

CLIMATE CHANGE COMMISSION
CITY AND COUNTY OF HONOLULU

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KIRK CALDWELL
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MAKENA COFFMAN, PH.D., CHAIR
CHARLES FLETCHER, PH.D., VICE CHAIR
ROSIE ALEGADO, PH.D.
VICTORIA KEENER, PH.D.
BETTINA MEHNERT, FAIA, LEED AP O+M

Climate Change Commission
Tuesday, July 17, 2018
Council Committee Room
Honolulu Hale
530 South King Street
Honolulu, HI 96813
Meeting Minutes

Members present: Makena Coffman, Charles Fletcher, Bettina Mehnert, and Victoria Keener.

Members Absent: Rosie Alegado.

Public: Executive Director Josh Stanbro, Deputy Director Justin Gruenstein, Uyen Vong (Office of Climate Change, Sustainability and Resiliency); Courtney Sue-Ako (Corporation Counsel); Jeff Shonka (First Insurance Company of Hawaii); Paul Brewbaker (TZ Economics); Aki Marceau (Elemental Excelsior/Sustainable Transportation Coalition of Hawaii); and Henry Curtis (Life of the Land).

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 June 5, 2018: The minutes were adopted as is (**AYE:** Coffman, Fletcher, Keener, Mehnert; **NAY:** None; **ABSTAIN:** None.)

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

Executive Director Josh Stanbro presented the following report:

- Mayor Caldwell signed a significant directive on Monday, July 16, 2018 in response to the Climate Change Commission's Sea Level Rise Guidance and Climate Change Brief. The directive mandates all city departments to factor in adaptation and mitigation efforts in city functions. CCSR will be meeting with different departments to discuss how the individual departments should understand and implement the directive.
- Mayor Caldwell attended the World Cities Summit in Singapore in the beginning of July 2018 with Josh Stanbro. The Asia-Pacific Implementation Training, a workshop hosted by Rockefeller Foundation, was also held in Singapore at the same time. Honolulu was invited to learn about what Asia-Pacific nations have been doing, such as tree canopy projects in Melbourne to reduce urban heat and storm surge protections in coastal cities.
- There will be a reconvening of the Agenda Setting Workshop that was first held in June 2017. Following the reconvening will be a series of public meetings around the island that will focus on the Climate Action Plan.
- For the first time ever, the City and County of Honolulu has registered Honolulu's emissions with the carbon disclosure project, which is part of an effort to uphold the Paris Agreement. There is a big push associated with the Global Climate Action Summit that Mayor Caldwell and Stanbro will be attending in September 2018. The State of Hawaii will be completing a greenhouse gas inventory and the City and County of Honolulu will be doing the same.

Questions and comments that followed:

- Coffman asked about tree canopy initiatives in Honolulu. Stanbro responded that Mayor Caldwell committed to planting 100,000 new trees in urban zoned areas of Honolulu by 2025 to forward the larger agenda to expand the tree canopy cover to 35% by 2035. Honolulu is actually losing tree canopy over time due to misplacement of infrastructure, however CCSR is working with the Division of Urban Forestry within the Department of Parks and Recreation (DPR) as well as the Board of Water Supply (BWS), Department of Facility Maintenance (DFM) and Department of Design and Construction (DDC) to make sure when the trees are planted, they are in the right places that will allow growth to provide canopy.

Presentation by Jeff Shonka, President and Chief Executive Officer of First Insurance Company of Hawai'i, LTD. Shonka presented the following report:

- People tend to focus on the short-term horizon, not the infrequent events that require longer term preparation. Everyone need to think about and implement changes necessary to respond to the new reality, including the insurance industry.
- Traditionally in insurance, both risks assessments and risk-based pricing give tremendous weight to past events when attempting to anticipate the cost of future losses. Historical data will no longer serve as a reliable predictor of future events due to climate change. For example, Tropical Storm Iselle in 2014 dispelled the myth that the Big Island was safe from hurricanes and tropical storms.
- From 2008-2012, the average 1st quarter personal property wind losses for First Insurance were in the \$500,000 range per year. From 2013-2017, the average 1st quarter personal property wind losses for First Insurance were in excess of \$4 million per year. These "out of the ordinary" events are becoming the "new normal" and are forcing the insurance industry to change how it analyzes, underwrites, and price risk.
- In Hawaii, high wave energy is leading to accelerated shore erosion on the North Shore, low elevation of Ewa Beach is leading to accelerated shore erosion. There is also shore erosion and increased flooding risk in Waikiki which could decrease visitor capacity and lead to lower occupancy and a decreased tax base.
- Hurricanes pose a triple threat: high winds, flash flooding, and storm surges. An increase in storm severity combined with sea level rise could further increase the human and economic threats posted by hurricanes to the island state.
- Insurance companies should look into newer risk transfer and risk financing models such as catastrophe bonds. Catastrophe bonds were first created and issued in the mid-1990s after Hurricane Andrew.
- Other solutions should include implementing stricter building codes such as requiring roof fasteners, hurricane impact-resistant windows and doors, and consider making zoning changes to limit or prevent development in the highest risk areas, particularly along the shoreline. The government should avoid inadvertently subsidizing high-risk activities, which sometimes happens when well-meaning government insurance programs like the National Flood Insurance Program end up subsidizing activities that should be avoided altogether.
- First Insurance Company of Hawaii has initiated a new forum earlier this year that brings together First Insurance employees, insurance agents, academicians, and local regulators to discuss strategies for dealing with major issues and trends.
- The next forum will be held in September 2018 and is dedicated to the topic of Climate Change. Vice Chair Fletcher will be the keynote speaker.
- In conclusion, public and private entities cannot afford to wait any longer to prepare for the effects of climate change. A summary report, which provides a deeper dive into risk transfer and risk financing products, was made available to Chair Coffman.

Questions and comments followed:

- Coffman asked Shonka to elaborate on how the insurance companies are making adjustments to risk transfer insurance plans. Shonka replied that in a typical homeowner policy, most adjustments to these types of plans require higher limits. For example, after the fire in Marco Polo

apartment building, residents learned that they did not have a high enough limit to cover loss of use coverage. Residents were not able to move back into their homes for about one year, but only had three months of loss of use coverage. Other types of insurance like catastrophe bonds, which First Insurance is not involved with, can cover losses that traditional risk transfers cannot cover.

- Keener asked if risk analysis consider climate impact and future climate scenarios. Shonka replied that it does, but the models will be based on trends, not historical data. Keener asked about the timeline of trends, and Shonka replied that traditionally the timeline is three to five years.
- Fletcher asked if insurance companies are becoming outdated and asked if there is an effort to create something called “climate change insurance.” Shonka replied no, but there are already insurance policies to cover loss from hurricanes, tsunamis, and earthquakes. Shonka added that the issue is the risk is based on historical events and losses, so going forward, there is no way to use a historical approach to account for climate change. Shonka noted that some companies may even hold back on covering certain risks because of lack of data.
- Coffman asks what the high risk activities are. Shonka replied that from the industry perspective, an example of a high risk activity is building a home in the Leilani Estates, where there are known lava fissures. Insurance companies should not enable behavior or provide insurance for those types of areas.
- Fletcher asked about risk exposures for the City and County of Honolulu. Shonka replied that an example of a risk exposure area for the City and County of Honolulu is the Waikiki district in which catastrophic events will have major impacts to the tourism industry.

Presentation by Dr. Paul Brewbaker, economist, TZ Economics. Dr. Brewbaker presented the following report:

- Stock markets often go down after a major event such as the collapse of the Lehman Brothers, the European debt crisis, and the popping of the stock market bubble in Shanghai, China. In Hawaii, an example is visitor industry numbers which was also punctuated by shocks such as the California recess, Hurricane Iniki, SARS and the Tohoku earthquake. The median volatility during those shocks was 13%.
- Climate change increases the risk exposure for an event. Climate change creates “deterministic chaos” because when one parameter is changed, that parameter could drastically change an outcome.
- A good public policy aligns incentives to maximize public interest. An example of a good policy is what is used to determine public beaches. The public beach is marked as the land below the high-water mark.
- An example of a bad policy is a policy that is “time in-consistent” which is when what was optimal initially is not the same as what seems optimal when the future reveals itself. What it could lead to is bad investors being bailed out by taxpayers.
- The three key economic points for resilience investment in Hawaii are:
 - The main economic-theoretic challenge for managed retreat is a time-inconsistent policy.
 - Construction in Hawaii has been declining since 2015. If it continues, then construction could be redeployed into resilience-focused public capital projects.
 - Spatial economics of re-orienting public capital formation, e.g. build public infrastructure on the mauka side, and use prices as mechanisms to ration entry.
- Three questions about managed retreat:
 - What is the value of coastal properties and development and contributions to the tax base?
 - How would Hawaii fare if beaches or vacation rentals were lost?
 - Which potential mechanisms could government use to fund managed retreat?
- Hawaii has not been investing in public infrastructure as much as it used to. Public investment projects used to be at 4% of the Gross Domestic Product (GDP) but it has declined to 2% in recent years. The forecast for construction in Hawaii through 2020 may be \$1 billion less, which could potentially be redirected to support resilience investment.

Questions and comments followed:

- Fletcher asked where the funding would come from. Brewbaker stated the burden is now placed on developers to finance the infrastructure for their own development. Brewbaker mentioned that government should price things that have not been priced before such as implementing a carbon emission tax or congestion fee.
- Coffman asked how does the idea of a 'private good' change when expectations can change so rapidly as a result of a public good phenomenon such as climate change. Brewbaker replied that the common pool problem is not a unique driver in public intervention.

Presentation by Aki Marceau, Director of Policy & Community, Elemental Excelerator. Marceau presented the following report:

- The Transcending Oil Report was published in April 2018 and was produced by the Rhodium Group. The report states that by 2030, Hawaii can generate up to 84% of energy from renewable resources under the least-cost range. Hawaii can also avoid importing at least 85 million gallons of fossil fuel and save up to \$7 billion through 2045.
- Hawaii is using more fossil fuel in ground transportation than what is generated in the electricity grid. Ground transportation makes up 27% of fossil fuel usage compared to electricity at 25%.
- Three ways to reduce fossil fuel in transportation: system efficiency, vehicle efficiency, and fuel type.
- According to the Hawaii Natural Energy Institute, electric vehicles will be 5-15% of the market by 2040 with no policy change. According to the Transcending Oil Report, electric vehicles will be 10% of the market. However, according to Hawaiian Electric's Electrification of Transportation Roadmap, 55% of vehicles will be electric vehicles by 2045 with major policy changes.
- Over the past ten years, vehicle miles traveled (VMT) has increased 7% statewide with the most increase on neighbor islands. On Oahu, residents in urban areas typically drive less.
- The study shows five ways to reduce VMT through system efficiency:
 - Road Mileage Pricing
 - Parking Management Strategies
 - Dynamic pricing and permitting and electric vehicle charging requirements for new buildings
 - Workplace charging
 - Budget to maintain City and County-owned charging infrastructure
 - Limit growth in low density areas
 - Multimodal transportation
 - Subdivision ordinance reform
- Other solutions include updating land use, building codes and Complete Streets ordinances. One example is creating modal equity for pedestrians, bikes, and buses.

Questions and comments that followed:

- Coffman asked about the possibility of creating a state-level or county-level efficiency standard? Marceau commented that it would be particularly challenging for Hawaii because the market in Hawaii is small, compared to a state like California which is the sixth largest economy in the world.
- Fletcher asked why states signing on to the California emission standards are having issues. Marceau mentioned that it has to do with supply chain and that current federal tariffs are prohibitive and not helping with compliance.
- Coffman asked what the steps are to road pricing. Marceau replied that the State issued a Request for Proposal (RFP) and is currently negotiating the award of the RFP. Marceau acknowledges that the state must be careful not to unfairly penalize someone who had just bought an electric vehicle or someone who have long commutes.

Public Input for Matters Not on the Agenda

- Henry Curtis, Executive Director of Life of the Land, commented that the State could give authority

to the counties to implement a police like the Corporate Average Fuel Economy (CAFE) standards, but counties will only have authority for their own fleet. Curtis acknowledged the equity issue of a carbon tax which would place more burden on residents living outside of urban Honolulu.

Announcements:

- Coffman announced that Commissioner Rosie Alegado is in the process of being reappointed for another five-year term to the Climate Change Commission.
- Fletcher announced that Mayor Caldwell issued a mayoral directive in response to the Climate Change Commission's Sea Level Rise Guidance and Climate Change Brief. All the documents are available at www.resilientoahu.org.
- Keener requested another presentation by the Board of Water Supply in a future meeting.

Adjournment: The meeting adjourned at 4:33pm.