

Mori, Ashley

From: [REDACTED]
Sent: Thursday, November 21, 2019 8:24 AM
To: Planning Internet Mail
Subject: Council members hear bleak presentation about greenhouse gases - Hawaii Tribune Herald

To Michael Yee, Director, Planning Department

I'm sending this to you hoping all of the County agencies take heed when making decisions that would impact climate change. As the most isolated land mass on earth, we are particularly vulnerable.

<https://www.hawaiitribune-herald.com/2019/11/20/hawaii-news/council-members-hear-bleak-presentation-about-greenhouse-gases/>

Mahalo for your service,
[REDACTED]

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PLANNING DEPARTMENT
COUNTY OF HAWAII

Council members hear bleak presentation about greenhouse gases

By [MICHAEL BRESTOVANSKY Hawaii Tribune-Herald](#) | Wednesday, November 20, 2019, 12:05 a.m.

America and other developed nations have 10 years to reduce greenhouse gas emissions to zero to prevent a runaway climate catastrophe, a University of Hawaii professor told a Hawaii County Council committee on Tuesday.

Charles Fletcher, UH professor of earth sciences, made a presentation before the council's Committee on Agriculture, Energy and Environmental Management that enumerated the dangers presented by climate change.

The presentation was bleak. By 2045 — a year the state targeted as its deadline to transition entirely to clean energy — global average temperatures are expected to have risen by nearly 4 degrees Fahrenheit, more than halfway to the threshold identified by climatologists as the point of no return.

If global temperatures warm by more than 4 degrees Celsius — about 7.2 degrees Fahrenheit — that increase will trigger an irreversible snowball effect that will continue to release greenhouse gases and warm the planet, Fletcher said.

In order to avoid that 4 degrees Celsius threshold, Fletcher said global carbon emissions must be reduced to zero by 2050. However, he said developing nations are less capable of rejecting fossil fuels as they build necessary infrastructure to improve their standard of living.

Therefore, Fletcher said developed nations must reduce their carbon emissions to zero within a decade, giving developing nations more time to build necessary infrastructure and then transition to green energy themselves.

If the world fails to do so — which, considering recent efforts by petroleum companies to increase production, is not unlikely, Fletcher said — the consequences will be dire. As global temperatures rise, the difference in temperatures between tropical and temperate zones will decrease, leading to slower wind speeds, which in turn will lead to droughts and stronger storms.

Ultimately, Fletcher said warmer temperatures will increase the amount of water vapor — a greenhouse gas — in the air, exacerbating warming still further, until the

planet grows warm enough to melt permafrost at the poles, which will cause frozen dead organic matter to thaw and release even more greenhouse gases. Eventually, food shortages, droughts and heat will cause mass extinctions so severe scientists are using the term “biological annihilation” to describe them, Fletcher said.

Fletcher pointed out that Hawaii is already undergoing effects caused by climate change. Already, 10% of land in the state is afflicted by drought, and rainfall has decreased by 6% each decade for the past 30 years. Shifting wind patterns have made trade winds approach from the east instead of the northeast more frequently, leading to warmer air and unpredictable weather as the air approaches the islands at odd angles.

Hawaii is susceptible to climate change in other ways, as well. As the planet warms, food shortages and droughts will lead to rampant refugee crises around the world and give rise to extremist groups and authoritarian governments, Fletcher said, adding current unrest in the Middle East has some roots in climate tension. Against this chaotic background, Fletcher said global trade will decrease, which is of particular concern to an island state that imports about 80% of its food.

Fletcher’s report was not entirely gloom and doom, however. He recommended planting trees as an easy way to remove carbon dioxide from the atmosphere, as well as improved farming methods that keep carbon fixed in the soil. Reducing the amount of meat in one’s diet — particularly beef — is one of the single most effective methods for an individual to reduce emissions.

The presentation spurred discussion among council members after its conclusion.

“Mr. Fletcher, you’ve made me feel very depressed, but also very hopeful,” said Councilwoman Ashley Kierkiewicz.

Councilman Aaron Chung agreed with Fletcher that the overpopulation of the planet is inextricably linked to the increase in global emissions. Chung previously said humanity has no chance of surviving an inevitable climate catastrophe.

Fletcher was less fatalistic than Chung, saying he expects the climate threat will be impossible to ignore in the coming decade and that warming might be halted between 2 and 3 degrees Celsius. But even then, he said, many of the planet’s species will have gone extinct.

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