

**State of Hawaii - Department of Business, Economic Development, and Tourism  
Greenhouse Gas Emissions Reduction Task Force  
Meeting Minutes  
September 10, 2008**

1:00-3:00 p.m.

Room 600 Leiopapa A Kamehameha Building  
235 S. Beretania St., Honolulu 96813

Present:

1. Mr. Frank Clouse (Tesoro Corp.)
2. Dr. Makena Coffman (University of Hawaii)
3. Mr. Mark Fox (The Nature Conservancy)
4. Mr. Laurence K. Lau (Department of Health)
5. Dr. Lorenz Magaard (University of Hawaii)
6. Mr. Jeffrey Mikulina (Sierra Club Hawaii Chapter)
7. Ms. Elizabeth Corbin, Designee for Theodore E. Liu (DBEDT)
8. Mr. Gareth Sakakida (Hawaii Transportation Association)

Excused:

1. Mr. Robbie Alm (Hawaiian Electric Co., Inc.)
2. Mr. Gary North (Matson Navigation Co.)

- 1) The meeting was called to order by Mr. Laurence Lau at 1:06 pm.
- 2) The minutes from the August TF meeting were unanimously accepted with an amendment suggested by Mr. Lau for the summary of the Covanta Energy presentation. Mr. Mark Fox made a motion to approve, and Mr. Frank Clouse seconded the motion. Mr. Lau suggested that in the future, staff may use a more condensed, summary-style approach in the TF minutes.
- 3) Presentation by Dr. Chip Fletcher, University of Hawaii – Manoa School of Ocean and Earth Science and Technology, Chair of Geology & Geophysics on Implications of Sea Level Rise on Hawaii
  - a) Globally, sea level rise has been measured at approximately 1.5-2 mm per year, from mid 1800s to the present, gathered through tidal gauges (which are an imprecise instrument for measurement). Recently, satellite imaging of sea surface has made precise measurement possible and new data suggests 3.4mm/year – 3.7mm/year sea level rise from 1993 to the present.
  - b) The western Pacific has seen rates of sea level rise of up to 6 – 9 mm per year—much higher than the eastern Pacific which is experiencing some sea level fall. Influencing factors include gravitational pull, currents, winds. Hawaii is experiencing a ~0-1 mm/year sea level rise at present.
  - c) The major sources of sea level rise are the melting of alpine glaciers, Greenland and Antarctic ice sheets, and thermal expansion of the ocean caused by atmospheric warming. Alpine glacial melt has been accelerating since the 1990s. Damming the world’s major rivers is thought to have helped to slow the impacts of sea level rise since the mid 20<sup>th</sup> century.
  - d) Average global thickness change of alpine glaciers has decreased by up to 20%, approaching a meter a year. In the continent of Antarctica, as a whole, ice loss has increased by 75%. Melting days in Greenland in 2007 increased by 150% above the long-term average.
  - e) Meltwater from melting of Greenland ice will stay bottled up in the Atlantic for several decades, and sea level rise effects will not be seen in the Pacific for about 50 years. The only channels for mixing are the Bering Strait and the Suez Canal/Panama Canal and in the South around Africa. Thus this will not be a critical factor for Pacific islands until the second half of this century.

- f) Thermal expansion has quadrupled in the shallow ocean the past ten years, to 1.5 mm/year. Thermal expansion will be the biggest concern for the Pacific for the first part of this century as a contributor to sea level rise. Conservatively, we should plan for a 1 meter rise by 2100 and warming levels of 4 to 9 degrees F.
  - g) Hawaii's storm drains are not designed to handle sea level rise at high tide in addition to runoff due to rainfall. A 1-meter sea level rise in Hawaii will result in drainage problems. At full moon/high tide, storm drains within 5-6 blocks of the coast (Waikiki, off Ala Wai Boulevard) are already filled with seawater.
  - h) A data set that is lacking is the status of the water table in all of Hawaii's communities.
  - i) Low-lying coastal plains on O'ahu are vulnerable. Every year there are high wave events; a mapping of the 1, 5, 10, 20 and 25-year waves in Waimanalo projects that the 25 year flooding event will become an annual event under a 1-meter rise scenario.
  - j) Impact of beach erosion on tourism is uncertain because resorts are already adapting by creating artificial beaches and other features in their pool/recreational areas. Local residents will be more impacted.
  - k) Shoreline change over the last 20 years shows an increase in erosion, and a decrease in accretion. However this is due to minor sea level rise and is primarily due to human and processes such as dredging which impact sand availability.
  - l) Hawaii's 40-foot setback rule for coastal development may need to be changed. Dr. Fletcher recommends an orderly 'retreat from the coasts.' Sand-rich lands need to be identified; private, federal, state and county conservation funds can be utilized to buy up lands. Reverse mortgage programs are another potential option.
  - m) Public comment. Mr. Henry Curtis asked Dr. Fletcher "when will Kailua go underwater?" Dr. Fletcher replied that dramatic effects of sea level rise will not be seen for decades. Hawaii has not yet gone through accelerated sea level rise and has only recently seen an increase. Ms. Susan Polanco de Couet asked if other areas (cities) are moving away from the coasts. Dr. Fletcher said that large scale retreats are not yet underway; he plans to do research next year on this issue in regards to small island developing states.
- 4) Analysis Committee Report
- a) Dr. Coffman commented that there was nothing specific to report. Questions on the preliminary inventory documents provided by ICF which the committee discussed will be asked of Ms. Asam and the inventory team during their call-in later in the meeting.
- 5) Outreach Committee Report
- a) Ms. Maile Sakamoto of DOH reported that the committee and staff is attempting to make contacts with print media in advance of the November meeting to help publicize Act 234 and announce the meeting.
  - b) Materials such as a brochure/fact sheet and basic powerpoint presentation are being developed. Staff may ask organizations related to climate change or this legislation to have informational tabletops at the beginning of the public hearing in November.
  - c) DOH is thinking of partnering with 'Olelo public television to be a sponsor in the youth video contest. The contest would have a GHG and climate change category.
  - d) The outreach committee asks for volunteers to make presentation to neighborhood boards in Act 234 to talk about the basic issues and the upcoming meeting. Mr. Fox, Mr. Lau, and Dr. Coffman volunteered for the neighborhood boards where they reside.
  - e) The committee and staff is seeking other organizations or agencies to partner with, and appreciates TF support.  
Mr. Lau sought TF support for participating in the 'Olelo contest.  
There was some discussion about whether there would be an exclusivity clause for use of videos produced for video contests. Staff was to get more information.

- f) Mr. Lau called for a motion for TF support participation in the ‘Olelo video contest as a component of public outreach. The motion was made by Ms. Corbin and seconded by Mr. Fox. It was approved unanimously.
- 6) ICF Inventory Update Status Report  
Presented by Ms. Susan Asam
- a) ICF team calling in remotely were introduced: John Venezia (overall lead) Adam Brundage (waste sector) Victoria Thompson (agricultural sector) and Joe (last name unknown-industrial processes lead).
  - b) ICF reviewed what data, methods and assumptions were used in the 1997 inventory of 1990 GHG emissions to see what needed to be updated or additional data collected. IPCC inventory guidelines were used.
  - c) Data availability drives the choice of methodology for most source categories, consistent with IPCC guidelines.
  - d) The expected relevance of each source category to total emissions was considered – whether a GHG constituted a significant source of emissions for the state.
  - e) No source categories included in the 1997 report were wholly removed for the current update.
  - f) Recommendations regarding the data were submitted to DBEDT on August 15, 2008. Ms. Asam referred to the summary table document which was made available to the TF and public. Key recommendations include: 1) International bunker fuels (fuels for ships and planes traveling to foreign destinations) were not included in 1997 but will be included in the current update. 2) Oil and gas operations were included in the Industrial Processes sector previously, but will be moved to the Energy sector. 3) Substitution of ozone depleting substances and electrical transmission and distribution will be included under Industrial Processes. 4) N<sub>2</sub>O emissions from the municipal solid waste combustion and N<sub>2</sub>O from municipal wastewater will be included in the Waste sector. 5) AFOLU which stands for Agriculture, Forestry and Land Use, is a new IPCC category. Data on forest fires, carbon flux in forests (change over time of the carbon stored in tree), and carbon flux in urban trees are currently being sought. 6) N<sub>2</sub>O from manure will also likely be included (was not previously included).
  - g) ICF is re-obtaining data that was used in 1990; efforts will be made to re-collect original data whenever possible. Sector leads are developing sector-specific calculations, spreadsheets and preliminary inventory estimates.
  - h) Task Force comments: Mr. Mark Fox asked if pest and disease issues in forests elsewhere (e.g on the mainland) contributed to forest flux. Ms. Asam said this would cause a significant change if widespread disease occurred, but in Hawaii there is little information on specific plots. Dr. Coffman asked if there was a domestic equivalent for “international bunker fuels.” Mr. Venezia replied that mobile combustion covers fuels used in domestic travel (intrastate; mainland US to and from Hawaii). Mr. Lau suggested that this terminology should be clarified for future documents and the public hearing.
- 7) Public comment. Public comment is reflected above.
- 8) Future agenda items and housekeeping matters.
- a. There was discussion of content and messages for outreach materials. There was agreement that content developed by the Outreach committee will be shared with the TF and input will be

welcome. There was also discussion and general agreement that the first part of the public hearing will be informational, with questions taken from the public, and the second part will be the formal presentation of the inventory, where comments will be recorded and considered by ICF in the development of their final draft of the updated inventory. There was discussion of how to best publicize the public hearing, e.g., on the web (DBEDT and DOH websites, and linked to by TF member organization websites), or via district Department of Health offices. The draft inventory document should be available for public download and possibly at the public libraries.

b. Mr. Lau updated the TF on The Climate Registry which is proceeding quickly on its information technology system to support mandatory state reporting, and the recently released Resolution regarding verification of data. All data, if submitted as part of a voluntary report, must have 3<sup>rd</sup> party verification.

c. The next meeting is tentatively scheduled for October 2.

9) Adjournment.

a. The meeting was adjourned at 3:07 pm. A motion to adjourn was made by Dr. Coffman and seconded by Ms. Corbin.