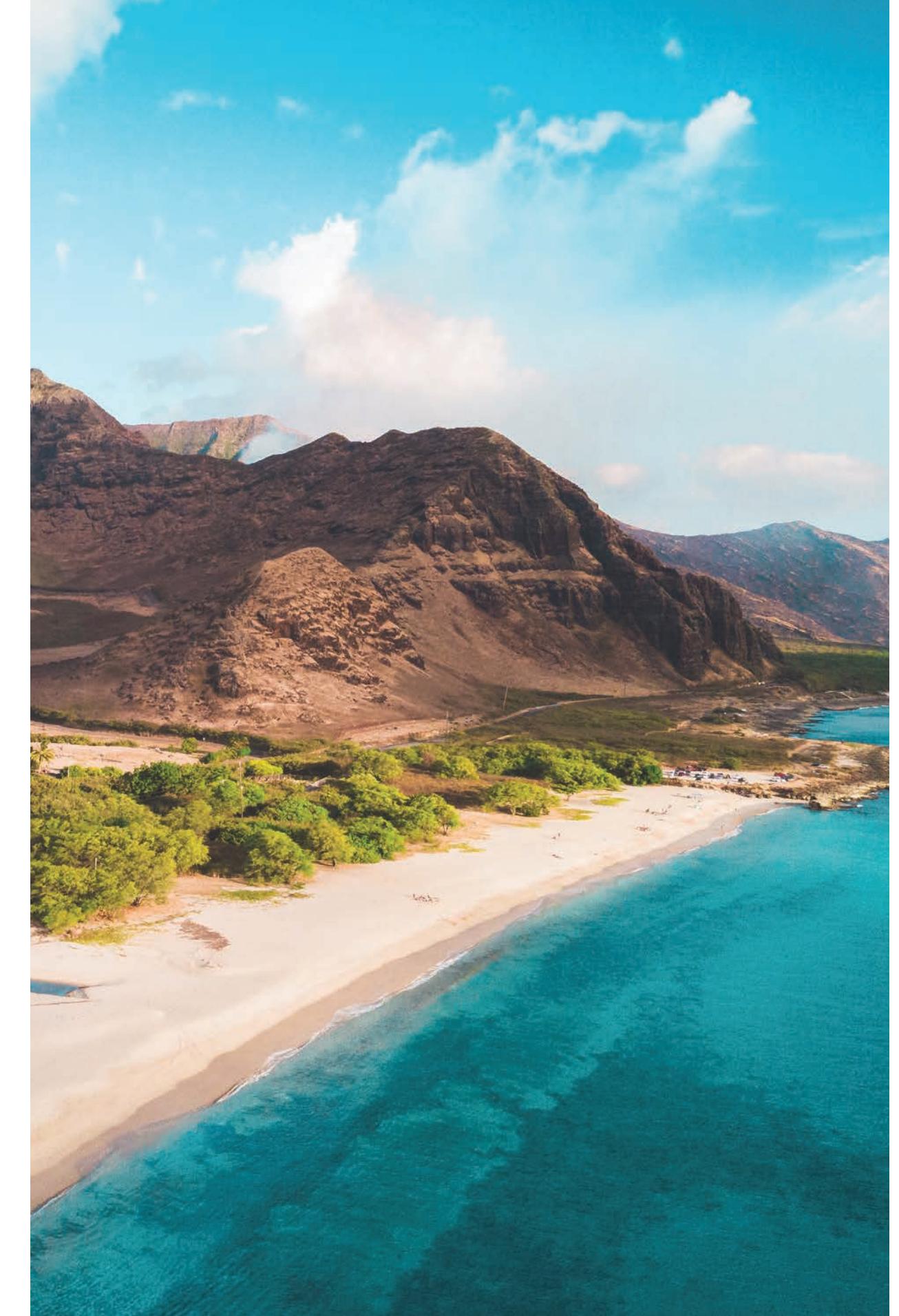
## HAWAII GREEN GROWTH AS A UN LOCAL2030 HUB

In recognition of Hawai'i's sustainability leadership and history of systems thinking, in 2018 the United Nations invited Hawai'i Green Growth to become one of the world's first UN Local2030 Hubs, a distinction granted by the joint UNDP-UN Habitat led Local2030 Coalition based in Bilbao, Spain. This designation was based on Hawai'i Green Growth's track record as a public-private partnership through the Aloha+ Challenge, a local framework to achieve the UN Sustainable Development Goals (SDGs). Later, Hawai'i Green Growth was appointed as a Global Thematic Hub for islands, tasked with developing best practices and raising awareness on issues that are key to the local implementation of the SDGs. The hubs are designed as partnerships between thematic experts, local actors, and UN agencies, and showcase best practices that can be replicated globally.

Hawai'i's sustainability model is being recognized and scaled globally, from the United Nations to Tasmania and Pacific islands, including through a MOU with the East-West Center, the Global Island Partnership, and the Polynesian Voyaging Society. Through the HGG Local2030 hub, Hawai'i shares scalable models with other islands, U.S. cities and states, the Asia-Pacific, and sub-national regions of major economies to advance local SDG action.

**"Hawai'i's Aloha+ Challenge is an island-led solution that offers integrated, locally and culturally appropriate models to implement the UN sustainable development goals."**

—Tommy Remengesau Jr.,  
President of Palau  
(2001-2009)



# LOCAL-GLOBAL

## SCALING HAWAII'S MODEL GLOBALLY: THE LOCAL2030 ISLANDS NETWORK

Following the designation of Hawai'i Green Growth as the Local2030 Global Thematic Hub for Islands, Hawai'i Green Growth, in partnership with the Global Island Partnership (GLISPA), formed the Local2030 Islands Network, the world's first global, island-led network to advance the Sustainable Development Goals (SDGs) through locally driven solutions. Launched during the 74th U.N. General Assembly, the Local2030 Islands Network provides a peer-to-peer forum for engagement among and between national and subnational island economies to share experiences, spread knowledge, raise ambition, promote solidarity, and identify and implement best practices for localization of the SDGs.

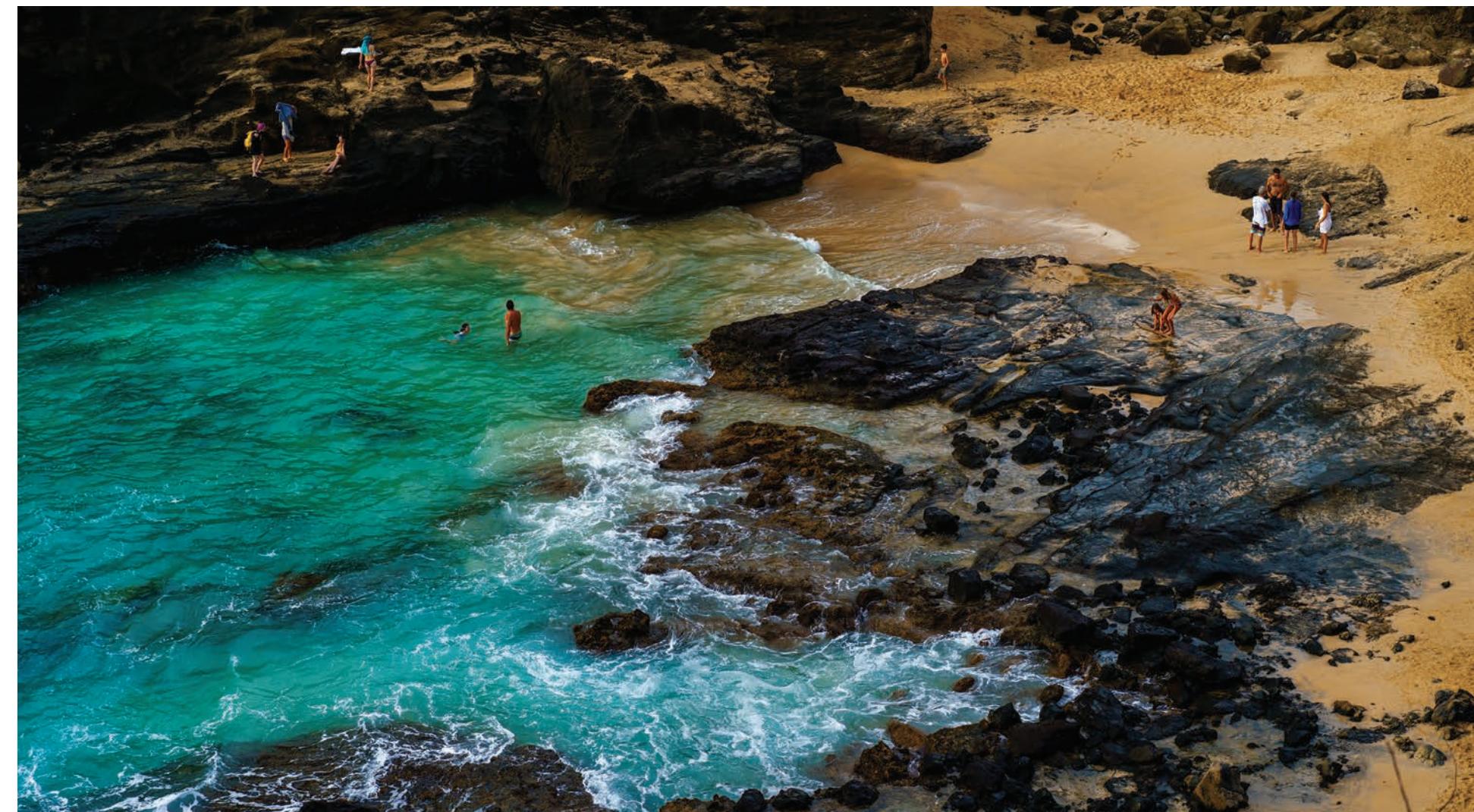
The Local2030 Islands Network supports its global island members in achieving the following four core principles, inspired by Hawai'i Green Growth's Public-Private Partnership model:

1. **Local Goals:** Identifying local goals to advance the SDGs and strengthen long-term political leadership on climate resilience and net-zero emissions pathways.
2. **Public-Private Partnerships:** Strengthening public-private partnerships that support diverse stakeholders in integrating sustainability priorities into policy and planning.
3. **Measurement:** Measuring SDG progress through tracking and reporting on locally and culturally informed indicators.
4. **Concrete Action:** Implementing concrete initiatives that build island resilience and a circular economy through locally appropriate solutions, particularly at the water-energy-food nexus

Hawai'i Green Growth's Aloha+ Dashboard and Working Group model inspired the Network's offerings to its global members. Through a partnership with Esri, the Network supports its member islands in creating their own SDG Dashboards, similar to that of the Aloha+ Dashboard, which supports national VNR and localized VLR processes. In addition to Network members, through an MOU with UNESCAP, the Local2030 Islands Network pledged its support in sharing this model and Dashboard software with Small Island States in Asia and the Pacific.

The Network draws from Hawai'i Green Growth's Working Group model for the creation of its Communities of Practice. In April 2023, the Network brought nearly 40 islands to Honolulu for the inaugural gathering of two of its Communities of Practice (CoP) on Sustainable and Regenerative Tourism and Data for Climate Resilience. All of the Network's CoPs champion island-led, culturally sensitive, and localized solutions for advancing the SDGs.

The Network supports the inception of public-private partnerships and supports the creation of other Green Growth initiatives in its member islands. The model was successfully replicated with the launch of Guam Green Growth and the G3 Dashboard in 2019, with efforts currently underway in Palau, Grenada, and others, speaking to the scalability, replicability, and sustainability of Hawai'i Green Growth and the Aloha+ Dashboard.



# LOCAL-GLOBAL

## BUILDING GLOBAL LEADERS

During the second phase of the Ka'āmauloa II: Global Perspectives and 'Ōiwi Leadership course, students use the indigenous wisdom of the past to protect the future. Using the Hawaiian worldview as a springboard, students are empowered by the diplomatic prowess and leadership of the ali'i Hawai'i, coupled with international civics, to become advocates and the next generation of leaders, able to generate local solutions to global problems.

## SCALING IMPACT THROUGH THE DASHBOARD

The Aloha+ Challenge and Dashboard positioned Hawai'i as a global leader on the SDGs and led to the recognition of Hawai'i Green Growth as one of the world's first United Nations Local2030 Hubs – the only in North America, first in the Pacific, and first island Hub – as a center of excellence that can scale best practices for the SDGs to support action across the US, as well as regionally and globally.

The Aloha+ Dashboard is an unprecedented platform to track Hawai'i's statewide progress towards the SDGs and has received significant international attention as a model for local SDG measurement with an increasing demand to replicate the stakeholder process and platform.

Working alongside HGG partners, Guam Green Growth developed their G3 Dashboard, modeled after the Aloha+ Challenge Dashboard. As Hawai'i works with other island economies through the Local2030 Islands Network, members identified the need for data that is useful, reliable, accessible, and prioritized for their individual needs. Furthermore, members noted that a dashboard mechanism for tracking progress can be key to promoting transparency and accountability on sustainability goals.

HGG partnered with Esri and the SDG Data Alliance to implement a new centralized Data Hub. This Hub will provide assistance with licensing, geospatial frameworks, and data collection for members, including supporting the creation of data dashboards to track SDG progress, local priorities similar to the Aloha+ Dashboard, and to inform Voluntary Local Reviews as well as Voluntary National Reviews.





# LAULIMA



## MAHALO

Hawai'i Green Growth United Nations Local2030 Hub would like to acknowledge the many organizations and individuals that contributed to this report. Mahalo to the community for participation in driving and assessing progress on the Aloha+ Challenge and the SDGs.

The Hawai'i Voluntary Local Review was developed by the Hawai'i Green Growth Local2030 Hub in consultation with a statewide network of partners from across sectors with the support of national and international collaborators. We express our sincere gratitude to the many individuals who gave their time and expertise for this report.

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# KULEANA

## ADDENDUM



### HAWAI'I GREEN GROWTH ANNUAL PARTNERSHIP MEETING IN HONOLULU

In October 2022, HGG UN Local2030 Hub hosted the 11th annual partnership meeting in Honolulu, convened in collaboration with the Global Island Partnership (GLISPA), Local2030 Islands Network, East-West Center, Kamehameha Schools, The Brookings Institution, The Rockefeller Foundation, the Hawai'i Tourism Authority (HTA), and SDSN.

The meeting was an officially recognized UN-Habitat Urban October event and coincided with the 10-year anniversary of the United Nations Conference on Sustainable Development (Rio+20), a landmark event that produced The Future We Want Outcome Document and laid the groundwork for the 17 SDGs.

Nearly 150 students from Kamehameha Schools Kapālama Middle School Ka'āmaloa Pathway participated in the event and led the network in the opening protocol. More than 175 partners across government, business, and civil society, all committed to accelerating and scaling solutions to achieve the Aloha+ Challenge and the SDGs, attended.

At the gathering, Hawai'i's elected leaders, partners, and youth representatives reaffirmed their dedication to the shared vision of the Future We Want for Hawai'i and Island Earth. They collectively outlined a vision for a sustainable and prosperous future, emphasizing the importance of aligning efforts with the principles and targets set forth in the Aloha+ Challenge and the SDGs.

One notable initiative during the meeting was the "17 Rooms" session. A Brookings Institution, HGG, and the Rockefeller Foundation collaboration, the session involved breaking into 17 rooms or working groups, each focused on a specific SDG. The purpose was to identify existing SDG-related activities, strengthen initiatives, and establish new partnerships to expedite action. This exercise informed the HGG Network working group agendas and priority setting for the next two years.

Two high-level panel discussions and a closing plenary panel involved decision-makers, youth, and global leaders sharing knowledge on how local leadership can achieve the global goals.

# ‘IKE



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