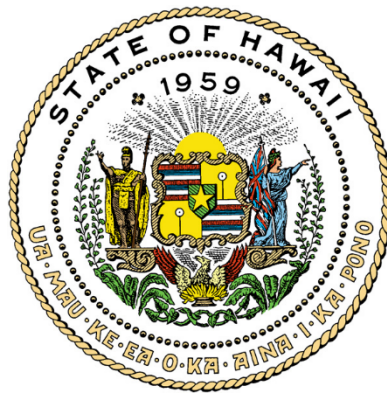


REPORT TO THE THIRTIETH LEGISLATURE
STATE OF HAWAII
REGULAR SESSION OF 2020

HAWAII CLIMATE CHANGE MITIGATION AND ADAPTATION COMMISSION



Prepared by
Department of Land and Natural Resources
State of Hawaii
In response to Section 225P-3(k), Hawaii Revised Statutes

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Hawaii Climate Change Annual Report 2019

The Hawaii Climate Change Mitigation and Adaptation Commission lays the foundation for implementing crucial climate response actions

Now completing its second year in existence, Hawaii's Climate Change Mitigation and Adaptation Commission laid the groundwork for some crucial tip-of-the-spear actions in 2019 to deal with climate change challenges in the state. As a member of the 25-governor US Climate Alliance, Hawaii continues to lead on climate goals. According to the Alliance's draft *2019 Annual Report*, "Alliance states have reduced their collective emissions faster than the rest of the country, and grown their economics faster as well."

While national and international leadership is needed for climate ambition, it is the strategic actions on the ground that are critical for implementation – and these were very much the focus of the Commission's activities and direction in 2019. The Commission and its staff provided policy recommendations, coordinated tasks within the executive branch at state and county levels, amplified research and implementation capacity, and tracked progress toward climate action. The Commission provided direction through three Permitted Interaction Groups established at its April 2019 meeting, to report findings and recommend action on the following topics:

- Climate Legislation priorities for the 2020 legislative session;
- Public fleets transition to clean fuels; and
- Climate equity.

In addition, the following initiatives and activities emerged under the auspices of the Commission:

- For adaptation: Climate Ready Hawaii Initiative;
- For mitigation: Parking studies, and fleet management tools; and
- For climate change communication: planning for the second annual conference to be held in 2020, as well as communication *huis* (groups) on distinct topics related to climate change.

This document describes the activities of the Commission and its staff in 2019.



I. Commission Highlights for 2019

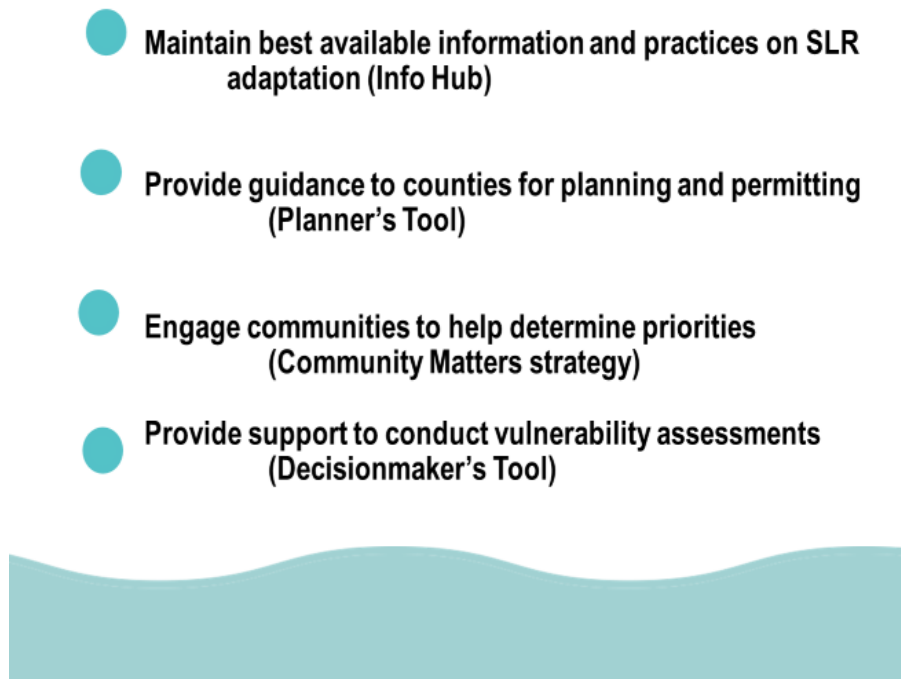
In 2019, funding was sought and obtained to maintain the Coordinator position and crucial programs that make up the core of the Commission's work. Program development and implementation for 2019 are described below.

1. **Climate Ready Hawaii: An initiative for helping state and county governments adapt to sea level rise and its impacts.** Climate Ready Hawaii aims to support State and County government agencies and communities in maintaining best available information and practices for sea level rise adaptation actions. The Initiative was developed as a response to the Climate Commission’s September 4, 2018 statement to “...bring resources to assist in planning and implementation for sea level rise and other climate related impacts.”¹

At the State’s first annual climate conference held on January 14, 2019, an expert panel reiterated the State’s role, and expanded on the Commission’s statement as the next big step for Hawaii to implement adaptation to sea level rise impacts.² The panel recommended that the State “consider adopting a community resilience building planning process to help Hawaii’s communities, counties and institutions of any scale to identify their top priorities based on climate change hazards cross-referenced to strengths and vulnerabilities relative to infrastructure, social and environmental characteristics.”

To help implement the initiative, a Fellow was hired through UH Sea Grant’s Gordon Grau Fellowship program for 24 months. The four components of the Initiative are outlined in Figure 1 below. Details can be viewed here: <http://climate.hawaii.gov/wp-content/uploads/2019/04/Hawaii-3.2-climate-adaptation-program-OCCL.pdf>.

Figure 1: Climate Ready Hawaii: An initiative to support government agencies and departments



¹ The full statement is contained in this press release: <http://climate.hawaii.gov/wp-content/uploads/2018/09/NR-State-Climate-Commission-Adopts-Recommendations-Mission-Statement-Sept.-5-2018.pdf>

² The full paper from the panel is available here: <http://climate.hawaii.gov/wp-content/uploads/2019/02/Panel-2-Paddling-Together-FINAL-feb-13.pdf>

2. **Cleaning up Public Fleets.** Based on the Commission’s 2018 statement on mitigation, a permitted interaction group was formed to look into the issues surrounding how to “[t]ransform State and County fleets to address VMT reduction, congestion, and emissions—especially through electrification, renewable fuels, carshare, and supporting infrastructure development and deployment.”³ The group tackled a vast array of topics, but settled upon one singular recommendation, which was passed with amendment, as follows:

“In order to identify and undertake a complete set of activities in the near-, medium-, and long-term, that will help State and counties transition their fleets to clean, renewable fuels, the Permitted Interaction Group recommends that the Commission call for a lead entity that will coordinate/guide any necessary implementation, including a technical resource clearinghouse for fleet managers, and bring regular updates to the full Commission meetings.”

Findings and details can be viewed here: <http://climate.hawaii.gov/wp-content/uploads/2019/06/Item-6-Report-of-PIG-on-Public-Fleets.pdf>

Staff, in coordination with other departments and agencies, is in the process of developing various tools that will aid in furthering the transition of fleets. These tools include: an inventory of state-owned parking to be used for determining siting of electric chargers, carshare, and other purposes; a fleet planning tool for departments to use to transition their fleets, and case studies and compilation of expertise and resources for procurement and financing of EVs.

3. **Furthering the Mission Statement: Equity is central component in Commission’s work.** The Commission’s mission statement reads:

Hawaii’s Climate commission recognizes the urgency of climate threats and the need to act quickly. It promotes ambitious, climate-neutral culturally responsive strategies for climate change adaptation and mitigation in a manner that is Clean, Equitable, & Resilient.

To further the equity aspect included in its mission statement, and taking its cue from the keynote at the 2019 Conference, the Commission established a Permitted Interaction Group (PIG) for climate equity work. Its scope was defined as:

To investigate the issue of how to recognize and address the inequitable distribution of benefits, burdens, and processes caused by climate change impacts and policy, and questions such as:

- What are the marginalized and vulnerable groups in Hawaii?
- How will/can our policies and practices impact these groups?
- What are examples of effective climate change policy and models of shared decision making centered on equity?

To address the above questions, the PIG investigated the following topics. Findings and recommendation are listed below:

³ The full statement is contained in this press release: <http://climate.hawaii.gov/wp-content/uploads/2018/11/NR-Climate-Commission-Recommends-Urgent-Action-to-Combat-Emissions-Nov.-28-2018.pdf>

1. What are the marginalized and vulnerable communities in Hawaii?

Findings: While some frameworks exist for identifying vulnerable communities, such as the CDC’s Social Vulnerability Index (SVI), ALICE, and Hawaii’s multi hazard plan, nothing specific exists for climate vulnerability for Hawaii that can be used at a more granular level to identify climate vulnerability “hotspots.” Any such analysis should be done with the help of community leaders, rather than reaching out directly to community members who have just experienced traumatic events. Appropriate community leaders would need to be identified.

Recommendation: DOH should continue to collaborate with CDC, and state and county partners, to formulate the SVI at a more local level for Hawaii, taking into account some of the indicators described in the State’s multi hazard plan, and any other relevant indicators.

2. An equity playbook for climate policies

Findings: A playbook for equity would contain discussion of a definition, framework, and examples of climate equity. Although various playbooks have been developed on a national level, and the such a document does not exist at present for Hawaii as a whole. Any such document would need to consider the vulnerable groups described in a framework, as well as incorporate cultural responsiveness, reflect indigenous voices and customary law practices. It would also contain a framework that helps departments and agencies incorporate climate equity into their reports and plans going forward, and provide guidance for mitigation, adaptation and resilience, as reflected in the Commission’s statements.⁴

For ground transportation policies, such guidance should incorporate equity issues surrounding the adoption of electrification of transportation, as well as a statement on “zero-emission miles.” Hawaii is working with the US Climate Alliance on an Alliance-wide statement that could also be used as a basis for equity in Hawaii. How will Hawaii’s vulnerable communities be assured a fair and equitable transition to clean transportation?

For adaptation policies relating to sea level rise, such guidance should address equity issues surrounding access to information in the identification and prioritization of addressing the impacts of sea level rise on critical public infrastructure—such as roads, bridges, schools, hospitals, shelters and other structures. How will Hawaii’s vulnerable communities provide input into policymaking that addresses the impacts of sea level rise?

⁴ The Commission’s mission statement: Hawaii’s Climate Commission recognizes the urgency of climate threats and the need to act quickly. It promotes ambitious, climate-neutral, culturally responsive strategies for climate change adaptation and mitigation in a manner that is clean, equitable and resilient.

The Commission’s statements on mitigation and adaptation can be found on climate.hawaii.gov

For resilience to the impacts of climate change, such guidance should address equity issues related to post-disaster recovery. This needs to recognize and incorporate the communities' vulnerabilities, and access to recovery planning, funds and implementation. How will Hawaii's vulnerable communities participate in post-disaster recovery?

Recommendation:

That the Commission adopt an overall statement that strongly urges all government entities in Hawaii to incorporate equity considerations into their planning, policy development and implementation for climate change mitigation, adaptation and resilience.

For an overview of climate equity issues globally and context for Hawaii's work in this area, see here: <http://climate.hawaii.gov/wp-content/uploads/2019/04/A-Just-Transition-Climate-Justice-in-Hawaii.pdf>.

4. **The first ever statewide climate change conference.** Recommendations from the conference set the tone for the Commission's work in 2019. It brought together state, county, and mainland partners, and elicited specific recommendations for next steps in climate change response. Conference papers, videos and other materials pertaining to the three panel topics described below can be found at: <http://climate.hawaii.gov/conference/2019-hi-conference/papers-presentations/>. Each panel's recommendations are excerpted from the conference papers on the same website.
 - i. **Panel 1: Coming Clean: Addressing Hawaii's Emissions from Transportation.** Panelists at the 2019 conference agreed that because the issue of climate change, transportation and equity spanned so many topics, this is an opportunity to work together in a coordinated fashion. It is a chance to bring various puzzle pieces together, such as using the RPS-driven electric grid (with increasingly clean electricity) to lower emissions from ground transportation. Specific actions discussed by the panelists include:
 - a. State policies to incentivize clean transportation, especially EVs, which will become increasingly cleaner in Hawaii;
 - b. Send the right pricing signals—for parking, driving, and clean transportation overall. This will enable the shift to clean fuels, clean cars and multi-modal transport;
 - c. Make transit a priority; and
 - d. Make a transition by design, not by default. We need to coordinate the approach to this issue, at the state and county levels.
 - ii. **Panel 2: Paddling Together to Accelerate Action for Adaptation to Sea Level Rise.** Panelists at the 2019 conference agreed that while the tools are available in the SLR Report, in order to go forward, a more strategic approach is needed. To do this, here are a few action steps recommended by the panel:
 - a. A legal framework needs to be outlined around sea level rise issues, such as takings, disclosure within the exposure area, and options for coastal property homeowners;
 - b. SLR projections need to be formally integrated into state planning—adoption by local governments is crucial;
 - c. In the strategic planning process, identify who is responsible for what and when; and

- d. Make the clear decisions as to where and whether Hawaii wants beaches or development along the coast.
- e. Consider adopting Community Resilience Building planning process (the heart of MA Municipal Vulnerability Preparedness Program) to help Hawai'i communities, counties and institutions of any scale identify their top priorities based on climate change hazards cross-referenced to strengths and vulnerabilities relative to infrastructure, social and environmental characteristics.
- f. Prioritize nature-based solutions to enhance safety, avoid community costs and conserve natural resources.
- g. Require any state investments, permits and policies consider future climate change impacts.

iii. Panel 3: All Hands On Deck: Innovating to Implement Adaptation to Sea Level Rise.

Panelists at the 2019 conference agreed that to achieve Hawaii's goals, all financing mechanisms and partners are needed. To do this, here are a few action steps recommended by the panel participants:

- a. Hawaii needs to price carbon (whether cap-and-trade or carbon tax) because this is crucial to Hawaii achieving its goals—there are some success stories such as the ones in British Columbia, RGGI in the eastern states and California;
- b. Develop programs with equity in mind. This is a chance to open the door to make life more fair in Hawaii;
- c. Develop programs that allow for individuals to participate at different levels, so everyone can “own” the transformation that is needed;
- d. Use all hands on deck—involve the business community and the media in working through the issues. Government and research communities alone cannot make the transformation;
- e. Design state programs for municipal assistance that require communities to take pro-active steps (beyond business as usual – such as adopting by-laws and ordinances, developing local plans and stakeholder processes) to be eligible for funding and technical assistance; and
- f. Provide a preference for nature-based solutions (conserving and restoring natural functions of forests, wetlands and coastal ecosystems and also planting urban trees) to enhance safety and avoid costs and provide co-benefits such as clean air and water, working lands (farming) and recreation.

iv. Equity keynote. The main theme that threaded through the 2019 conference was climate equity. The keynote speaker, Dr. Beverly Scott's main message was to incorporate equity from the beginning into climate change work, work that is really an “all out, all in war on climate change.”⁵ This reflects Act 32's mandate for the Commission to “identify vulnerable people, communities, industries, ecosystems, and the potential economic ramification for climate change related impacts.” As Hawaii moves forward on its clean energy and climate change goals, it

⁵ For a full video recording of Dr Scott's presentation, see: <https://vimeo.com/album/5688436/video/311811597>

needs to keep in mind the Commission's mission statement, to pursue "...ambitious strategies that are clean, equitable and resilient."⁶

5. **HI Climate: An online presence to inform the world about Hawaii's actions on climate change.** Climate change communication is a bottleneck for climate change action, according to several experts on the subject. The Commission's social media accounts (on Facebook and Instagram), and supporting partner networks, aim to address this bottleneck in communicating crucial messages about climate change in Hawaii.
6. **Supporting climate change action at the national level.** Hawaii continues to demonstrate leadership and inspire action at the national level through its commitment to the US Climate Alliance, and helps to uphold the US's commitments under the Paris Agreement in a rapidly growing coalition of now 25 governors (representing 55 percent of U.S. population and 60 percent of US GDP). The Alliance's (draft) 2019 *Annual Report* includes Hawaii's actions:
 - In 2019, New Mexico, Nevada, Washington, Maine, New York, Washington D.C., and Puerto Rico joined Hawai'i and California in enacting 100% clean energy legislation. Together these states represent 16% of the nation's electricity load, more than doubling the share from a year ago.⁷
 - Colorado, Hawaii, Washington, and Nevada adopted appliance efficiency standards that will save consumers more than \$3 billion by 2035;⁸ benefits that have lawmakers in New York, Massachusetts, Minnesota, and Washington, D.C. discussing efficiency standards as well.



II. Where next?

To deal with ever-increasing threat and vulnerability, and to go above and beyond the commitments made in the Paris Agreement by the US, the Commission intends to continue to ramp up its work on sea level rise adaptation implementation, and ground transportation emissions reduction.

- **Develop a hub for information on climate change.** The statewide conference on climate change, Ha O ke Kai (or Breath of the Sea) is now an annual event. In 2020, the expanded two-day conference will showcase Hawaii's response to climate change—through policy implementation, citizen engagement, and research. Through discussion of key issues related to climate change mitigation and adaptation in Hawaii, and recommendations from experts in the field, the conference

⁶ This portion is excerpted from the paper: *Coming Clean: Addressing our Emissions Reductions from Transportation*, written for the State Climate Commission's inaugural annual climate conference, Ha o ke Kai, held on January 14, 2019.

⁷ <https://www.sierraclub.org/ready-for-100/commitments>

⁸ <https://www.nrdc.org/experts/lauren-urbanek/more-states-ever-are-pursuing-state-standards>

will highlight partnerships in the state, between government, citizenry and the research community. Conference proceedings will contain background papers, recommendations for next steps, and presentations, which serve as an archive of information on the state’s response to climate change.

As part of the Climate Ready Hawaii Initiative, a hub containing latest climate change information is being developed. Such a hub aims to provide ongoing outreach to keep agencies and communities informed of the latest observations and projections for climate change and sea level rise by presenting information in a manner that is translatable and relevant to Hawaii, its communities, and decision-makers. Key components include: briefs, white papers and other relevant documents to capture the latest and best-available information on climate change and sea level rise observations and projections as they relate to Hawaii; and developing a searchable database containing relevant resources.

- **Increase capacity and provide assistance in strategizing for adaptation to sea level rise.** The Climate Ready Hawaii Initiative will provide assistance on how to conduct and finance vulnerability assessments for public infrastructure, and guidance on operationalizing the maps created for the State’s report on sea level rise impacts. The exact form of this output is under development.
- **Support the transition to clean transportation.** The Commission’s staff will continue to develop valuable tools that help fleet transition—such as aggregate procurement, alternative vehicles assessments for State and Counties, and research and policy briefs to support a lead entity that will be working on this issue. Each of these activities will be developed into an appropriate project, study or program that will inform Hawaii’s response to climate change mitigation.



III. The Commission and its mandates.

The table below summarizes Act 32’s mandates, and progress towards each mandate.

Act 32 Mandates
1. Provide policy direction, facilitation, coordination, and planning among state and county agencies, federal agencies, and other partners as appropriate.
2. Establish climate change mitigation and adaptation strategies and goals to help guide planning and implementation statewide using the latest scientific analysis and risk assessment to monitor and forecast climate change related impacts at the regional, state and local level, including any additional information deemed necessary.
3. Identify vulnerable people, communities, industries, ecosystems and potential economic ramifications for climate change related impacts.

4. Identify existing climate mitigation and adaptation efforts at the federal state and local levels and make recommendations for how to meet or exceed Hawaii's state mitigation goals and shall adopt a liberal approach in preparation, so as to minimize future risk to the people and environment of Hawaii.
5. The Commission shall identify the information necessary to track progress in implementing climate change mitigation and adaptation efforts and shall submit an annual report to the governor and legislature no later than 20 days prior to the convening of each regular session of the legislature.
6. The Commission shall maintain a website that includes a mission statement as well as access to climate change related actions, plans, policies and results
7. The Commission shall assess the capacity and availability of existing resources & identify new sources of revenue necessary to address climate change and advise the governor, legislature, & counties on the economic and budgetary ramifications of climate change impacts, mitigation and adaptation.
8. The Commission shall conduct a comprehensive review of the implementation as required by this section and submit a report to the governor, legislature and the counties no later than 20 days prior to the convening of the regular session of 2023 and every five years thereafter.
9. The Commission shall, as a first step, focus on and develop sea level rise vulnerability and adaptation reports, which shall be made publicly available no later than December 31, 2017, and the commission shall reevaluate and update the sea level rise vulnerability and adaptation report every five years.

Summary discussion of progress towards achieving Act 32's mandates.

1. **Provide policy direction, facilitation, coordination, and planning among state and county agencies, federal agencies, and other partners.** Through its three Permitted Interaction Groups (PIGs) mentioned above, and informal groups that support the work of the Commission, Commissioners and staff worked with state and county agencies to coordinate research on aggregated procurement for electric vehicles and supporting infrastructure. Commission staff is involved in the formation of a multi-partner group consisting of federal, local and state representatives that is helping plan for transportation and other infrastructure adaptations to address the impacts of sea level rise. Commission staff is one of the co-chairs for the US Climate Alliance's Transportation Working Group, and synthesizes and adapts information from this group for Hawaii's context. Staff has also leveraged in-kind resources from local partners to develop studies and tools for climate response.
2. **Establish climate change mitigation and adaptation strategies and goals to help guide planning and implementation statewide using the latest scientific analysis and risk assessment to monitor and forecast climate change related impacts at the regional, state**

and local level, including any additional information deemed necessary. Using the State's high-level goals as a starting point, the Commission issued two statements in 2018; it refined those statements to work on priorities, as embodied in the three PIGs established in 2019 (described above). Commission staff worked closely with subject matter experts in other states, University of Hawaii, the City and County Climate Change Commission, and other institutions to take advantage of the latest scientific analysis and brought it to the attention of the State's Climate Commission through presentations and reports. The latest information is often presented at the Commission's public meetings, and archives from these meetings provide an easily accessible compendium of relevant information.

3. **Identify vulnerable people, communities, industries, ecosystems and potential economic ramifications for climate change related impacts.** See findings of the PIG on climate equity (Section 1, item 3, above).
4. **Identify existing climate mitigation and adaptation efforts at the federal state and local levels and make recommendations for how to meet or exceed Hawaii's state mitigation goals and shall adopt a liberal approach in preparation, so as to minimize future risk to the people and environment of Hawaii.** The Commission has identified priorities in its statements on mitigation, adaptation and post-disaster recovery. These priorities were identified from research done by staff, with input from various state and county departments, subject matter experts in various institutions at the federal, state and local levels, and through work with the US Climate Alliance network's secretariat and member states. To address how to minimize future risk, Commission staff formulated a Climate Ready Hawaii Initiative for adaptation strategies as well as for mitigation goals.
5. **The Commission shall identify the information necessary to track progress in implementing climate change mitigation and adaptation efforts and shall submit an annual report to the governor and legislation no later than 20 days prior to the convening of each regular session.** This document serves to track progress in implementing mitigation and adaptation efforts. In addition, staff has begun researching appropriate tracking and display mechanisms, such as the Aloha+ Challenge Dashboard.
6. **The Commission shall maintain a website that includes a mission statement as well as access to climate change related actions, plans, policies, and news.** The website-- climate.hawaii.gov-- serves as a portal for statewide climate change efforts, actions, plans, policies and news. It also houses the Commission's mission statement and meeting materials, as well as papers and presentations from the Commission's annual conference on climate change.
7. **The Commission shall assess the capacity and availability of existing resources & identify new sources of revenue necessary to address climate change and advise the governor, legislature, & counties on the economic and budgetary ramifications of climate change impacts, mitigation and adaptation.** Commission staff is ramping up to leverage federal and national funding, third party financing, and other sources of revenue that will help address climate change impacts, mitigation and adaptation in Hawaii. Staff is also working with federal and national partners to unlock resources for climate action in Hawaii.

8. The Commission shall conduct a comprehensive review of the implementation as required by this section and submit a report to the governor, legislature and the counties no later than 20 days prior to the convening of the regular session of 2023 and every five years thereafter. This will be implemented in future years.
9. The Commission shall, as a first step, focus on and develop sea level rise vulnerability and adaptation reports, which shall be made publicly available no later than December 31, 2017, and the commission shall reevaluate and update the sea level rise vulnerability and adaptation report every five years. Completed. Components of this report are being finetuned to operationalize the mapping and models for use in state and county planning (see Climate Ready Hawaii Initiative, Section 1, item 1, above).

Through its strategic activities described above, Hawaii's Climate Change Mitigation and Adaptation Commission amplifies, aggregates, and provides a catalytic impact on the state's ongoing response to climate change. Above all, it provides the clarity needed for climate action in Hawaii.

"At every level the greatest obstacle to transforming the world is that we lack the clarity and imagination to conceive that it could be different."

--Harvard philosopher Roberto Mangabeira Unger

