

**STATE OF HAWAII
DEPARTMENT OF HEALTH**

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**Testimony in SUPPORT of H.B. 1800
RELATING TO CLIMATE MITIGATION**

REPRESENTATIVE NICOLE E. LOWEN, CHAIR
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Hearing Date: 2/1/2022

Room Number: Via Videoconference

1 **Fiscal Implications:** This measure will impact the priorities identified in the Governor's
2 Executive Budget Request for the Department of Health's (Department) appropriations and
3 personnel priorities.

4 **Department Testimony:** The Department supports this measure but respectfully requests
5 changes to the proposed amendment to the statewide greenhouse gas (GHG) limit. Tracking
6 Hawaii's progress in greenhouse gas reductions and the need for the State to plan ahead and
7 understand the steps that need to be taken are critical components towards achieving success in
8 combatting climate change. We support the bill's directives to have the Department determine
9 the 2005 statewide emission level and continue to produce GHG inventory reports. We also
10 support the proposed Hawaii State Energy Office study to determine Hawaii's pathways to
11 decarbonization. However, we recommend that the decarbonization plan be utilized to determine
12 the statewide limit and that the limit be placed in Hawaii Revised Statutes (HRS) §225P-5, Zero
13 Emissions Clean Economy Target.

14 The major problem with the attempt to realize further GHG reductions is that bill copies
15 Act 234, 2007 Hawaii Session Laws, which created the original GHG limit (at or equal to 1990
16 levels by 2020) and directed the Department to adopt rules to reach that goal. The primary
17 means under the Department's authority to reach the limit, which was previously utilized, is air
18 pollution control permitting of stationary sources. By continuing to rely primarily on stationary
19 source permits, the bill's stated goal of lowering GHG emissions to 70% below 2005 levels by
20 2030 is unattainable. The latest Hawaii Greenhouse Gas Emissions Report for 2017 projects the

1 2030 GHG emissions levels and demonstrates that even if the State were to eliminate GHG
2 emissions for all of Hawaii's stationary combustion sources, it still could not reach the targeted
3 reduction.

4 The data from the report indicates that additional reductions can mainly be found in four
5 areas: 1) renewables to replace stationary combustion emissions (e.g., the Renewable Portfolio
6 Standard); 2) domestic and military aviation; 3) ground transportation; and 4) carbon sinks.
7 Without strong advancements in GHG reductions from these areas, which are outside of the
8 Department's authority, options are limited in reaching a significant GHG reduction goal.

9 Setting an achievable goal and identifying the means to reach it would come from a
10 decarbonization plan as proposed in Section III of the bill. A decarbonization plan would
11 provide a comprehensive approach to tackling this complex problem.

12 We suggest that any revised limit be placed in HRS §225P-5. Setting the limit with the
13 Climate Commission allows for reductions to come from a variety of economic sectors as
14 described above and promotes a multijurisdictional approach with all State agencies working
15 towards it.

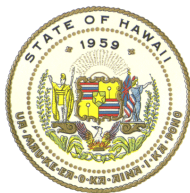
16 To accomplish this recommendation, the Department requests that all amendments to
17 HRS §342B be removed from the bill except for the following:

- 18 1) Retain the language that establishes a new paragraph 342B-71(b). The Department
19 is in the process of contracting services to generate the 2005 statewide GHG
20 emissions inventory, as well as inventories for 2018-2022 and projections through
21 2045.
- 22 2) Revise proposed paragraph 342B-71(c) to read, "The director shall complete a
23 GHG emissions inventory report for each year after 2017 to track emissions and
24 determine Hawaii's progress in the reduction of GHG emissions. The Department
25 shall make these reports widely accessible, including to the public, as soon as they
26 are available." This revision is necessary because the lag in gathering data,

1 processing and review by other agencies, and the complexity of analyses make it
2 difficult to tie publishing of the reports to a specific date.

3 **Offered Amendments: Stated above.**

4 Thank you for the opportunity to testify on this measure.



STATE OF HAWAII
HAWAII CLIMATE CHANGE MITIGATION & ADAPTATION
COMMISSION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Testimony of
Anukriti Hittle
Coordinator, Hawaii Climate Change Mitigation and Adaptation Commission

Before the House Committee on

ENERGY AND ENVIRONMENTAL PROTECTION

Tuesday, February 1, 2022
9:00 am
State Capitol, Via Videoconference

In support of
House Bill 1800
RELATING TO CLIMATE MITIGATION

Co-Chairs:
Chair, DLNR
Director, Office of Planning

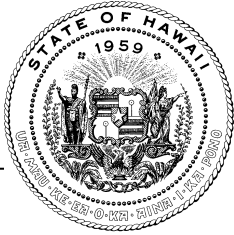
Commissioners:
Chair, Senate AEN
Chair, Senate WTL
Chair, House EEP
Chair, House WTH
Chairperson, HTA
Chairperson, DOA
CEO, OHA
Chairperson, DHHH
Director, DBEDT
Director, DOT
Director, DOH
Chairperson, DOE
Director, C+C DPP
Director, Maui DP
Director, Hawai'i DP
Director, Kaua'i DP
The Adjutant General
Manager, CZM

HB 1800 proposes to establish a goal for the statewide greenhouse gas emissions limit to be at least seventy per cent below 2005 levels by 2030, and requires the Hawaii state energy office to conduct a study to determine Hawaii's pathway to decarbonization and identify challenges, opportunities, and actions that will be needed to achieve those goals. **On behalf of the Hawaii Climate Change Mitigation and Adaptation Commission (Commission) I support the intent of this measure, with the following comments.**

I defer to the Department of Health's testimony on this bill, that recommends that the Hawaii State Energy Office's decarbonization plan's results be used to determine the new goals for Hawaii, that this be placed in Hawaii Revised Statutes (HRS) §225P-5, Zero Emissions Clean Economy Target, and the suggestion that these goals be coordinated through the Commission.

The Commission, established by Act 32 SLH 2017 (HRS §225P-3) to uphold the United States' pledges under the Paris Agreement, is the coordinating body for policies on climate change mitigation and adaptation for the state. It is a high-level multi-jurisdictional body that guides the priorities of the state's climate response. Co-chaired by DLNR and Office of Planning, it consists of 20 members—chairs of four legislative committees, and executive department heads at the county and state levels.

Thank you for the opportunity to offer comments in support of this measure.



HAWAII STATE ENERGY OFFICE STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

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Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

Tuesday, February 1, 2022
9:00 AM
State Capitol, Conference Room 325

in SUPPORT of
HB 1800
RELATING TO CLIMATE MITIGATION.

Chair Lowen, Vice Chair Marten, and Members of the Committee, the Hawai'i State Energy Office (HSEO) supports with comments HB 1800, which establishes a goal for the statewide greenhouse gas (GHG) emissions limit to be at least seventy per cent below 2005 levels by 2030; requires the HSEO to conduct a study to determine Hawai'i's pathway to decarbonization and identify challenges, opportunities, and actions that will be needed to achieve those goals; and appropriates funds out of the Energy Security Special Fund (ESSF) for the study.

HSEO's comments are guided by its mission to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy.

HSEO supports Part III of the bill to have the HSEO analyze pathways and develop recommendations for achieving the State's economy-wide decarbonization goals, including the proposed 2030 limit and the zero emissions clean economy target set forth in Hawai'i Revised Statutes (HRS) § 225P-5. HSEO notes that the submittal date of the analysis and recommendations to be no later than twenty days before the 2023 Legislature. This means that, should the bill and budget be enacted, HSEO would have at most five months to receive the authorized funds, conduct the necessary analyses and stakeholder coordination, contract for any services needed, and prepare

and submit the findings. For these reasons, HSEO requests the Committee consider a submittal date before the 2024 Legislature.

HSEO appreciates setting an economy-wide GHG limit to ensure progress toward decarbonizing the economy. Setting an achievable goal and identifying the means to reach it would come from a decarbonization plan as proposed in Part III of the bill. A decarbonization plan would provide a comprehensive approach to tackling this complex problem. Setting a target such as 70% below 2005 levels by 2030 would build on the success of Act 234, Session Laws of Hawaii (SLH) 2007, and provide a near-term marker for achieving the zero emissions clean economy target. HSEO recommends the Committee consider inserting the 70% by 2030 target in HRS Chapter 225 rather than HRS Chapter 342B and consider re-assessing the target following completion of the decarbonization study. Also, by placing the target in HRS Chapter 225P, this involves the State Climate Change Mitigation and Adaptation Commission.

HSEO defers to the appropriate agencies for comment on matters specific to them. HSEO notes that the Department of Health's Greenhouse Gas Inventory has been a critical tool for decarbonizing the economy and appreciates the Department's continual improvement of it.

HSEO supports this bill provided that its passage does not replace or adversely impact priorities indicated in the Executive Supplemental Budget.

Thank you for the opportunity to testify.



To: The House Committee on Energy and Environmental Protection
From: Sherry Pollack, 350Hawaii.org
Date: Tuesday, February 1, 2022, 9am

In support of HB1800

Aloha Chair Lowen, Vice Chair Marten, and Energy and Environmental Protection Committee members,

I am Co-Founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. 350Hawaii.org **supports HB1800** that would establish a goal for the statewide greenhouse gas emissions limit to be at least 70% below 2005 levels by 2030. This bill would also require the Hawaii state energy office to conduct a study to determine Hawaii's pathway to decarbonization and identify challenges, opportunities, and actions that will be needed to achieve those goals.

350Hawaii supports and encourages the efforts of the legislature to move towards a fully decarbonized economy. We applaud the inclusion of emissions associated with air travel and shipping in the analysis and development of recommendations to be made from the Hawaii State Energy Office. These industries, and the associated greenhouse gas emissions, must be addressed for Hawaii to achieve its goal to sequester more atmospheric carbon and greenhouse gases than emitted.

Mahalo for the opportunity to testify in **support** of this important legislation.

Sherry Pollack
Co-Founder, 350Hawaii.org



HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

February 1, 2022, 9:00 A.M.

Video Conference

TESTIMONY IN STRONG SUPPORT OF HB 1800

Aloha Chair Lowen, Vice Chair Marten, and Committee members:

Blue Planet Foundation **supports HB 1800**, which establishes a goal to reduce statewide greenhouse gas emissions 70% below 2005 levels by 2030, and requires a decarbonization pathways analysis to help identify specific and actionable steps to help us reach the goal.

The Climate Emergency Requires Deep Decarbonization

In August 2021, the United Nations Intergovernmental Panel on Climate Change issued its loudest wake-up call on climate to date. The nearly 4,000-page report on climate science leaves no room for debate: human's activities are unequivocally changing our planet's climate. Our fossil fuel use is responsible for the dramatic unnatural disasters we've been witnessing worldwide—from the firestorms on the West Coast to the flooding in Europe and Asia, to the slipping away of Hawai'i's beaches. The report makes clear what we must do now: we must put an expiration date on burning fossil fuels and make deep decarbonization efforts economy-wide, not only in the electricity sector.

In a time where many of us are experiencing “disaster fatigue,” the UN report did share one silver lining. While some consequences are irreversible, we can still prevent the very worst effects of climate change. But only if we act now.

Last year, Hawai'i lawmakers took an inspiring step by passing a resolution (SCR 44) declaring a “climate emergency.” House Bill 1800 offers a critical opportunity to transform the words of the climate emergency resolution into meaningful and measurable actions that match the scale and urgency of the challenge we face.

House Bill 1800 takes an important step by updating our economy-wide emissions reduction goals to match what science tells us about the climate emergency. In Act 234, Session Laws of Hawai'i 2007, the Hawai'i legislature set a policy to reduce statewide greenhouse gas emissions to 1990 levels by 2020 (and no stated target beyond that date). In Act 234, the legislature recognized that “climate change poses a serious threat to the economic well-being, public health, natural resources, and the environment of Hawaii.” Yet nearly fifteen years later, the

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potential for deep decarbonization remains untapped. While our emissions have slowed, they have not dropped at the speed and scale necessary to avoid climate catastrophe. This measure would codify the urgency and commitment articulated in the legislature's 2021 climate emergency resolution by setting a target to reduce carbon emissions economy-wide in the state by 70% over 2005 levels no later than 2030. What's more, this 70% reduction goal and deadline matches the target that Hawaiian Electric (the state's largest electric utility) publicly set in 2021 for reducing emissions in power generation.¹ And from an implementation standpoint, the Department of Health already has a mechanism and rules in place for measuring greenhouse gas emissions annually to track our progress.

In conclusion, Blue Planet strongly supports HB 1800. To meet the challenge of climate change, we must update our statewide greenhouse gas emissions reduction targets and identify specific pathways to achieve those goals while also ensuring we are consistently and quantitatively measuring our progress with annual reporting.

Thank you for the opportunity to provide testimony.

¹ See "Hawaiian Electric sets goal of 70% carbon reduction by 2030, envisions zero emissions by 2045," <https://www.hawaiianelectric.com/hawaiian-electric-sets-goal-of-70-percent-carbon-reduction-by-2030-envisions-zero-emissions-by-2045>.

HB-1800

Submitted on: 1/31/2022 8:22:42 AM

Testimony for EEP on 2/1/2022 9:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Ted Bohlen	Climate Protectors Hawai'i	Support	Yes

Comments:

To: The Honorable Nicole Lowen, Chair, the Honorable Lisa Marten, Vice Chair, and Members of the House Committee on Energy and Environmental Protection

From: Climate Protectors Hawai'i (by Ted Bohlen)

Re: Hearing **HB1800 RELATING TO CLIMATE MITIGATION.**

Hearing: Tuesday, February 1, 2022, 9:00 a.m., by videoconference

Aloha Chair Lowen, Vice Chair Marten, and members of the House Committee on Energy and Environmental Protection:

The Climate Protectors Hawai'i is a group focused on reversing the climate crisis. **The Climate Protectors Hawai'i STRONGLY SUPPORTS HB1800!**

The Climate Protectors Hawai'i **STRONGLY SUPPORTS** this legislation because it would help Hawai'i lead in mitigating the climate emergency. The bill would set a goal for a statewide greenhouse gas emissions limit that is at least seventy percent below the 2005 base level by 2030. It also charges the State Energy office (and appropriates funding) to study Hawaii's path to decarbonization and identify challenges, opportunities and actions needed to achieve these goals.

This bill is absolutely critical if Hawai'i is to mitigate the climate emergency we are facing. As a tropical island State, Hawai'i will be among the first places harmed by the global climate crisis, with more intense storms, loss of protective coral reefs, food insecurity, and rising sea levels destroying our shorelines. We must do all we can to reduce our carbon footprint and become carbon negative as soon as possible. Hawai'i can and should be a leader in showing the world the way forward towards a safe and sustainable climate and future. The sooner we inspire others to take action and lead by example, the better off the future will be for ourselves, our keiki and succeeding generations.

Hawai'i especially needs this bill because it currently has no decarbonization targets until 2045. The latest science, including frightening feedback loop data, indicates that 2045 will be too late. Hawai'i must decarbonize in this decade in order to lead and help mitigate the climate emergency!

The 70% reduction target is ambitious, but feasible through a combination of greenhouse gas emission reductions and atmospheric carbon sequestration measures, in all aspects of our life, e.g., buildings, transportation, agriculture and food, and waste. We need to set this ambitious goal and implement changes soon in order to meet it, or we and our progeny will face a darker future!

Please pass this bill! Mahalo!

Climate Protectors Hawai'i (by Ted Bohlen)

HB-1800

Submitted on: 1/29/2022 9:06:23 AM

Testimony for EEP on 2/1/2022 9:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Anthony Orozco	Individual	Oppose	No

Comments:

This waste of money won't stop climate change. Until major countries like China make big cuts which is unlikely, all this local climate stuff is in vain.



P.O. Box 37158, Honolulu, Hawai'i 96837-0158
Phone: 927-0709 henry.lifeoftheland@gmail.com

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Nicole E. Lowen, Chair
Rep. Lisa Marten, Vice Chair

DATE: Tuesday, February 1, 2022
TIME: 9:00AM

HB 1800 Relating to Climate Mitigation **Support, Suggested Amendment**

Aloha Chair Lowen, Vice Chair Marten, and Members of the Committee

Life of the Land is Hawai'i's own energy, environmental and community action group advocating for the people and `aina for 52 years. Our mission is to preserve and protect the life of the land through sound energy and land use policies and to promote open government through research, education, advocacy and, when necessary, litigation.

Meeting climate goals sooner and Including aviation are very important goals.

What doesn't exist in state law and is not spelled out in this bill is what is meant by "environmental justice communities" and "frontline communities."

Suggested Amendment

"Environmental justice communities" means communities where residents are predominantly Native Hawaiian, Pacific Island, or low-income; where residents have

been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices, and activities in their communities.

“Frontline communities” means communities experiencing the first and/or worst of climate change consequences, specifically those most impacted by existing and new energy systems and the resulting pollution and intrusion. Frontline communities include, but are not limited to communities of Native Hawaiian, Pacific Island, or low-income communities, that have extractive industries, commercial-scale fossil fuel facilities and/or commercial-scale renewable energy projects.

Mahalo

Henry Curtis
Executive Director

HB-1800

Submitted on: 1/29/2022 12:28:59 PM

Testimony for EEP on 2/1/2022 9:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Douglas Perrine	Individual	Support	No

Comments:

I strongly support HB1800, as a minimum measure to expedite Hawaii's transition to energy sources that may avert or lessen the most disastrous consequences of climate change and rising seas.

HB-1800

Submitted on: 1/29/2022 5:06:11 PM

Testimony for EEP on 2/1/2022 9:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Tawn Keeney	Individual	Support	Yes

Comments:

TESTIMONY: HB1800 Tawn Keeney MD

Let me commend the authors for their exemplary level of commitment to achieving Hawaii’s Greenhouse Gas mitigation goals and a livable world for our children and grandchildren.

I wish to offer technical comment. The highly desirable addition of aviation emissions to our greenhouse gas mitigation effort, raises complex questions which should be addressed in the intention and language of this bill. Otherwise, the State Energy Office will not have clear direction in their determinations. First, what are the Greenhouse Gasses released from Aviation? The state of science on this issue is defined in the 2021 paper published in the peer reviewed journal Atmospheric Environment entitled “The Contribution of Global Aviation to Anthropogenic Climate Forcing, 2000 to 2018” by Lee, et al.

<https://www.sciencedirect.com/science/article/pii/S1352231020305689> The summation statement of this dense and technical paper is here: “CO2-warming-equivalent emissions based on global warming potentials (GWP method) indicate that aviation emissions are currently warming the climate at approximately three times the rate of that associated with aviation CO2 emissions alone.”

The IPCC in the 2021 6th Assessment Report (Code Red for Humanity) endorses this conclusion and defines the most prominent GHG emissions from aviation in the following analysis: “Our assessment builds on Lee et al. (2020).” “Their study (Lee, et al.) consists of an updated, comprehensive assessment of aviation climate forcing in terms of RF and ERF based on a large number of studies and the most recent air traffic and fuel use datasets available, new calculations and the normalization of values from published modeling studies, and combining the resulting best estimates via a Monte-Carlo analysis.” The IPCC reflects Lee’s finding: “Lee et al. (2020a), reports a net aviation ERF for year 2018 emissions of +0.101 W/sq. meter (5-95% likelihood range of 0.055 - 0.145) with major contributions from contrail cirrus (0.057 W/sq. m), CO2 (0.034 W/sq. m), and NOx (0.017 W/sq. m).” In conclusion the IPCC author concurs with Lee, “In summary, the net aviation ERF is assessed to be +0.1 W/sq. Meter (+/-0.045) for the year 2018 (low confidence).” Note, the IPCC has a confidence category ‘very low’ which is not used. The ‘low confidence’ designation denotes the wide confidence interval specified.

The important conclusion from this IPCC declaration is that Aviation’s primary greenhouse gases are contrail cirrus cloudiness: 57% fraction, CO2: 34% fraction, and NOx: 17% fraction. It is therefore evident that the CO2 emissions approximate only 1/3 of the major GHG

contributions from aviation. As this applies to Hawaii it is well understood that the 'non-CO2 emissions' are greater at higher flight altitudes and thus, the uncertainty in the 5-95% confidence interval would place Hawaii's trans-pacific aviation emissions at likely greater than 3x the CO2 itself.

Thus, though Hawaii's 2019 GHG Inventory specifies only CO2 emissions from Aviation, this understanding is antiquated and must be replaced by the IPCC calculations as indicated above. This would include the specified confidence interval. The method of calculation would be to specify the CO2 emissions (which is easily calculated by multiplying the jet fuel use by a conversion factor) and then multiply x3. The 5 to 95% confidence interval should be specified.

To accomplish this, the bill HB1800 as presented should be amended in 342B-71(b) to read **(b) "The director shall submit a report to the legislature by December 31, 2023, indicating a measurement of the 2005 greenhouse gas emissions including emissions from airplanes using the method designated in the IPCC 6th Assessment Report (2021) SLCF section on Aviation."**

Second, in bill HB1800 the amendment to 342B-71(b) as stated immediately above needs clarification of the phrase "greenhouse gas emissions in the State, including emissions from airplanes". I will presume that the intention is not to limit aviation emissions calculation to only flight which takes place within the State boundaries or perhaps a 200 mile limit. I think this should not be interpreted as meaning only inter island flight. To clarify the intent one needs to decide on the 'purpose' of this legislation. If the 'purpose' might be to apportion responsibility for emissions among several states or nations as the Kyoto protocols prescribes among the various 'parties', then limiting the emissions counted to only those arising from departing flights makes sense as is done in the State GHG Inventory. (The Inventory however does not include international departures though they are estimated.) However if one wants to know how much CO2 is emitted by air travel to and from Hawaii whether US mainland or international in order to determine what all Hawaii travelers, residents or visitors, are 'responsible for' then both arrivals and departures should be counted. In other words, if there were no airports in Hawaii, 'how much Hawaii greenhouse gas emissions would be saved'.

So, it must be decided which is the desired information regarding aviation, inter island flights only, or to include US mainland and international departures, or to determine and include the entirety of air traffic in and out of the islands. That should be specified in this Bill which has the clearly important intention to include aviation in the Greenhouse goals endorsed by the State of Hawaii. Because these goals are described in terms of % reduction from a 'to be determined' 2005 level, the choice of parameters should not present an obstacle. I believe that the intention of the authors is not inter-island aviation only. If that is correct, the choice would become between all aviation or departures only (in these studies I see no rationale for excluding international travel). This choice must be made and language inserted in order to guide the efforts of the State Energy Office in the prescribed studies.

This Bill HB1800 is of landmark importance. Please do not fail its passage. The amendments suggested above I believe are important, however should not in any way divert enthusiasm from the achievement encompassed here.

Mahalo for your consideration

Tawn Keeney MD



HB 1800, RELATING TO CLIMATE MITIGATION

FEBRUARY 1, 2022 · HOUSE ENERGY AND ENVIRONMENTAL PROTECTION COMMITTEE · CHAIR REP. NICOLE E. LOWEN

POSITION: Support.

RATIONALE: Imua Alliance supports HB 1800, relating to climate mitigation, which establishes a goal for the statewide greenhouse gas emissions limit to be at least seventy percent below 2005 levels by 2030; requires the Hawaii state energy office to conduct a study to determine Hawai'i's pathway to decarbonization and identify challenges, opportunities, and actions that will be needed to achieve those goals; and appropriates funds for the study.

According to a report produced by the Hawai'i Climate Change Mitigation and Adaptation Commission, global sea levels could rise more than three feet by 2100, with more recent projections showing this occurring as early as 2060. In turn, over the next 30 to 70 years, approximately 6,500 structures and 19,800 people statewide will be exposed to chronic flooding.

Additionally, an estimated \$19 billion in economic loss would result from chronic flooding of land and structures located in exposure areas. Finally, approximately 38 miles of coastal roads and 550 cultural sites would be chronically flooded, on top of the 13 miles of beaches that have already been lost on Kaua'i, O'ahu, and Maui to erosion fronting shoreline armoring, like seawalls.

Furthermore, according to research conducted by Michael B. Gerrard from Columbia Law School, modern-day slavery tends to increase after natural disasters or conflicts where large numbers of

people are displaced from their homes. In the decades to come, says Gerrard, **climate change will very likely lead to a significant increase in the number of people who are displaced and, thus vulnerable, to human trafficking.** While the Paris Climate Agreement of 2015 established objectives to limit global temperature increases and several international agreements are aimed at combating modern-day slavery, it is highly uncertain whether they will be adequate to cope with the scale of the problem that is likely to occur as a result of climate change.

As we work to reduce carbon emissions and stave off the worst consequences of climate change, we must begin preparing for the adverse impact of sea level rise on our shores. We are now quantifying the speed at which we must act. We cannot continue to develop the 25,800-acre statewide sea level rise exposure area—one-third of which is designated for urban use—without risking massive structural damage and, potentially, great loss of life.

Therefore, we should take steps to accelerate Hawai'i's efforts to address climate change and develop a clean economy, including by accelerating goals to limit greenhouse gas emissions. This is especially important in light of the islands' carbon-intensive visitor industry. **In 2019, for example, Civil Beat reported that flights to and from Hawai'i from all over the world produced approximately 6.3 million tons of carbon, which is the equivalent of the CO2 produced by generating electricity for almost 1.1 million homes in a year.** For the sake of our keiki, we must take quick action to preserve climate for generations to come.

Kris Coffield · Executive Director, Imua Alliance · (808) 679-7454 · kris@imuaalliance.org

HB 1800 TESTIMONY

To: House Committee on Energy & Environmental Protection
Hearing on Feb. 1, 2022 at 9:00 a.m.

From: John Kawamoto

Position: Support

The proportion of carbon dioxide in the atmosphere as measured at the Mauna Loa Observatory continues to trend upward, as it has since 1958, when the data started being collected. For example, the monthly average of carbon dioxide in December 2021 was 416.71 parts per million, an increase from the year before, in December 2020, when it was 414.26 parts per million.

Atmospheric carbon dioxide is insidious. When carbon dioxide is put into the atmosphere, it stays there for 300 to 1,000 years, according to NASA.

Humanity must do much more to prevent a global climate catastrophe that threatens its very existence.

Based on recent data about climate change, many climate scientists now say that we have less than 10 years to take the drastic action needed to limit the emissions of greenhouse gases to limit catastrophic storms, heat waves, droughts, sea level rise, and other climate disasters to ensure a livable environment.

HB 1800 sets as a statewide goal that by 2030, greenhouse gas emissions will be 70% below what it was in 2005. This bill must be passed, and the Legislature should follow up with actions needed achieve this goal.

For the foregoing reasons I support HB 1800.



**Hawaiian
Electric**

**TESTIMONY BEFORE THE SENATE COMMITTEE ON
ENERGY & ENVIRONMENTAL PROTECTION**

HB 1800

Relating to Climate Mitigation

Tuesday, February 1, 2022

09:00 am, Agenda Item #1

State Capitol, Conference Room 325 & Videoconference

Marc Asano

Director, Integrated Grid Planning

Hawaiian Electric

Chair Lowen, Vice Chair Marten, and Members of the Committee:

My name is Marc Asano and I am testifying on behalf of Hawaiian Electric Company **in support of HB 1800**, Relating to Climate Mitigation, **with comments in opposition to Section 3**.

HB 1800 amends HRS Section 342B-71 to achieve a statewide greenhouse gas emissions (GHG) limit by 2030 that is at least 70 percent below statewide GHG emissions in 2005. The director of the Department of Health must also establish greenhouse gas limits by sources and categories that must be achieved by January 1, 2030. Further, this bill requires the State Energy Office to conduct a study to determine Hawaii's pathway to decarbonization and actions that will be needed to achieve these goals.

Hawaiian Electric is committed to reducing carbon emissions in 2030 by as much as 70 percent below 2005 levels. Our ambitious Climate Change Action Plan for the next eight years anticipates a steady pace of cost-effective renewable energy resources

coming online to reduce the use of fossil fuels to generate electricity. Key elements of the Company's 2030 plan include:

- Shutting down the state's last coal plant in 2022;
- Adding nearly 50,000 rooftop solar systems to the 90,000 now online;
- Retiring at least 6 fossil-fueled generating units and significantly reducing the use of others as new renewable resources come online;
- Adding renewable energy projects capable of generating a total of at least 1 gigawatt, including shared solar (community-based renewable energy);
- Using more grid-scale and customer-owned energy storage;
- Expanding geothermal resources; and
- Creating innovative programs that provide customers incentives for using clean, lower-cost energy at certain times of the day and using less fossil-fueled energy at night.

By 2030, Hawaiian Electric's renewable portfolio standard is expected to exceed 70%, with renewable resources available to provide close to 100% of the electricity generated on Hawaii Island and in Maui County.

For these reasons, Hawaiian Electric strongly supports Section 2 of the bill to establish an interim GHG reduction target by 2030 that includes the aviation sector, a measurement of the 2005 statewide emissions, and to complete on-going statewide inventory and tracking of emissions. However, the actual emissions reduction target by 2030 should not be set until a study as outlined in Section 4 of the bill is completed. An analysis conducted by the State Energy Office should identify agencies and organizations responsible for reductions of different categories of carbon sources, and the appropriate and feasible emissions reduction targets. The transportation sector

represents a large portion of the current emissions in the State. In particular, carbon mitigation measures in the aviation sector are particularly challenging. The electrification of the ground and air transportation sectors along with the potential need for negative emissions technologies to achieve GHG reduction goals will significantly increase electricity demand and renewable energy needs. Concomitantly, significant land will be required to realize this future. Therefore, this analysis should be completed to comprehensively assess the State's entire carbon economy before setting interim targets.

To that end, Hawaiian Electric **opposes** Section 3 at this time, as the director of the Department of Health should not be required to establish limits by category of sources until an analysis is completed as described herein and in Section 4 of the bill. The limits established by the Department of Health should consider all sectors and agencies that are responsible for managing source emissions. Such limits should be based on emission reduction measures that are practically and technically feasible and cost-effective.

Hawaiian Electric looks forward to further discussions on this very important topic as it will truly take a statewide effort of collaboration.

Accordingly, the Hawaiian Electric supports HB 1800, with comments in opposition to Section 3. Thank you for this opportunity to testify.

TESTIMONY OF
JAMES P. GRIFFIN, Ph.D.
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII

TO THE
HOUSE COMMITTEE ON
ENERGY AND ENVIRONMENTAL PROTECTION

February 1, 2022
9:00 a.m.

Chair Lowen and Members of the Committee:

MEASURE: H.B. No. 1800

TITLE: RELATING TO CLIMATE MITIGATION.

DESCRIPTION: Establishes a goal for the statewide greenhouse gas emissions limit to be at least seventy per cent below 2005 levels by 2030. Requires the Hawaii state energy office to conduct a study to determine Hawaii's pathway to decarbonization and identify challenges, opportunities, and actions that will be needed to achieve those goals. Appropriates funds out of the energy security special fund for the study.

POSITION:

The Public Utilities Commission ("Commission") offers the following comments for consideration.

COMMENTS:

The Commission supports the intent of this measure to reduce statewide greenhouse gas emissions and study Hawaii's pathway to decarbonization. Should this measure pass, the Commission will coordinate with the Hawaii State Energy Office on implementing these goals as they pertain to the state's energy utilities.

Thank you for the opportunity to testify on this measure.

HB-1800

Submitted on: 1/30/2022 11:34:49 PM

Testimony for EEP on 2/1/2022 9:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Dylan Ramos	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Marten, and EEP Committee Members,

While I support the goals set forth in HB1800 -- its greater sense of urgency to address the climate crisis, its recognition of environmental and climate justice demands, and its support for a more comprehensive approach to greenhouse gas emissions -- the bill currently lacks definitions for some key terms. **I support amending HB1800** to include the following definitions so that subsequent studies and policy measures are based off of a clear and shared understanding of the issues.

1. “Environmental justice communities” means communities where residents are predominantly Native Hawaiian, Pacific Island, or low-income; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices and activities in their communities.
2. “Frontline communities” means communities experiencing the first and/or worst of climate change consequences, specifically those most impacted by existing and new energy systems and the resulting pollution. Frontline communities include, but are not limited to communities of Native Hawaiian, Pacific Island, or low-income communities, that have extractive industries, commercial-scale fossil fuel facilities and commercial-scale renewable energy projects.

Thank you for considering my testimony and strengthening this important bill.

Mahalo,
Dylan Ramos

HB-1800

Submitted on: 1/31/2022 4:57:54 PM

Testimony for EEP on 2/1/2022 9:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Lois Crozer	Individual	Support	No

Comments:

Thank you.