

CLIMATE CHANGE COMMISSION

CITY AND COUNTY OF HONOLULU

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BETTINA MEHNERT, FAIA, LEED AP O+M

Climate Change Commission
Tuesday, June 5, 2018
Mayor's Conference Room, 3rd Floor
Honolulu Hale
530 South King Street
Honolulu, HI 96813
Meeting Minutes

Members present: Rosie Alegado, Makena Coffman, Charles Fletcher, and Victoria Keener.

Members Absent: Bettina Mehnert (Excused).

Public: Executive Director Josh Stanbro, Deputy Director Justin Gruenstein, Hayley Cook, Joshua Ferrer-Lozano, Holly Morgan, Ketty Loeb, and Tod Nakahira (Office of Climate Change, Sustainability and Resiliency); Courtney Sue-Ako (Corporation Counsel); Anu Hittle (Department of Land and Natural Resources); Henry Curtis (Life of the Land); Luke Withy-Berry; Jeff Burgett (U.S. Fish and Wildlife Service); Teresa Dawson (Environment Hawai'i); Brad Romine (Hawai'i Sea Grant); Jodi Malinoski and Dave Raney (Sierra Club); Chase Livingston (University of Hawai'i Richardson School of Law).

Call to order: Chair Makena Coffman called the meeting to order at 3:00 p.m.

Roll Call: Four commissioners were present. Quorum was established.

Approval of the Meeting Minutes of May 21, 2018: Minutes not available; Approval deferred to next meeting.

Report on the Activities of the Office of Climate Change, Sustainability and Resiliency (CCSR):

Executive Director Josh Stanbro presented the following report:

- Governor Ige signed three climate-related bills that the Commission should be aware of: Act 15 sets a carbon neutrality goal by 2045 and establishes carbon sequestration task force; Act 16 sets up a regimented protocol around carbon credits, which can have impact at the city level around tree planting and other activities; and Act 17 establishes includes sea level rise in Environmental assessments and environmental impact statements going forward.
- Mayor Caldwell and Executive Director Stanbro attended the City Exchange Forum at the invitation of 100 Resilient Cities and the Rockefeller Foundation at which they presented on transportation alternatives. Discussion included ways to universally build for transportation like the Holo card being developed, as well as transitions from fuel tax to other ways to support public roads and infrastructure.
- CCSR is participating in setting up a Decarbonizing Transportation track at the VERGE Conference Wednesday, June 13, 2018 and hosting a working lunch to get feedback on what specifically the City and County can do in a near time frame (1 to 5 years) to push the island goal of 100 percent renewable transportation by 2045 and by 2035 for the City fleet.
- Sandia National Laboratories has accepted Honolulu and two other cities into a program to look at how to build more grid resilience. CCSR Energy Program Manager Rocky Mould will participate in an observational capacity in a working group to see what best practices could come out of Puerto Rico to establish here.
- Maui County Council invited CCSR to provide informational testimony as they consider putting forward a charter amendment similar to the one that created CCSR. CCSR discussed how the office was established, what funding was required, and what type of work CCSR is engaging in, especially around energy issues.

- Executive Director Stanbro and Mayor Caldwell will be attending the U.S. Conference of Mayors in Boston to participate in a climate meeting to discuss the buying power of cities to support renewable energy purchasing from wholesale markets.

Questions and comments that followed:

- Fletcher asked if the Act 17 sea level requirements are for both EIS's and EAs. Stanbro replied that he believes so. Jeff Burgett commented that the Act just states you have to include it as an impact and it is not a trigger.
- Keener asked what other two cities are participating in the grid resilience program. Stanbro responded that he believes they are El Paso and Pittsburgh, but he needs to confirm.
- Keener asked who on the Maui County Council led the charge in bringing up the office creation. Stanbro replied that Councilmember Guzman was the lead sponsor.
- Coffman asked how the State's Climate Change Mitigation and Adaptation Commission will interact with the new task force created by Act 15. Anu Hittle replied that the task force will work on a subset of issues that the Climate Change Mitigation and Adaptation Commission is working on; the two will work in close coordination, but the nexus between the two is still being worked out so there is no duplication.
- Coffman asked if the task force will have more of a focal point for sinks and land use issues. Hittle responded yes, and also on carbon offset programs.
- Fletcher asked if there is just one task force arising out of three bills or if there is also a task force to define the pathway for carbon neutrality. Hittle responded that the only carbon task force is for sequestration, but the State Climate Commission will work to define the pathway for now.
- Coffman asked about the other stakeholders and partners within Honolulu engaging in work with Sandia. Stanbro responded that CCSR engaged the Public Utilities Commission and HECO to contribute. Stanbro noted that it was a requirement of the grant that the regulator and utility in the jurisdiction participate in order to be a part of the learning group.

Discussion with the Department of Transportation Services (DTS) on Matters Relating to the Activities of the Climate Change Commission: Deputy Director John Nouchi introduced himself and welcomed Commission questions. Highlights include:

- Coffman asked Nouchi to provide an overview of the Department's efforts in moving towards low carbon transportation and to describe the future of mobility programs. Nouchi responded that the most advanced progress has been made in demonstrating as proof of concept the electric buses in the city fleet. The department won a low or no emission vehicle grant last year and is in the process of assessing the first electric buses for purchase. The department is starting to consider charging infrastructure and how to absorb grid impact to relieve mid-day load. Nouchi suggested that the first three buses and chargers will give way to the possibility of as many as twenty-seven 100 percent battery electric buses and a network of up to 35 chargers within the next few years. Nouchi commented that in transitioning from diesel buses, the department may be at an economic loss at the outset, and will need to modify operations to accommodate the change from a diesel bus that allows for 100 years of good transit scheduling practice. Nouchi mentioned talking to HECO about the potential for HECO to own the battery. Nouchi noted that this unique funding opportunity would make the bus more cost neutral for DTS.
- Coffman asked Nouchi to talk about rail. Nouchi responded that the current emphasis is on construction. Nouchi noted that DTS is looking at how to run, operate, and maintain the rail most efficiently when partnered with existing multi-modal transit network. Nouchi noted that DTS has a sharp eye on the economics of energy and would like to take an overall view on the best way to manage and coordinate energy use at DTS. Nouchi also commented on the DTS partnership with CCSR and thanks the office for providing constant support and leadership.
- Coffman asked Nouchi to talk about other shared mobility programs that DTS supports. Nouchi responded that bikeshare had a record ridership in the month of May and the program is on the cusp of an expansion. Nouchi noted that DTS is focusing on a more densified urban bike network. Nouchi commented that electric scooters and other dockless systems are developing rapidly and from a transportation point of view, DTS is supportive of anything that is better for first and last mile connections. Nouchi also noted that car sharing fits into the DTS puzzle and the key is going to be establishing a dense enough network that it makes sense for people to not own a car

anymore. Nouchi believes if the City can make a wealth of mobility options available and give people a fair share of choice, the City will be really far ahead. Nouchi also noted the Mayor's request to convene a working group on urban mobility.

- Nouchi noted being a big proponent of equity and the ability of DTS to deploy electric buses along the whole rail alignment and even to far reaching places, as long as there is charging infrastructure to support it.
- Nouchi commented on the positive environmental effects of an electric bus fleet, including less noise and fewer emissions, which could make a big difference on suburban routes and asked the Commission's support in broadcasting the public benefit of electric buses.

Questions and comments that followed:

- Coffman asked what the range of the 27 buses will be. Nouchi responded that the bus will have about a 140 mile range, which is in line with what a lot of the current buses do, at less than 150 miles. Nouchi discussed how part of graduating from the diesel model includes having to specify the bus out to fit a certain purpose. Nouchi noted that DTS is looking at San Francisco MTA as a model for planning, which looked at the whole system to determine which routes and lines in the system are the best candidates for electrification.
- Coffman asked if the charging infrastructure would be dual purpose to be used more broadly by private vehicles or other fleets, or if they are specifically for the buses. Nouchi responded that at first, charging will be limited to just a transit purpose; the first three chargers will be in a sectioned-off secure area in the bus yard. Nouchi noted that DTS does not have plans at this point for shared use, but it would be possible, as the charging network grows, to look towards making it a public benefit, something the Public Utilities Commission may look fondly upon.
- Coffman commented on the point Nouchi made that the electric buses do not have just a greenhouse gas emissions benefit, but also local air pollution benefits, which is a huge equity issue.
- Coffman asked if there has been any discussion with HECO in terms of pricing mechanisms and coordinating energy use and timing to absorb excess PV or wind. Nouchi noted that the Federal Transit Administration provided feedback that the DTS partnership with HECO is unique, which speaks to HECO's support of electrification of transportation. Nouchi commented that DTS has been leaning on CCSR and Rocky Mould to be the expert voice in discussion as the department heads towards the Public Utilities Commission for tariffs.
- Fletcher asked Nouchi to clarify what he means by tariff. Nouchi responded that DTS has identified certain points where if the energy rate for charging during the time needed exceeds a certain amount per kilowatt-hour, it's cheaper to use diesel for the same purpose on the bus, and DTS is thinking about rates in terms of what HECO is charging. Coffman clarifies tariff as being the electricity rate.
- Coffman commented that it is important to determine not just the overall average rate but to make sure it has a temporal nature so as to know there is excess solar and the buses should be charging.
- Fletcher asked how long it takes for the electric bus battery to charge. Nouchi responded that from empty to full would take three to four hours. Nouchi noted that the current 544 bus fleet has its heaviest deployments in the a.m. and p.m. peaks which match commuting hours, leaving a valley in which the electric buses could fully charge, while the sun is highest in the sky and there is excess PV. Nouchi believes DTS can find a place that the electric bus fits very well into current operations and is a win-win in terms of availability, supply, and demand.
- Fletcher commented that in the European Union, electrifying the trucking fleet required heavy batteries that didn't allow trucks to haul heavy loads and asked Nouchi if this would be a problem for DTS. Nouchi responded that it is not a problem. Nouchi added that the 60-foot articulated buses are some of the heaviest in the fleet, and even after rail is present, a lot of these vehicles will be needed. Nouchi noted that electrifying articulated buses is just starting to come to market and commented that electrifying those vehicles is not ripe yet for DTS until batteries can be more compact.
- Coffman asked Nouchi to explain the legal or other challenges to dockless systems. Nouchi deferred, responding that he is not the right person to expound upon the legalities.
- Fletcher asked Nouchi about a car share program that never got off the ground. Nouchi

responded that because of the initial constructs of the program, some vendors found that it wasn't profitable to their market. Nouchi noted that DTS is looking at other models that would create a fairly dense network using both private spaces and some public parking spaces to create a network of car share options similar to bikeshare. Nouchi commented that DTS hopes to coordinate that and have more to speak to that through the urban mobility working group.

Discussion with the Department of Emergency Services (HESD) on Matters Relating to the

Activities of the Climate Change Commission: Director Jim Howe introduced himself and presented three HESD priority areas that may be impacted by climate change:

- Howe described the three pieces of the Department of Emergency Services: (1) EMS provides 24/7 island-wide pre-hospital medical needs; (2) Health Services branch provides employment medical needs for all City employees; and (3) Ocean Safety and Lifeguard Services program is the primary responder to all emergencies on beaches and near shore waters.
- Howe noted that sea temperature rise is going to increase the number and intensity of tropical cyclones, which impacts surf and the safety of the people that use the ocean. HESD expects with global sea level rise that ocean conditions are going to be more hazardous, and it is a focus of the program to educate visitors who are not familiar with the ocean.
- Howe noted the impacts that more rain has had on Kaua'i and had it gone on for a longer term, HESD would expect a lack of medication supplies. Howe noted that medicines are not considered in 14 day hurricane preparedness supply. Howe commented that 30 percent of the population on O'ahu is 65 years or older, and that this one piece of climate change has impacts that extends all the way into the social, cultural, and physical health of the community.
- Howe noted the impact of soil runoff creating laminar flow (largely seen at Sunset Beach) that cuts the soil, creating a loss of sand and an increase of soil in the water. Howe noted that soils on O'ahu contain pseudomonas, a bacterial infection, causing the impact of chronic health issues for people recreating in brown water environments. Howe added that keeping people out of the ocean has economic impacts and legality issues of how to close beaches and enforce closures, while monitoring impacts on the visitor industry and social and cultural lifestyles. Howe noted that Hawai'i has an unusual policy of open beaches, and where most communities use an enforcement mechanism when the ocean waters or beaches become too dangerous, he does not think that is the approach to use, and HESD is going to have to double down on education and intervention.
- Howe described how HESD uses a simple risk management model used by lifeguards on the beach, which looks at the physical impacts and then looks at ways to mitigate loss of economic value on the beaches. Howe noted that the strategic approach is retreat, demolishing current structures and commented that HESD made the decision to demolish one of the lifeguard support stations at Sunset Beach in December because of concerns of cliff collapse, which now impacts the ability of lifeguards to do their jobs. Howe believes making infrastructure changes to support public safety services will extend to fire service, EMS, and police service.
- Howe mentioned that in areas of high economic value, HESD considers hardening shore lines with break waters, which lead to injury and death of people that use the areas for recreation. Howe noted that enforcement and education usually are ineffective, and HESD will have to manage impacts with intervention and response, which is a cost factor associated with hardening shorelines.
- Howe noted that HESD is going to have to redesign lifeguard stations and shared an image of the proposed design which makes the station fully portable and run on solar, so they can be moved as HESD begins to see impacts. Howe noted that the new concept is a social and cultural change, but HESD does not believe fixed structures are going to be sustainable.

Questions or comments that followed:

- Coffman asked how the Climate Change Commission may help Howe's work and HESD. Howe responded that the Commission can help educate that these issues are real and here and commented that he appreciates the work of the Commission which has his full support.
- Keener asked if portable lifeguard stations are being used in other places. Howe responded that HESD's is the first prototype in the world.
- Keener asked what the on-island supply of general medications is. Howe responded that trends

show that people are beginning to find cheaper prescription medications through mail service. Howe noted that there may become a larger dependency on an external supply chain with a lower on-island supply, which could be seen on Kaua'i as the postal service could not deliver and medicine had to be airlifted in.

- Keener commented on a 2017 natural hazards policy paper that looked at the resilience of public health in Hawaii to climate change shocks which concluded that there wasn't a risk. Keener asked if HESD had seen any changes in incidents of heat related illness. Howe responded no.
- Alegado commented on how the Kaua'i community was able to come together and asked how HESD has thought about building capacity and autonomy in local communities to respond to impacts in regional ways. Howe responded that community resilience runs through the Department of Emergency Management (DEM), and to see the whole scope of what is going on, Director Kaku would be the right person for discussion. Howe noted the existence of Community Resilience Training Teams (CERT teams) and how HESD works with young people through a junior lifeguard program to learn ocean safety.
- Alegado asked Howe to speak more about the intersection between tourism and safety and how HESD anticipates changes in a time of crisis (e.g. the false missile crisis), particularly thinking about how many visitors O'ahu has per year. Howe responded that HESD coordinates activity with Hawai'i Tourism Authority and is rolling out a new statewide beach safety program next month targeted towards snorkeling safety. Howe noted that during an earthquake, Japanese tourists respond immediately because it's built into their reality, but other visitors look for direction, so HESD has started to put in PA systems in many languages. Howe shared that an area of concern for HESD is North Shore, which now sees 20 to 40 thousand visitors a day who may not be able to get back to Waikiki in the event of a shock. Howe also notes that North Shore is not set up to shelter that many people and it would be a challenge to tell the community to take people in, as seen with friction between groups in Kaua'i.
- Fletcher commented his concerned about heat waves and the model predictions of a doubling in frequency of strong El Niños from roughly every 20 years to every 10 years. Fletcher noted record daytime heat temperatures in Honolulu and a near blackout during the 2015 strong El Niño. Fletcher suggested that the climate community sees heat waves as the most fatal form that climate change can take, often due to a blackout, which becomes a dangerous situation that can be planned for and wanted to make sure the issue is not overlooked.

Discussion of the draft Climate Change Brief:

- Fletcher noted that he took every recommendation from the last Commission meeting into account.
- Keener made the recommendation that in the section HAWAII – LOCAL AND REGIONAL IMPACTS under ENSO “El Niño” in the first bullet should be changed to “El Niño events” or “El Niño years” or “El Niños”. Fletcher changed “El Niño” to “El Niño events”.
- Keener asked if the three climate related laws passed at the State level should be recognized in the ENERGY OUTLOOK section under *Hawai'i*. Coffman responded that the bill is already in the document and Josh Stanbro commented that “HB” should be changed to “Act” with their corresponding numbers and should include “requires”. Fletcher changed “HB 2182” to “Act 15” and “HB 1986” to “Act 16”.
- Fletcher noted that the sea level rise act, Act 17 is not in the document and suggested that if there isn't an appropriate section to include it, it does not have to be included.
- Keener asked if any comments were received from Commissioner Mehnert and Alegado responded that the Commission should make sure Mehnert has a chance to comment. Coffman responded that no comments were received from Mehnert, but the document should be seen as a living document that is final for now, to be updated with some frequency.

Keener moved and Alegado seconded the motion to approve the Climate Change Brief (**AYE:** Alegado, Coffman, Fletcher, Keener; **NAY:** None; **ABSTAIN:** None).

Discussion of the draft Sea Level Rise Guidance:

- Fletcher noted that at the last Commission meeting, the Commission went from the weeds to the forest and read aloud the first three recommendations.

- Coffman noted that the 6 SLR-XA work does not exist yet, in that the data set exists and is available to view for the 3.2 SLR-XA, but only 6 feet can be viewed, not the exposure area. Coffman suggested that in the RECOMMENDATIONS section, item number 3, after “1.8m,” should read, “to be established as the 6 SLR-XA”, indicating this work needs to be done.
- Fletcher noted that a 6 ft map can be viewed on the NOAA website that doesn’t include erosion or waves and that when looking at 6 ft sea level rise, it’s almost as if there’s no point in including erosion or waves. Alegado disagreed.
- Coffman commented that given the first recommendation is that people use the existing report and viewers, she’s comfortable with saying “as a planning benchmark up to 6 feet” and not including the SLR-XA because that work does exist. Fletcher removed “XA” from “as a planning benchmark up to 6 ft (1.8 m; 6SLR)”.
- Keener noted the need to remove “XA” from all recommendations that mention “6SLR-XA”.
- Fletcher read aloud the remaining recommendations 4 through 9.

Questions and comments that followed:

- Henry Curtis commented that on legislative bills there’s often a section at the end that includes “a failure to implement one should not impact the others”. Alegado noted that it may not be necessary since they’re recommendations, not a legislative document. Coffman agreed, but suggested including “these recommendations are not mutually exclusive”. Fletcher added the recommended language in the final paragraph, after the first sentence.
- Dave Raney offered the information that he had just been appointed one of fourteen members of a task force with the national Sierra Club to pursue adaptation strategies country-wide and commented his appreciation of the document being very compact and summarizing what O’ahu faces. Raney offered to let the Commission know what he learns and pass along progress the Commission is making.
- Chase Livingston made the suggestion of creating a new first key finding to state the median temperature increase, which would be clearer and provide better opportunity for the general public to understand. Fletcher created a new first key finding to read “The projected median global temperature increase is 5.8°F.”
- Livingston suggested making the second key finding a similar clear point for sea level rise numbers. Fletcher moved the original key finding 5 (concerning mean sea level) up to become key finding 2. Keener thanked Livingston for his recommendation of putting the two major impacts up front.
- Fletcher suggested a sub point under the second key finding (concerning mean sea level) to be “the last time it was this warm out, sea level was a median 6.6 meters above present”. Alegado commented that the sub point was not that compelling and the public agreed.
- Jeff Burgett noted that the first key finding (concerning median temperature increase) is very powerful, but does not include a time range, which is critical. Fletcher adds language “this century” to the first key finding.
- Josh Stanbro noted that the document is not legislation and recommended language at the end of the document to read “This set of recommendations are important each in their own right and are designed to complement each other and be implemented together; Implementing one recommendation does not eliminate the need to adopt others.” Fletcher removed language “These recommendations are not mutually exclusive” and added recommended language.
- Stanbro noted that given the changes made to the second key finding (concerning sea level rise), the numbers do not map to the recommendations which talk about chronic flooding as distinct from sea level rise. Stanbro recommended the addition of language “as it will be an area experiencing chronic flooding”, similar to recommendation 2 at the end of recommendation 3. Fletcher added recommended language.
- Alegado noted that the figure at the end of the document looks low resolution. Coffman responded that the words of the document could be adopted and formatting finalized later.
- Coffman commented that if someone were to read only the first few bullet points under SUMMARY OF KEY FINDINGS and then read RECOMMENDATIONS, the points would seem out of sync in terms of high tide flooding. Fletcher, under SUMMARY OF KEY FINDINGS, moved the original key finding 6 and 6a (concerning high tide flooding) up to become key finding 3. Coffman noted that this shift made Table 1 and Table 2 backwards, and suggested it was okay to refer to

Table 2 before Table 1, or they could be flipped in formatting later (note: they were flipped in formatting later).

- Coffman suggested adding a subheading after key finding 3 to read “Supportive Information” to differentiate first three main points from global information. Keener noted the existence of Hawai’i specific information at the end of SUMMARY OF KEY FINDINGS. Fletcher moved original key findings 8 and 9 up to become key findings 4 and 5.
- Fletcher asked if the Commission would need to vote again at the next meeting if they found they needed additional edits after voting at the current meeting. Courtney Sue-Ako responded that administrative and formatting changes that do not impact the substance of the document can be made after voting.
- Coffman recommended taking a vote on the content and finalize the presentation later.

Keener moved and Alegado seconded the motion to adopt the content of the Seal Level Rise Guidance (**AYE**: Alegado, Coffman, Fletcher, Keener; **NAY**: None; **ABSTAIN**: None).

Public Input for Matters Not on the Agenda:

- Members of the public offered congratulations to the Commission and praised their work.

Next Meeting: The next Climate Change Commission meeting is scheduled for Tuesday, July 17, 2018 from 3:00PM – 5:00PM.

Announcements: Fletcher announced that the City and County of Honolulu just passed the most comprehensive sea level recommendations in the United States of America.

Adjournment: The meeting was adjourned at 4:56 p.m.