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EXECUTIVE SUMMARY

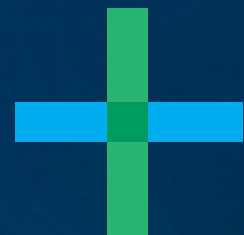
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# ALOHA+ CHALLENGE 2020 BENCHMARK REPORT:

**Hawai'i's Voluntary  
Local Review of Progress  
on the Sustainable  
Development Goals**



# Aloha



**HAWAI'I GREEN GROWTH**  
LOCAL2030 HUB



Photo courtesy of Wayne Richardson IV

## EXECUTIVE SUMMARY

**This year marks the start of the Decade of Action, a critical ten-year window to accelerate solutions to address some of the world's most significant global challenges by 2030.** With the real and present threat of climate change, and against the backdrop of the COVID-19 pandemic and the rise of social justice movements, progress towards the United Nations 2030 Sustainable Development Goals is more critical than ever. As the most isolated population on the planet, Hawai'i faces unique challenges including a dependence on fossil fuel imports and high-cost of living to biodiversity loss, sea-level rise, and increased climate-related severe weather events. COVID-19 further underscores Hawai'i's vulnerability to external disruption, affecting community and economic well-being and exposing systemic inequities. At the same time Hawai'i and other island economies at the frontlines of climate change are taking innovative and bold steps to build community resilience, and are positioned to help the world navigate towards a more sustainable future.

**Hawai'i has a culture of sustainability that guides action today, and is the fiber that binds strong partnerships to keep us moving forward together.**

Government, business and community partners are collaborating to build resilience through the *Aloha+ Challenge: He Nohona 'Ae'ōia, A Culture of Sustainability*. Announced in 2014 by the State of Hawai'i and the U.S. Department of State at the United Nations' Third International Conference on Small Island Developing States (UNSIDS) meeting in Sāmoa, the *Aloha+ Challenge* is a statewide cross-sector commitment that brings together diverse partners to develop community-based 2030 goals and measurable targets across six priority areas: clean energy transformation; local agriculture; natural resource management; solid waste reduction; green workforce and education; and smart sustainable communities. The *Aloha+ Challenge* is led by the Governor, all four



County Mayors, Office of Hawaiian Affairs and State Legislature with business and civil society, and builds on forty years of voyaging and movements including Mālama Hawai'i, Hawai'i 2000 and Hawai'i 2050. Notably, work toward the *Aloha+ Challenge* is embraced by multiple administrations – a testament to the community commitment and political leadership that powers this movement. Grounded in a legacy of systems thinking and indigenous wisdom through Kānaka Maoli (Native Hawaiian) host culture values and practice to *mālama* (care for and steward), the *Aloha+ Challenge* is Hawai'i's local framework to deliver on the 17 United Nations 2030 Sustainable Development Goals (SDGs) that were adopted by the international community in 2015. As part of a strategy to support local SDG implementation, the United Nations launched Local2030, a global multi-stakeholder initiative and invited Hawai'i to become one of the world's first Local2030 Hubs to support local leadership in sharing and scaling solutions. Hawai'i's *Aloha+ Challenge* model is already inspiring action in other communities, from Guam to Tasmania, with the Global Island Partnership and Local2030 Islands Network.

**Hawai'i's first statewide Voluntary Local Review covers six-years of data on the Aloha+ Challenge based on metrics that were co-developed by partners statewide across all four counties and used to track progress through an open-data Dashboard.**

The Aloha+ Dashboard currently tracks thirty-seven targets and over two-hundred indicators as well as county-level resources for residents to gauge their household's impact on the goals. This serves as the Executive Summary for Hawai'i's Voluntary Local Review of the SDGs - the first comprehensive statewide review in the nation that includes all counties - and takes stock of Hawai'i's contribution to the global goals. Moreover, the Voluntary Local Review provides 2020 benchmark data that can inform statewide COVID-19 recovery efforts, policies, and action needed in the coming decade.

**The Voluntary Local Review shares collective progress as well as shared challenges that can not be solved by one group, one sector, or one administration, and will require diverse partnerships and innovation.**

Data indicates that Hawai'i is currently on track to meet statewide goals for renewable electricity generation and energy efficiency, greenhouse gas emissions reduction, solid waste diversion from landfills, and implementation of the first interagency biosecurity strategy. Hawai'i is near-target for the protection of native watershed forests, and has seen upward trends in volunteerism, high school and college graduation rates, and āina based or sustainability-focused education programs. Several goals need significant improvement to be achieved by 2030 including clean transportation, local food production, freshwater security and marine managed areas, and although data is limited, each has bright spots demonstrating strong successes that can be scaled. Sustainable and regenerative tourism presents an important

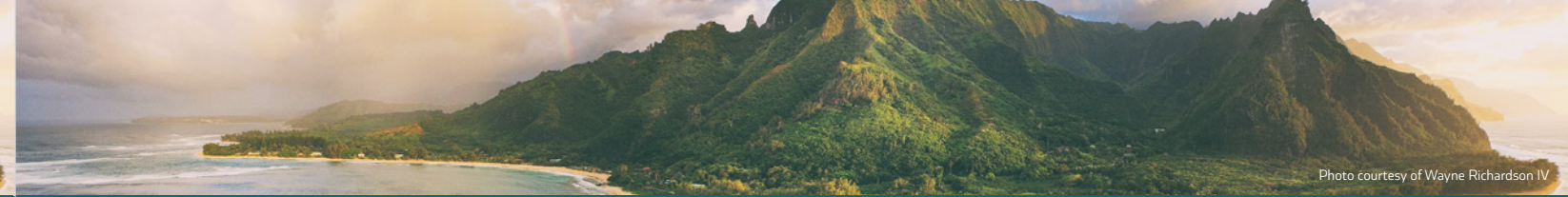


Photo courtesy of Wayne Richardson IV

## EXECUTIVE SUMMARY

opportunity for action, as does investment in diversified green jobs, source reduction and circular economy strategies, which will require setting robust targets and metrics. Cost of living remains a major concern for nearly half of Hawai'i households, with the state experiencing some of the highest housing costs in the nation and ranking second highest for homelessness per capita, and near and long-term impacts from COVID-19 still unknown. Socio-economic indicators reveal disparities from health to housing to incarceration disproportionately affecting Native Hawaiians and Pacific Islanders.

**Moreover, Hawai'i's 2020 Voluntary Local Review reflects the interconnectivity of the goals, such that the attainment of one goal is contingent on success of the other goals.**

Gaps in data availability, quality and frequency make it difficult to comprehensively measure statewide and county-level progress across each of the targets. Development of new holistic metrics such as the Genuine Progress Indicator (GPI) can improve tracking of economic, social and environmental conditions. Ongoing community and stakeholder engagement will be critical to achieving Hawai'i's sustainability goals for renewable energy, local food production, affordable housing, and ecosystem health from *mauka* to *makai* (ridge to reef). Access to adequate funding to achieve the goals highlights the importance of public-private partnerships and new innovative finance opportunities, particularly in light of COVID-19's devastating local economic impact and projections for Hawai'i's economic recovery.



**The strength of Hawai'i's people, communities and partnerships demonstrate the spirit of *laulima* (many hands working together) and contribute to building resilience.**

This is reflected in the numerous bright



spots and successes statewide to achieve the *Aloha+ Challenge* goals from within and across government, the private sector, civil society and at the community level. Approximately 5,000 residents and 100 organizations participated in the annual Volunteer Week Hawai'i last year to clean up beaches and parks, build community gardens, and distribute meals to advance the goals, supporting organizations doing this work year-round. The CEO-led Sustainability Business Forum, representing over 46,000 employees and \$16.7 billion in revenue, is taking steps to increase sustainability within their operations and serve as anchor institutions in the community, committed to environmental, social and governance (ESG) outcomes that will be tracked on the Dashboard. The state has integrated the *Aloha+ Challenge* into strategic plans to guide tourism and education, and is currently updating the Hawai'i 2050 Sustainability Plan for action over the next decade. The state and counties have established positions, offices and programs to implement sustainability and climate priorities, including a new statewide sustainability program and chief energy officer created by the State Legislature; City and County of Honolulu Office of Climate Change, Sustainability and Resilience established by voter-directed Charter Amendment; and new County of Maui Mayor's Office of Climate Action, Sustainability and Resilience. All four counties are taking bold actions to combat climate change and support community well-being, including with the O'ahu Resilience Strategy, Climate Action Plans, and establishing new household platforms to support action by residents towards the *Aloha+ Challenge*. The full report of the Hawai'i Voluntary Local Review will include examples of bright spots across sectors and geographies that are moving the dial.

**As Hawai'i responds to COVID-19, there is also an opportunity to shape a 'new normal' with green growth recovery strategies.**

Hawai'i Green Growth

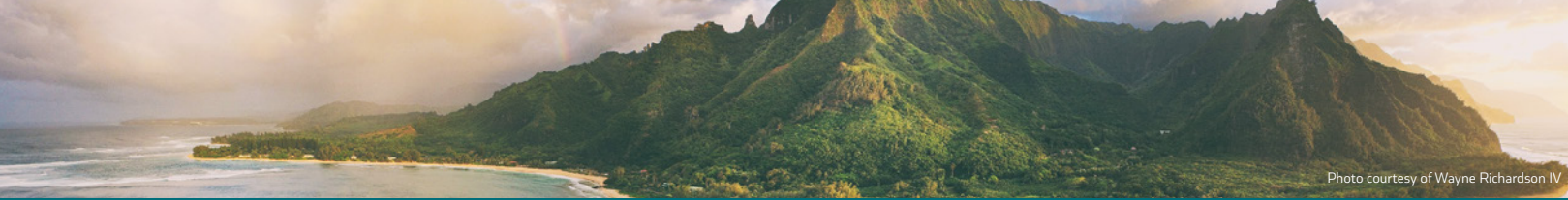


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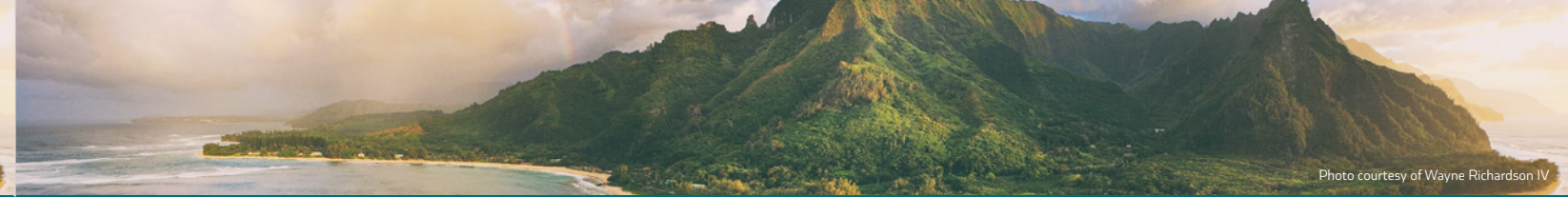


Photo courtesy of Wayne Richardson IV

# EXECUTIVE SUMMARY

Local2030 Hub, the statewide network of public, private and civil society partners that stewards the *Aloha+ Challenge*, was established following the 2008 financial crisis. Hawai'i Green Growth emerged from the Honolulu-hosted 2011 Asia Pacific Economic Cooperation (APEC) summit as a public-private partnership to set green growth priorities that balanced environmental, community and economic health, building on the legacy of Mālama Hawai'i and international island leadership. Over the past decade, the network has promoted green growth through the *Aloha+ Challenge*, which now provides a framework to 'build back better' with concrete benchmarks measured through the open-data Dashboard and reflected in Hawai'i's first Voluntary Local Review. The Hawai'i Green Growth Local2030 Hub will use the 2020 report to inform joint priority-setting and action by the network, as well as a mid-term review of the goals at the halfway point to 2030. However, the success of Hawai'i's goals - and therefore Hawai'i's security and well-being - are also connected to the international community achieving the global goals.

**Islands around the world are among the foremost leaders taking action, adapting to climate change impacts and demonstrating solutions that can be scaled - with an 'island worldview' that can be shared to help shift the global paradigm.** Islands are coming together to inspire each other, learn from each other and join in their collective efforts for global impact. Mirroring Hawai'i's voyaging renaissance, the *Aloha+ Challenge* was inspired by Pacific brothers and sisters with the Micronesia Challenge, as well as the Caribbean Challenge and other Global Island Partnership commitments, now coming full circle to share these solutions with other communities around the world. Hawai'i's beloved Polynesian voyaging canoe, Hōkūle'a, completed a four-year worldwide voyage sharing this message of island values: *Mālama Honua* (Care for the Earth). As Hawai'i works together with the global community to address pressing challenges, our island values can serve as the 'starlight' to chart the course towards a more sustainable and equitable future for Island Earth.



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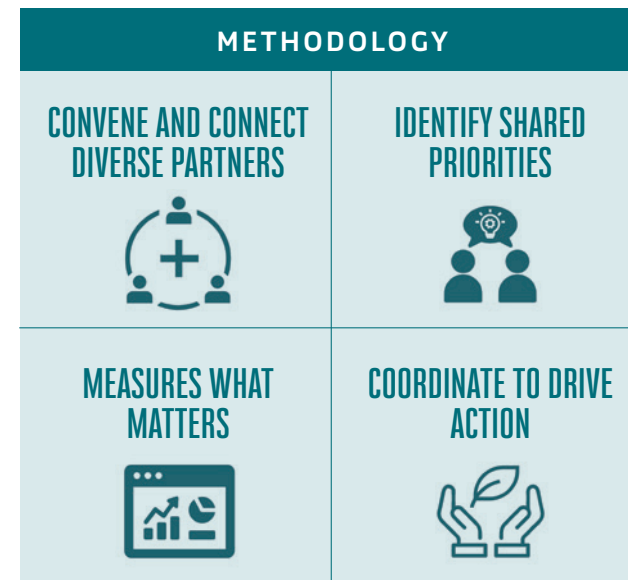
# METHODOLOGY

**This Executive Summary and full report were produced by the Hawai'i Green Growth Local2030 Hub in collaboration with network partners from across government, business and civil society sectors. The purpose of this report is to assess progress to date and provide 2020 benchmark data to inform decision-making, including on economic recovery, through the *Aloha+ Challenge* - Hawai'i's framework to achieve the UN Sustainable Development Goals.**

Hawai'i is the first to present a comprehensive statewide Voluntary Local Review in the United States - which includes all four counties - and joins cities from Los Angeles to New York City, Bristol, Helsinki and others around the world that have reported progress. Voluntary Local Reviews are annual reporting mechanisms to illustrate local action toward achieving the SDGs, and complement the Voluntary National Review process to report national-level progress through inclusive stakeholder engagement, review of goals and targets, and analysis of the data using the common framework of SDGs. The intention to conduct a Hawai'i Voluntary Local Review was announced at the July 2019 US Conference of Mayors hosted in Honolulu, and launched with a statewide stakeholder input session at the Hawai'i Green Growth Local2030 Hub annual partnership event followed by consultations with experts from across sectors. Students and citizens contributed to the Voluntary Local Review by participating in Volunteer Week Hawai'i, the state's largest volunteer campaign, which compiled volunteer hours and impact metrics by communities towards the goals.

**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 on the goals, with community-driven metrics to inform statewide and county-level decision making.

As a public private partnership that includes government, business and civil society, the Hawai'i Green Growth Local2030 Hub is uniquely positioned to convene Hawai'i's first comprehensive statewide Voluntary Local Review as a Local2030 Hub for the SDGs and through a methodology and process established in 2011. The network's methodology includes convening and connecting partners, identifying what matters to Hawai'i's communities,



measuring what matters, and coordinating policies and actions to drive progress.

The content of this report was informed by the Aloha+ Dashboard, an open-data platform that measures progress on Hawai'i's statewide sustainability goals. Metrics on the Dashboard were co-developed through an initial four-year stakeholder engagement process starting in 2014 facilitated by Hawai'i Green Growth that brought together government, business, academia, philanthropy, civil society and community partners in meetings across all four counties. Guided by measuring what matters to Hawai'i's communities, the Aloha+ Dashboard currently tracks six sustainability goals through thirty-seven targets and over two-hundred and eighty indicators based on available data. Hawai'i Green Growth Local2030 continues to convene stakeholders regularly throughout the year through established working groups focused on data, policy and legislation, local-global next generation leadership and a CEO-led Sustainability Business Forum. The Voluntary Local Review is part of the on-going *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 based on the trends.



# 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




LOCAL FOOD




NATURAL RESOURCE MANAGEMENT


# OVERVIEW OF THE GOALS



WASTE REDUCTION




SMART SUSTAINABLE COMMUNITIES




GREEN WORKFORCE & EDUCATION




# CLEAN ENERGY

## CLEAN ENERGY TRANSFORMATION

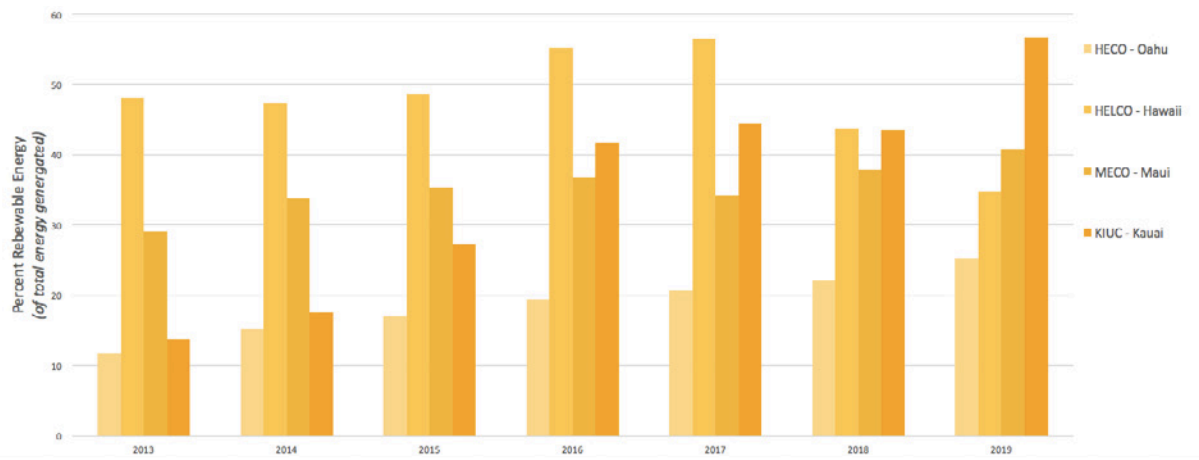
**Goal: 70% Renewable Portfolio Standard (RPS) for the electricity sector by 2030 (40% from renewable generation and 30% from energy efficiency measures), with a goal of 100% RPS for the electricity sector by 2045.**

Hawai'i remains heavily reliant on petroleum for both electricity generation and transportation, importing approximately 45 million barrels of petroleum in 2018.<sup>1</sup> The high cost of imports has resulted in electricity prices that are significantly higher than the national average. It was the first to set a goal of 100% Renewable Portfolio Standard (RPS) for the electricity sector by 2045<sup>2</sup> and to become carbon negative as soon as practicable and no later than 2045.<sup>3</sup> The state further mandated all public university and public school campuses to be net-zero in energy use by 2035.<sup>4,5</sup>

Growth in the renewable energy portfolio, combined with energy efficiency programs, puts the state on track to meet the 2045 goal for the renewable electricity sector and ahead of schedule for the 30% by 2020 and 40% by 2030 benchmarks. Currently, a statewide average of 29.8% RPS<sup>6</sup> for the electricity sector is generated from renewable energy, including solar, wind, biomass, geothermal, hydropower and other sources. Energy efficiency is key to achieving the state's renewable energy goal, and an Energy Efficiency Standard was set to meet 4,300 gigawatt-hours (GWh) of electricity savings by 2030. Hawai'i exceeded the first interim benchmark by 50%, saving an estimated 2,030 GWh of electricity from 2009 to 2015.<sup>7</sup> As part of the roadmap to 2045, Hawaiian Electric and Kaua'i Island Utility Cooperative are playing a key role in increasing resilience, reliability and affordability to support the state's clean energy goal by modernizing the electric grid to enable more renewable energy integration and mitigate future risks from severe weather events and climate impacts.

All four counties set a joint goal in 2018 to achieve 100% renewable ground transportation by 2045. Shifting the transportation sector (ground, marine and aviation) to clean energy remains a challenge. The state consumes approximately 516 million gallons of petroleum per year<sup>8</sup>, which is significantly above the 2030 target identified by the Hawai'i Clean Energy Initiative in 2008 to reduce usage to 165 million gallons per year. The number of electric vehicles (EVs) has more than quadrupled between 2014 and 2018, with more than 12,000 registered EVs in 2020, though this still accounts for only about 1% of total vehicles<sup>9</sup> on the road, and ground transportation accounts for a substantial percentage of the state's petroleum use.

## HAWAI'I RENEWABLE ENERGY GENERATION BY UTILITY/COUNTY



# LOCAL FOOD

## LOCAL FOOD PRODUCTION AND CONSUMPTION

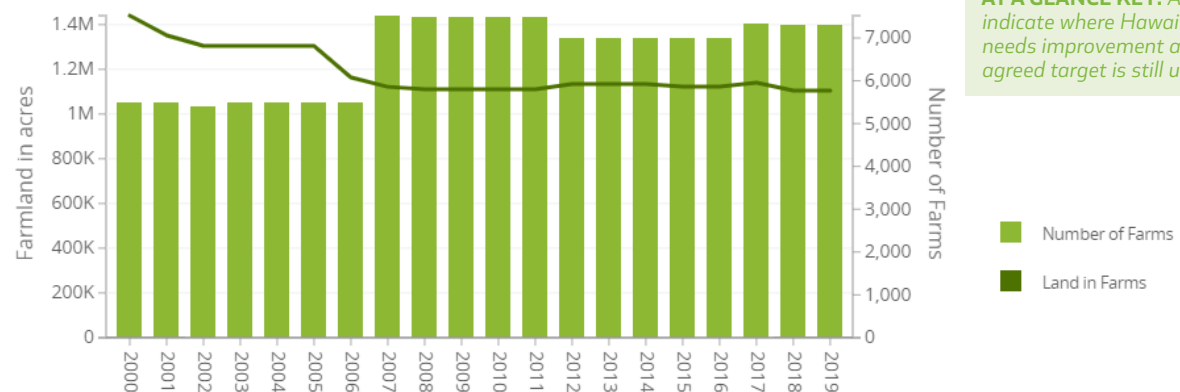
**Goal: At least double local food production, where 20-30% of food consumed is grown locally by 2030.**

Although Hawai'i has a long history of food self-sufficiency prior to Western contact, it is currently reliant on imports for an estimated 90% of its food and faces high rates of food insecurity that affect access to nutritionally adequate foods. The COVID-19 pandemic has further demonstrated the critical importance of strengthening Hawai'i's agricultural sector and food system to increase food security, access and health. Food insecurity was experienced by 11.2% of households in 2018, similar to 11.5% nationally, and 18.4% experienced childhood food insecurity as compared to 15.2% nationally.<sup>10</sup>

Local food production has steadily declined since the 1990s, which may be attributed to Hawai'i's competitive disadvantages such as food imports, high local labor, water and electricity costs, competing uses of agricultural land, housing, and food processing infrastructure and limited access to capital. Based on available data, production of most crops has not increased at a pace to meet the 2030 goal, though current production, import and export data are incomplete and have not been available since 2009. Investment to enable reestablishing agricultural statisticians at the State Department of Agriculture will be necessary to monitor production over the next decade. Limited available data indicate that Hawai'i produced just over 100 million pounds of certain food crops for local consumption and export in 2018, a decrease since the launch of *Aloha+ Challenge*, but with modest increases in some categories like fish catch and milk over that same period.<sup>11</sup>

Despite a plateau in the total acreage of farmland in the last decade, there has been a 4% increase<sup>12</sup> in the number of farms and producers from 2012 to 2017 to over 7,000 farms on 1.14 million acres<sup>13</sup> indicating a recent growth in small farms. Youth training programs and a resurgence of traditional Native Hawaiian farming practices have notably increased capacity for local agriculture, as have community-based networks supporting restoration of lo'i kalo (wetland taro) and loko'ia (traditional fishponds and aquaculture). Fishing is part of Hawai'i's heritage and seafood is a primary food source, with local fisheries providing an estimated 45 million pounds annually.<sup>14</sup> Strong initiatives statewide to increase food systems resilience, promote local production, purchasing, and consumption, as well as contribute to workforce development and a renewed connection to land, culture and community.

## FARMLAND AND NUMBER OF FARMS IN HAWAI'I 2000-2019



## AT A GLANCE

**LOCAL FOOD PRODUCTION - IMPROVEMENT NEEDED:** Production of most crops has not increased at a pace that will double local food production by 2030. Food production, import and export data has 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 indicating a growth in small farms. There are currently over 7,000 farms on 1.14 million acres.

**HEALTH, NUTRITION AND ACCESS - IMPROVEMENT NEEDED:** In 2018, 11.2% of households experienced food insecurity and 18.4% of children experienced food insecurity. While Hawai'i's household food insecurity rate is comparable to the national average, access to healthy and nutritious foods needs improvement through more data is needed.

**AT A GLANCE KEY:** Available data indicate where Hawai'i is on track, needs improvement and the trend if an agreed target is still under development.





# NATURAL RESOURCE MANAGEMENT

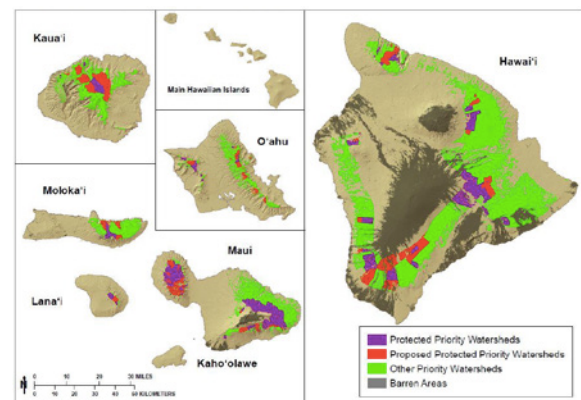
## NATURAL RESOURCE MANAGEMENT

**Goal: Reverse the trend of natural resource loss mauka to makai by 2030 through protecting 30% of native watershed forests; establishing 30% of near-shore waters as marine-managed areas; increasing freshwater security to meet the projected demand of 100 million gallons per day; and increasing invasive species control and native species restoration.**

Hawai'i, often called the endangered species capital of the world due to a historic loss of natural and cultural resources, now faces continued environmental threats from climate change including increased biodiversity loss, coral bleaching and pressure on freshwater supply. Hawaiian native plants are listed as threatened or endangered at more than 18 times the national average and are now nearly half of all the threatened or endangered plants in the country.<sup>15</sup> Hawai'i hosted the 2016 International Union for the Conservation of Nature (IUCN) World Conservation Congress, which showcased Hawai'i's cultural legacy of holistic ridge-to-reef stewardship through the ahupua'a system and catalyzed increased commitments by the state to care for Hawai'i's forests and waters. Building on this legacy of stewardship and natural resource management, Hawai'i has strong 2030 goals to protect 30% of priority watershed forest, to establish 30% of near-shore waters as marine management areas, increase freshwater security capacity, invasive species control and native species restoration.

As of September 2019, Hawai'i was just underway halfway to the watershed protection 2030 target with 17.4% (or 146,000 acres) of watershed forest under high-level protection.<sup>16</sup> However, only 6% of Hawai'i's near-shore waters are established as marine-management areas, highlighting the need for significant improvement to reach the 2030 target.<sup>17</sup> Freshwater security also needs improvement to meet Hawai'i's projected water demand identified by the Fresh Water Initiative of 100 million gallons per day (mgd) of additional freshwater capacity in 2030. As of January 2019, freshwater capacity increased by 11 mgd since the 2016 baseline through 4 mgd of water saved from conservation efforts, 5 mgd from reuse and 2 mgd recharged back into aquifers.<sup>18</sup> Hawai'i set a target of 100% reclaimed water use in all state and county facilities by 2045<sup>19</sup> as a part of its efforts to adapt to climate change. In addition, 88,000 cesspools must be replaced by 2050<sup>20</sup> to address the estimated 53 million gallons of untreated sewage discharged into the ground each day, which pose a risk to drinking water, public health and the environment. Invasive species, such as the Little Fire Ant, Rapid 'Ōhi'a Death and mosquito-borne diseases, similarly pose a risk to Hawai'i's freshwater supply, natural environment, human health, local agriculture and can cause billions of dollars in economic losses each year. Hawai'i's 2017-2027 Biosecurity Plan is the first interagency and comprehensive biosecurity plan to address invasive species, and as of 2019, 50% of the 150 recommended actions have been initiated, are on-going or completed.<sup>21</sup>

## PRIORITY WATERSHED AREAS PROTECTED



Features approximate and subject to change. DOFAW 987-4170.

## AT A GLANCE

- WATERSHED PROTECTION - NEAR TARGET:**  
Of the target to protect 30% of watershed forest (or 253,000 acres) by 2030, Hawai'i is just over halfway to the target with 17.4% (or 146,000 acres) of watershed forest under high-level protection.
- MARINE MANAGEMENT - NEEDS IMPROVEMENT:**  
Only 6% of Hawai'i's near-shore waters are established as marine management areas statewide against a target of 30% managed areas by 2030.
- FRESH WATER SECURITY - NEEDS IMPROVEMENT:**  
Since 2016, Hawai'i has made progress towards the statewide freshwater target with an increase of approximately 11 million gallons per day (mgd) in freshwater capacity relative to a baseline of 0 mgd and goal to reach 100mgd by 2030.
- INVASIVE SPECIES CONTROL - ON TRACK:**  
50% of the Hawai'i Interagency Biosecurity Plan's recommended actions have been initiated, are ongoing or completed to prevent and control invasive species.
- NATIVE SPECIES - NEEDS IMPROVEMENT:**  
Hawai'i's native plants are listed as threatened or endangered at more than 18 times the national average, and are now nearly half (45%) of all the threatened or endangered plants in the country.

**AT A GLANCE KEY:** Available data indicate where Hawai'i is on track, needs improvement and the trend if an agreed target is still under development.



# WASTE MANAGEMENT

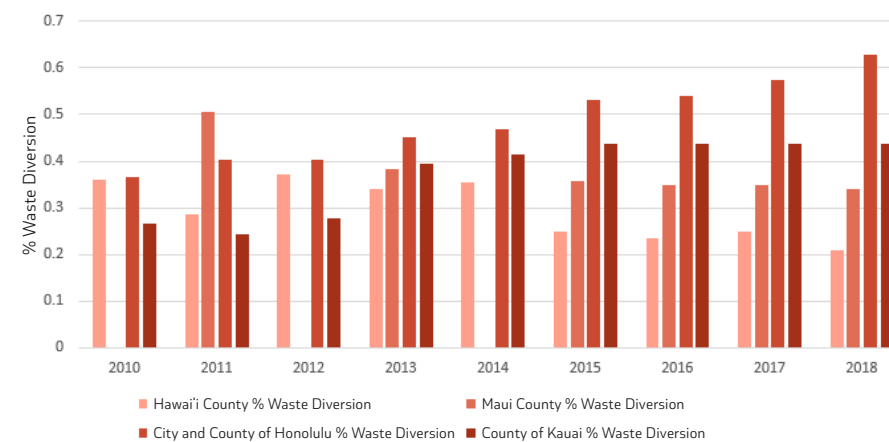
## SOLID WASTE REDUCTION

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

Sustainable waste management, with a focus on waste reduction, is an important component to supporting an island's community and environmental health. Hawai'i, like islands around the world, has a history of sustainable resource management, which can advance new circular economy models designed to minimize waste through regenerative systems. Hawai'i set a goal to reduce the solid waste stream prior to disposal by 70% by 2030 through a combination of source reduction, recycling, bioconversion and landfill diversion methods determined by each county. While the rate of solid waste diverted annually from landfills statewide increased from 4.3% in 2014 to 50.12% in 2018, total annual waste generation remained relatively the same with 2.453 million tons produced in 2018.<sup>22</sup> In addition, the City and County of Honolulu converts over 700,000 tons of waste to energy annually on O'ahu through the H-POWER facility,<sup>23</sup> which generated an average of 5% of electricity on O'ahu between 2007 - 2019<sup>24</sup> and can generate up to 10%.<sup>25</sup> Statewide recycling includes a combination of residential and commercial programs, and Hawai'i has various county-level and commercial reuse programs, including for construction and demolition materials which alone make up a significant amount of the waste stream. Comprehensive source reduction strategies and food waste composting systems remain key gaps given that organics and plastics can comprise up to 45% of O'ahu's waste stream,<sup>26</sup> and small-scale composting, reuse and reduction pilots have demonstrated scalable successes statewide.

While geographically isolated, Hawai'i's connection to the global waste management system became more pronounced in 2018 when the international recycling market shifted due to new contamination limits for imported materials. At the same time, the state is consistently burdened by the arrival of marine debris across beaches from the Main Hawaiian Islands to Papahānaumokuākea. All four counties passed legislation to eliminate types of single-use plastics and polystyrene, and recent bans by the City and County of Honolulu and County of Maui will significantly phase out single-use plastics by 2022. The state's multi-stakeholder Plastic Source Reduction Working Group is tasked with identifying source reduction recommendations.

## SOLID WASTE DIVERSION BY COUNTY (2010-2018)



## AT A GLANCE

- WASTE DIVERSION - ON TRACK:**  
50.12% of solid waste was diverted from landfills, not including waste-to-energy, as of 2018 towards the 70% goal by 2030.
- SOLID WASTE GENERATION - NEEDS IMPROVEMENT:**  
Solid waste generation increased slightly overall since the 2030 goal was set, with 2.453 million tons of solid waste produced in 2018.
- RE-USE - UPWARD TREND:**  
While consistent, comprehensive data of reused materials at statewide or county-level are limited, approximately 580 tons of construction and demolition materials are diverted annually from reuse on O'ahu.
- SOURCE REDUCTION - NEEDS IMPROVEMENT:**  
Limited data are available due to difficulties quantifying waste prevention or imports, and metrics need to be identified to measure this priority strategy for waste reduction.

**AT A GLANCE KEY:** Available data indicate where Hawai'i is on track, needs improvement and the trend if an agreed target is still under development.



# SMART SUSTAINABLE COMMUNITIES

## SMART SUSTAINABLE COMMUNITIES:

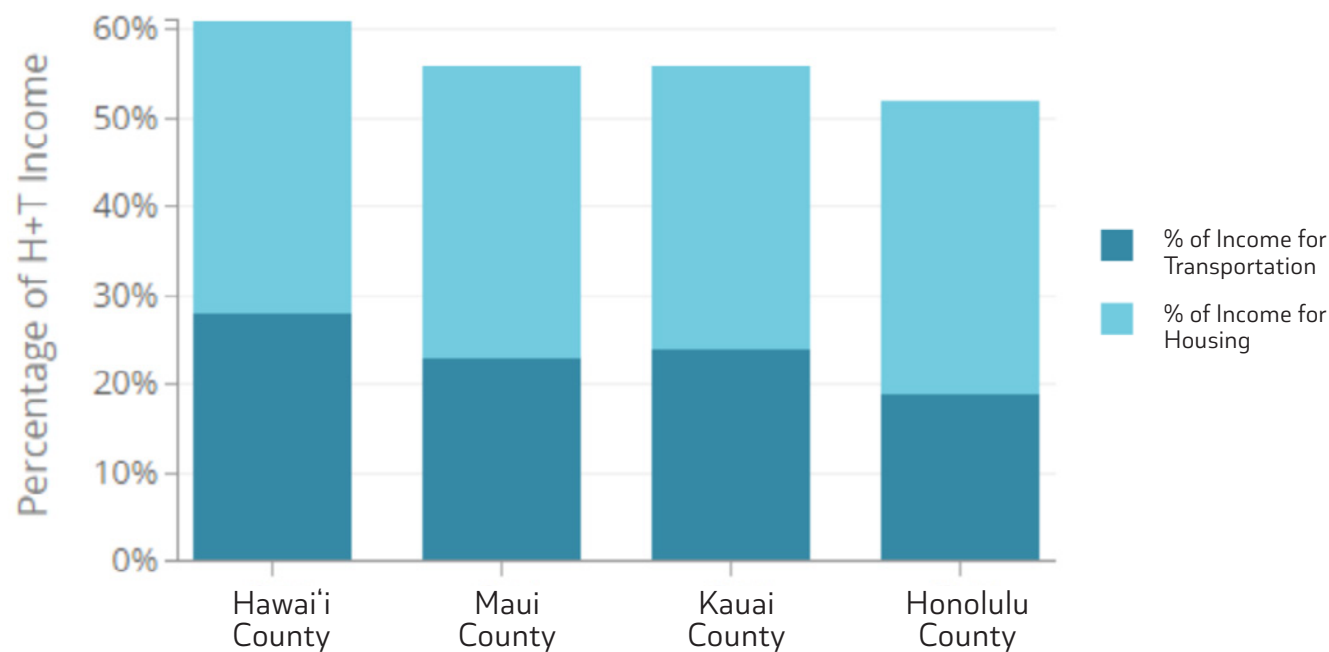
**Goal: Increase livability and resilience in the built environment through planning and implementation at the state and county levels. Tracks progress on economic, social, and environmental factors necessary to build strong communities through eight main targets: affordable housing; economic prosperity; resilience and disaster management; mobility and accessibility; open, public, green spaces; land use impacts; connection to place; and greenhouse gas mitigation.**

The quality of life and well-being of Hawai'i's communities are impacted by many factors, including the built and natural environment, safety and security, equitable access to housing, healthcare and education, social support networks and sense of belonging. Shocks and stressors such as the COVID-19 pandemic, ongoing economic challenges like the high cost of living, and severe weather and natural disasters exacerbated by climate change can significantly affect quality of life, especially for already vulnerable populations.

While Hawai'i residents are considered among the healthiest in the U.S. with lower rates of obesity, smoking and significantly fewer deaths from cancer, inequalities related to the aforementioned social determinants of health persist. There are disparities of up to 10 years in life expectancy<sup>27</sup> between adjacent zip codes across the four counties, and Native Hawaiian and Pacific Islanders are experiencing diabetes rates above the national average. While nearly all Hawai'i adult residents have health insurance as compared to other states, 15% of Native Hawaiians and 25% of Pacific Islanders are uninsured comprising the bulk of the less than 5% of uninsured adults.<sup>28</sup> The COVID-19 pandemic has disproportionately affected Pacific Islanders overall with 30% of confirmed cases, and a consortium of organizations and state agencies formed the Native Hawaiian and Pacific Islander Hawai'i COVID-19 Response, Recovery and Resiliency Team.

Hawai'i has some of the highest housing costs in the nation and ranks second highest in the U.S. for per capita homelessness with nearly 45 in every 10,000 people experiencing homelessness.<sup>29</sup> 42% of households struggle to afford basic needs,<sup>30</sup> and on average, 33% of income goes to housing costs and over 50% of earned income is spent on housing and transportation costs combined.<sup>31</sup> The Hawai'i Housing Finance and Development Corporation (HHFDC) facilitated the development of 9,333 workforce and affordable units statewide

**% OF INCOME OF HOUSING + TRANSPORTATION BY COUNTY (REGIONAL TYPICAL HOUSEHOLD) YEAR AS 2017**



# SMART SUSTAINABLE COMMUNITIES

from 2006 to 2018, as part of a plan to reach 6,971 more new units by 2023.<sup>32</sup> The Hawai'i Public Housing Authority served over 13,800 people in low income public housing programs<sup>33</sup>, many of which are now in redevelopment to support vibrant, mixed-income communities.

These socioeconomic factors impact Hawai'i's vulnerability to current and future risks from climate change, which under a scenario of 3.2 feet of sea level rise by the mid-to latter-part of the century, is estimated to result in \$19 billion in economic losses though does not include the full loss potential across the state.<sup>34</sup> Reduction of greenhouse gas emissions is crucial to mitigating climate risks, and improvement in multi-modal transportation is essential given the correlation of the transportation sector and emissions. Hawai'i saw a 7% increase in total vehicle miles traveled (VMT) by all vehicles from 2011 to 2018, primarily due to more vehicles on the road with an estimated 67% of Hawai'i commuters driving alone to work and only 6% taking public transportation in 2013.<sup>35</sup>

Hawai'i's has a strong connection to place, grounded in Native Hawaiian culture. An Office of Hawaiian Affairs study indicates that 15% of ahupua'a landowners evaluated have a community-based management plan in place for natural, cultural or economic resources, a slight increase from 12% since 2011.<sup>36</sup> Available data indicate there were over 18,600 Hawaiian language speakers in Hawai'i as of 2013, with a 10% increase since 2008.<sup>37</sup> Civic engagement and volunteerism enhance connection to place, and in 2018, 28% of residents (or roughly 307,000 people) volunteered in their communities, delivering an estimated economic value of \$702.6 million.<sup>38</sup>



Photo courtesy of Scott Kanda

## AT A GLANCE

- AFFORDABLE HOUSING - IMPROVEMENT NEEDED:** Residents in all counties on average spend more than 50% of earned income on housing and transportation costs combined. The state developed 9,333 affordable housing units statewide since 2006, with a target to develop 6,971 more new units by 2023, though impacts from COVID-19 on the affordable housing inventory and future housing developments will need to be assessed.
- ECONOMIC PROSPERITY - IMPROVEMENT NEEDED:** Prior to COVID-19's impact on the local economy, the percentage of households living below the ALICE Threshold (Asset Limited, Income Constrained, Employed) increased from 31% in 2007 to 43% in 2010, and as of 2018, 42% of Hawai'i households still struggle to meet basic expenses.
- DISASTER MANAGEMENT AND RESILIENCE - UPWARD TREND:** Hawai'i's Social Vulnerability Index has improved slightly over time from a ranking of .52 in the year 2000 to .468 in 2018 on a scale of 0-1 ranging from the least to the most vulnerable. The index denotes vulnerabilities based on U.S. census variables and social factors, though more comprehensive data are needed to assess resilience and a local index is being developed.
- MOBILITY - IMPROVEMENT NEEDED:** Total miles traveled by all vehicles in Hawai'i has increased by 7% since 2011 due to an increase in the number of vehicles, and data indicates 68% of Hawai'i commuters drive alone to work, with only 6% taking public transportation.
- CONNECTION TO PLACE - UPWARD TREND:** Ahupua'a landowners with community-based management plans increased slightly from 12% to 15% since 2011, and volunteerism grew from 22% of residents in 2015<sup>23</sup> to 28% in 2018.<sup>24</sup>

**AT A GLANCE KEY:** Available data indicate where Hawai'i is on track, needs improvement and the trend if an agreed target is still under development.



# GREEN WORKFORCE & EDUCATION

## GREEN WORKFORCE & EDUCATION

**Goal: Increase local green jobs and education to implement the Aloha+ Challenge and UN Sustainable Development Goals.**

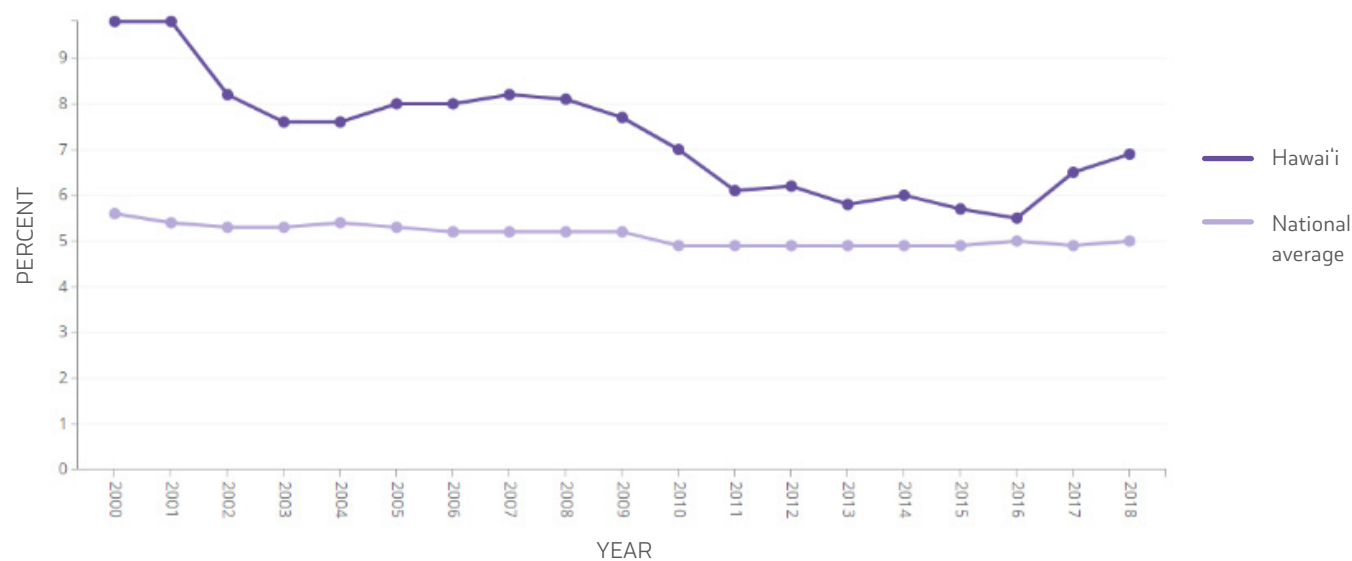
**Tracks progress on seven main targets: 'āina-based education and community engagement; educational attainment and transformational learning; equitable access to education; workforce and professional development; innovation and entrepreneurship; sustainable tourism; and economic diversity.**

Quality education, employment opportunities, economic diversity and innovation are key to achieving Hawai'i's sustainability goals and supporting inclusive, prosperous communities. The Aloha+ Challenge seeks to build a green workforce pipeline that can keep talent in Hawai'i and support sustainable economic growth. A 'green job' is broadly defined as a professional, entrepreneurial, non-traditional, subsistence and cultural-based work that contributes towards the 2030 goals and integrates sustainability principles across sectors. Although Hawai'i has had a relatively low unemployment rate over the past five years, many residents hold multiple jobs to make ends meet; the rate decreasing from a peak of 9.8% in 2001, down to 6.9% in 2018,<sup>39</sup> but remains higher than the US average of 5.0%.<sup>40</sup> However, the COVID-19 pandemic has had staggering impacts on Hawai'i's tourism-based economy and unemployment rates. While Hawai'i's unemployment rate in March 2020 was one of the nation's lowest at 2.4%, it quickly rose to a high of 23.4% in May 2020<sup>41</sup>, becoming one of the nation's highest.

Tourism is the largest private sector industry and economic contributor to Hawai'i's economy, comprising approximately 23% of the state's economy and 216,000 jobs.<sup>42</sup> Visitor arrivals and

expenditures reached an all time high with 10.4 million visitors and \$17.75 billion respectively in 2019,<sup>43</sup> but due to COVID-19, visitor arrivals dropped 99.5% from roughly 35,000 arrivals per day to less than 500. Recognizing the importance of sustainable and regenerative tourism models, the Hawai'i Tourism Authority 2020-2025 Strategic Plan adopted the Aloha+ Challenge and global SDGs, placing a new emphasis on industry sustainability, destination management, and Hawai'i's natural and cultural resources. While certifications for sustainable eco-tourism businesses have increased, stronger metrics and more data are needed to measure sustainable tourism. Data shows that Education and Knowledge Creation was one of the fastest growing traded economic clusters in Hawai'i from 1998 to 2014 with high total job creation<sup>44</sup>, indicating growth potential for Hawai'i's innovation economy and diversification opportunities in research and development, technology, engineering, renewable energy, agriculture, creative industries and other growing sectors. STEM (Science, Technology, Engineering and Mathematics) jobs were projected to grow 3.7% to 31,965 jobs between 2016 and 2026, with over 2,000 jobs opening annually<sup>45</sup>, and Hawai'i has a vibrant ecosystem of incubators, accelerators, and impact investors to support innovation. Digital access is a critical enabler of work, education and community participation. Data indicates that 81% of Hawai'i's population statewide<sup>46</sup> had internet access in 2018, although with significant differences by income-level and geography highlighting the importance of investing in Broadband infrastructure. Hawai'i's Gross Domestic Product (GDP) was approximately U.S. \$97.3 billion in 2019,<sup>47</sup> and while GDP is a one measure of economic growth, it does not account for important social and environmental impacts. Hawai'i academic institutions have conducted early research on supplemental indicators, such as the Genuine Progress Indicator

### PERCENT OF WORKFORCE HOLDING MULTIPLE JOBS 2000-2018



# GREEN WORKFORCE & EDUCATION

(GPI), that factors in holistic measurement of social, economic, and environmental conditions. Given the impact of COVID-19 on the local economy and continued uncertainty with the global pandemic, near and long-term economic and workforce projections are still being assessed.

Hawai'i has a diversity of public, private, charter and higher-education institutions to help learners acquire the knowledge and skills needed to thrive, as well as a strong network of educational programs that support 'āina-based or sustainability-focused learning. While there is no comprehensive number tracking 'āina-based initiatives across Hawai'i and more data is needed, the Department of Education (DOE) Nā Hopena A'o (HĀ) program supports design teams comprised of school staff, community-based organizations and students by hosting 17 Design Teams in the 2017-18 academic school year and 88% of the 256 eligible schools statewide had onsite gardens.<sup>48</sup> The University of Hawai'i adopted an Executive Policy on Sustainability in 2015 which established the UH Office of Sustainability followed by the UH Center for Sustainability Across Curriculum and UH Mānoa Institute for Sustainability and Resilience to support sustainability course markers, degrees, and programs. Of Hawai'i residents 25 and older, 92% have at least a high school diploma and 33.5% have at least a bachelor's degree.<sup>49</sup> Data indicates that 46% of Hawai'i's workforce is college-educated,<sup>50</sup> which is on track towards the Hawai'i P-20 Partnerships for Education's goal of 55% by 2025.

## AT A GLANCE

**UNEMPLOYMENT - IMPROVEMENT NEEDED:** Unemployment rose sharply as a result of the COVID-19 pandemic, rising from a low 2.4% in March 2020 to a high of 23.4% in May 2020 with on-going fluctuations.

**WORKFORCE DEVELOPMENT - IMPROVEMENT NEEDED:** 42% of Hawai'i households struggle to afford basic necessities despite holding a job, and 6.9% of those employed in Hawai'i in 2018 held multiple jobs, compared to 5.0% across the United States.

**EDUCATIONAL ATTAINMENT - UPWARD TREND:** 84% of Hawai'i students graduated high school on time as of 2018. Of Hawai'i residents 25 and older, 92.3% have at least a high school diploma and 32.9% have at least a bachelor's degree.

**EQUITABLE ACCESS - UPWARD TREND:** In 2018, 89% of youth (16-24 years old) were attending school or employed, slightly up from 87% in 2014 and 85% in 2010.

**'ĀINA BASED EDUCATION - UPWARD TREND:** While there is no compiled number for the many 'āina based initiatives across Hawai'i, the DOE's HĀ Nā Hopena A'o program had 17 design teams in the 2017-2018 academic school year, and 88% of eligible schools statewide had onsite gardens.

**SUSTAINABLE TOURISM - IMPROVEMENT NEEDED:** 47 businesses were certified as sustainable eco-tourism businesses as of January 2020, which is an upward trend; better metrics and more data are needed to measure sustainable tourism.

**AT A GLANCE KEY:** Available data indicate where Hawai'i is on track, needs improvement and the trend if an agreed target is still under development.



Photo courtesy of John De Mello





## SDG SPOTLIGHT

This year, the Hawai'i Voluntary Local spotlights important priorities of climate action, equity and partnerships, with **SDG 13: Climate Action**; **SDG 5 (Gender Equality)**; **SDG 10 (Reduced Inequalities)**; **SDG 16 (Peace, Justice and Strong Institutions)**; and **SDG 17 (Partnerships for Implementation)**.

13

CLIMATE ACTION



### SDG 13: CLIMATE ACTION

Take urgent action to combat climate change and its impacts, reducing greenhouse gas emissions in line with state and global targets.

Hawai'i was the first state in the nation to enact legislation<sup>51</sup> aligning with the Paris Climate Agreement, and a year later, committed to net-negative greenhouse gas emissions as quickly as practicable and no later than by 2045.<sup>52</sup> The State of Hawai'i Climate Change Mitigation and Adaptation Commission advises coordinated state climate action, in collaboration with the City and County of Honolulu Climate Change Commission, Office of Climate Change, Sustainability and Resilience and work by all four counties to develop Climate Action Plans and other initiatives. As a part of Hawai'i's efforts to plan for, coordinate, and enhance the state's sustainability, mitigation, and adaptation to climate change, the state is revising the Hawai'i 2050 Sustainability Plan,<sup>53</sup> which will serve as the state's sustainability strategic action plan.



The Aloha+ Dashboard tracks Hawai'i's commitment to the Paris Agreement with greenhouse gas mitigation data and disaster management metrics to reduce community vulnerability. Hawai'i is currently on track to meet the 2020 target established in 2007<sup>54</sup> to achieve cost-effective GHG emissions reductions excluding aviation at or below 1990 levels. Net GHG emissions were 9.23 million metric tons according to an inventory of 2016 GHG emissions<sup>55</sup> as compared to 10.84 million metric tons in 1990, approximately 15% lower than the 2020 statewide goal (1990 levels).



## SDG SPOTLIGHT

### EQUITY, SOCIAL JUSTICE AND PEACE

Strong institutions that promote equity, transparency, justice, and peace are critical to building resilient, sustainable communities. Hawai'i has some of the lowest rates of violence in the nation, with relatively peaceful communities, government transparency, and open stakeholder dialogue on addressing historical socioeconomic, racial and other inequalities that persist today.



5

GENDER EQUALITY



### SDG 5 - GENDER EQUALITY:

While Hawai'i is ahead of the global average for representation by women in political and legislative leadership positions at 24.3%<sup>56</sup>, women are still underrepresented politically in Hawai'i with only 28.0% of state representatives and 33.3% of state senators being women as of 2019<sup>57</sup>. In addition, although women have higher college enrollment rates than men in Hawai'i, they earn 19-37% less on average than their male colleagues<sup>58</sup> and make an average of 82 cents for every dollar a man earns.<sup>59</sup>

10

REDUCED INEQUALITIES



### SDG 10 - REDUCED INEQUALITIES:

Historically, Hawai'i has been a leading state on working towards lesbian, gay, bisexual, transgender, and queer plus (LGBTQ+) equality, becoming the first state to offer limited marriage benefits in 1997, followed by legalized civil unions in 2011, and same-sex marriage in 2013 through the Hawai'i Marriage Equality Act.<sup>60</sup> Hawai'i is now considered one of the most racially and ethnically diverse states in the US, and celebrates rich cultural diversity with no single ethnic majority.<sup>61</sup> However, large socioeconomic disparities exist today, with 9% of people below the federal poverty line and 33% ALICE households.<sup>62</sup> Today an ethnic minority, Native Hawaiians and Pacific Islanders have experienced historic marginalization and face higher risks for health issues such as chronic diseases and mental health disorders as well as disproportionate incarceration rates than other ethnicities.

16

PEACE, JUSTICE AND STRONG INSTITUTIONS



### SDG 16 - PEACE, JUSTICE AND STRONG INSTITUTIONS:

Hawai'i has strong institutions for participatory decision-making and government transparency, and low rates of violence compared to the national average. Hawai'i is relatively safe with the lowest firearm mortality rate in the nation and the eighth-lowest homicide death rate, and violent crime decreased by 8% overall between 2008 and 2017.<sup>63</sup> However, human and sex trafficking as well as racial inequities in the incarceration system remain a challenge. A recent found that 83% of sex trafficking victims in Hawai'i were female, 64% were Native Hawaiian, and 1 in 5 victims was a child.<sup>64</sup> Similarly, 37% of the state's incarcerated population are Native Hawaiian or part Native Hawaiian while people of color are also overrepresented based on population.<sup>65</sup> Hawai'i has a diverse community of government, business, and civil society stakeholders working towards peace and justice in social, environmental and economic sectors, and is guided by the Aloha Spirit Law codified into the Hawai'i Revised Statutes in 1986.



## SDG SPOTLIGHT

17 PARTNERSHIPS FOR THE GOALS



### SDG 17: PARTNERSHIPS FOR THE GOALS

Building partnerships for sustainable development is key to strengthening implementation, capacity and accountability to achieve the 2030 goals. Hawai'i's spirit of *laulima* (many hands working together) is reflected by the strong partnerships in place to achieve sustainability and resilience.

**In 2018, Hawai'i was recognized by the United Nations as a Local2030 Hub for local SDG implementation** because of the strong track record by the Hawai'i Green Growth network since 2011 and statewide collaboration through the *Aloha+ Challenge*, which builds on a legacy of indigenous knowledge and wisdom. As a Local2030 Hub, Hawai'i Green Growth is a forum for public, private and civil society partners committed to implementing local and global goals, and to measuring progress through an open-data Dashboard. As a network, Hawai'i Green Growth Local2030 Hub convenes stakeholders throughout the year through a Working Group structure covering next generation leadership, policy and legislation, data, and business solutions to drive action.

Increasing sustainability coordination capacity within government at the state, county and at the University of Hawai'i has remained a strategic priority of the Hawai'i Green Growth network since the 2014 launch of the *Aloha+ Challenge*. Hawai'i is now a recognized leader nationally and globally in sustainability and climate coordination. Governor Ige announced the multi-agency Sustainable Hawai'i Initiative as part of the statewide effort on the *Aloha+ Challenge*, and signed into law a statewide sustainability program passed by the State Legislature to establish the Hawai'i 2050 Sustainability Plan. The University of Hawai'i established an Office of Sustainability, and an Institute for Sustainability and Resilience that is fostering multidisciplinary curricular programs to empower students to address local-global challenges. The four counties have since established positions, programs and offices to coordinate across diverse sustainability and economic recovery priorities and work closely to build resilience. Directed by voters, the City and County of Honolulu established the Office of Climate Change, Sustainability and Resilience that led the creation of the O'ahu Resilience Strategy with island-wide community input. This year, the County of Maui created the Mayor's Office of Climate Action,



Sustainability and Resilience, and all four counties are developing Climate Action Plans alongside economic recovery initiatives with community-level platforms to support residential action on the Aloha+ SDGs. Diverse alliances and community-based networks across Hawai'i provide important coordination within key sectors of sustainability from conservation and energy to education, health, local agriculture and innovation.

The 2016 Hawai'i-hosted IUCN World Conservation Congress was a defining moment and involved many stakeholders in bringing the largest international environmental event ever held in the United States with over 10,000 delegates to Hawai'i. Building on this momentum, Hawai'i is working with the United Nations through the Local2030 initiative as a Local2030 Hub to support SDG implementation. With the Global Island Partnership, Hawai'i Green Growth Local2030 Hub is leading the Local2030 Islands Network which brings together a diverse set of island nations, states and provinces, communities and cultures from all regions of the world to achieve the SDGs, building on island culture and values and indigenous knowledge. The Local2030 Islands Network can serve as a central resource for island-led solutions, and a platform for the development of communities of practice, linking islands in new ways to address climate change and sustainability. Through dynamic partnerships, Hawai'i is working locally and globally to bring an island worldview of sustainable resources management, resilience and prosperity to the rest of the world.

## ACKNOWLEDGEMENTS

**This Executive Summary of the Hawai'i Voluntary Local Review is a preview of the full report that will be released this fall, and reflects a decade of collaboration as a network. This is a kākou effort, done together by all of us.**

We would like to thank the hundreds of people in the Hawai'i Green Growth network and our community across the public and private sector that have contributed to developing the *Aloha+ Challenge* goals, metrics and indicators, identifying data gaps, highlighting bright spots and scalable solutions.

In particular, we would like to thank the co-chairs and partners of the Hawai'i Green Growth Local2030 Hub's three working groups: Dashboard & Measures, Policy & Legislation and Local Global Next Generation Pathways; the Sustainability Business Forum; Ala Wai Watershed Collaboration; Hawai'i Green Growth Advisory Board; state, county, business and civil society network partners; the Environmental Funders Group for supporting the Aloha+ Dashboard; special mahalo to Piia Aarma and Dr. Regina Ostergaard-Klem for their advisory roles; SDG Leadership colleagues from UN Foundation, Brookings Institute, Global Island Partnership, Los Angeles, New York and municipalities around the world; and the visionary founders, leaders and kūpuna that came before us.

Photo courtesy of Wayne Richardson IV

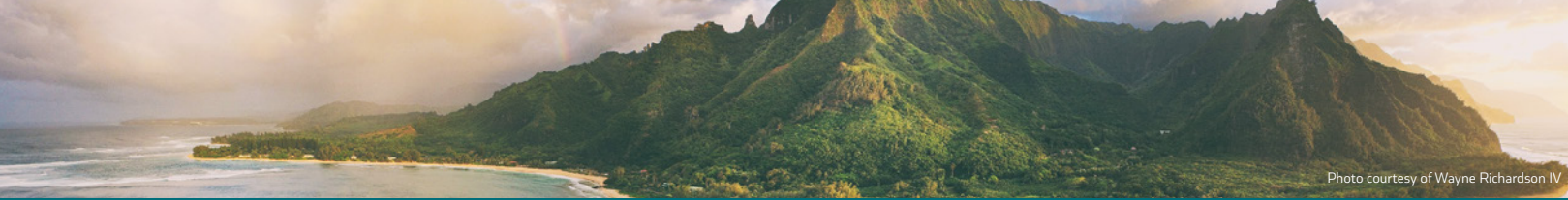


Photo courtesy of Wayne Richardson IV

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# HE NOHONA 'AE'OIA,

**A Culture of Sustainability**