



HAWAII STATE ENERGY OFFICE STATE OF HAWAII

JOSH GREEN, M.D.
GOVERNOR

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Testimony of
MARK B. GLICK, Chief Energy Officer

before the
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

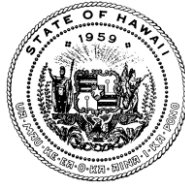
Tuesday, January 31, 2023
8:30 AM
State Capitol, Conference Room 325 and Videoconference

Comments in consideration of
HB 197
RELATING TO CLIMATE CHANGE MITIGATION.

Chair Lowen, Vice Chair Cochran and Members of the Committee, the Hawaii State Energy Office (HSEO) respectfully offers comments on HB 197, which requires the department of health to establish a refrigerant management program of high global warming potential refrigerants. HSEO's testimony is guided by its mission to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy.

HB 197 requires the state building code council (SBCC), when adopting, amending or updating the codes and standards identified in HRS section 107-25, to establish codes and standards that are consistent with the goal of reducing greenhouse gas emissions associated with hydrofluorocarbons. The SBCC chair has informed the Department of Health that the matter will be placed on the agenda of the next SBCC meeting on February 21, 2023, for its consideration and recommendations.

Thank you for the opportunity to testify.



STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P. O. BOX 3378
HONOLULU, HI 96801-3378
doh.testimony@doh.hawaii.gov

In reply, please refer to:
File:

**Testimony in SUPPORT of HB 0197
RELATING TO CLIMATE CHANGE MITIGATION**

REPRESENTATIVE NICOLE E. LOWEN, CHAIR
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
Hearing Date: 1/31/2023 Room Number: 325

1 **Fiscal Implications:** This measure may impact the priorities identified in the Governor's
2 Executive Budget Request for the Department of Health's (Department) appropriations and
3 personnel priorities. This measure will increase demand on the Department's resources.
4

5 **Department Testimony:** The Department supports this bill that proposes to establish a new
6 Refrigerant Management Program within the Department to reduce Hydrofluorocarbon (HFC)
7 emissions from refrigerants that impact climate change.

8 The U.S. Environmental Protection Agency (EPA) phased out the production and import
9 of chlorofluorocarbons and most hydrochlorofluorocarbons, commonly used as refrigerants,
10 because of their potential to deplete the upper ozone layer. HFCs became replacements for these
11 ozone depleting substances (ODS). However, it was later found that some types of HFCs are
12 potent greenhouse gases with very high global warming potentials (GWPs) contributing to
13 climate change. On December 27, 2020, the American Innovation and Manufacturing Act was
14 enacted by Congress directing EPA to phase out the use of HFCs by 85% over the next 15 years.
15 EPA is currently developing rules to support the transition to less damaging HFCs or suitable
16 alternatives.

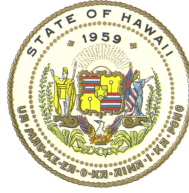
17 As part of the transition to low-GWP alternatives, systems using these compounds must
18 be carefully managed to minimize the impacts on our environment. This measure would help
19 prevent the emissions of high-GWP HFCs by establishing a Hawaii Refrigerant Management
20 Program to include registration, leak inspection, repair, and reporting from large capacity

1 refrigeration systems and service practices for the installation, servicing, and disposal of
2 refrigeration and air conditioning systems that use high-GWP refrigerants. Legacy ozone
3 depleting substances will also be subject to these requirements.

4 This bill aligns with many of Hawaii's climate change goals and priorities and would
5 move Hawaii forward in an area that complements and enhances federal action.

6 Thank you for the opportunity to testify.

7 **Offered Amendments:** None.



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

Co-Chairs:
Chair, DLNR
Director, OPSP

Commissioners:
Chair, Senate AEN
Chair, Senate WTL
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Director, DOH
Chairperson, DOE
Director, C+C DPP
Director, Maui DP
Director, Hawaii DP
Director, Kauai DP
The Adjutant General
Manager, CZM

**Testimony of
Leah Laramee
Coordinator, Hawaii Climate Change Mitigation and Adaptation Commission**

**Before the House Committee on
ENERGY & ENVIRONMENTAL PROTECTION**

**Tuesday, January 31, 2023
8:30 AM**

State Capitol, Via Videoconference, Conference Room 325

**In support of
House Bill 197
RELATING TO CLIMATE CHANGE MITIGATION**

House Bill 197 Requires the department of health to establish a refrigerant management program to reduce emissions of high global warming potential refrigerants and any refrigerant that is an ozone depleting substance from operation of stationary, commercial, and industrial refrigeration equipment responsible and adopt rules for the regulation of the use of such refrigerants. Requires the state building code council to establish codes and standards consistent with the goal of reducing greenhouse gas emissions associated with hydrofluorocarbons when updating the state building code and appropriates funds. **The Hawaii Climate Change Mitigation and Adaptation Commission (Commission) supports this measure.**

The Environmental Protection Agency identifies that Hydrofluorocarbons (HFCs) are greenhouse gases (GHGs) have high global warming potential, raising concern about their impacts as they become increasingly used as replacements for ozone-depleting substances. Climate-friendly alternatives are available to replace HFCs while prohibiting certain uses of the most harmful chemical alternatives which are identified in their Significant New Alternatives Policy (SNAP) Program. A Hawaii refrigerant management program will position the state in a leadership role in phasing out these harmful substances. The Commission supports the measure as an important piece of mitigating global and local climate change.

Mahalo for the opportunity to comment in support of this measure.

HB-197

Submitted on: 1/29/2023 4:02:04 PM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
laurel brier	Kaua'i Climate Action Coalition	Support	Written Testimony Only

Comments:

Refrigerants are a substantial contributor to climate chaos. This bill helps address leakage, servicing and disposal of refrigerants that are a significant part of the problem. A very important low hanging fruit that the legislature can and should address now. Thank you



To: The Honorable Representative Nicole Lowen, Chair, the Honorable Elle Cochran, Vice Chair, and Members of the Committee on Energy and Environmental Protection.

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

Re: Hearing HB197 **RELATING TO CLIMATE CHANGE MITIGATION**

Hearing: Tuesday January 31, 2023 8:30 a.m.

Aloha Chair Lowen, Vice Chair Cochran, and Energy and Environmental Protection Committee Members:

The mission of the Climate Protectors Hawai'i is to educate and engage the local community in climate change action, to help Hawai'i show the world the way back to a safe and stable climate.

The Climate Protectors Hawai'i STRONGLY SUPPORTS HB197!

Refrigerants include some hydrofluorcarbons that are very potent greenhouse gases, with global warming potentials that range from hundreds to thousands of times that of carbon dioxide. If emissions of current refrigerants remain uncontrolled, it is estimated that they could account for up to 20% of global warming by 2050.

One of the biggest sources of emissions of refrigerants is from leakage, mishandling, and improper disposal of refrigeration equipment.

Hydrofluorocarbons have been addressed internationally in the 2018 Kigali accord and in the 2020 federal American Innovation and Manufacturing (AIM) Act. HB197 should be worded so as not to conflict with possible preemption of states' actions restricting the management or use of certain "essential uses," including defense sprays, medical inhalers, semiconductor manufacturing, certain insulating foams, and mission critical military end uses for five years after 2020.

HB 197 requires the Department of Health to establish a refrigerant management program to reduce emissions of high global warming potential refrigerants and reduce emissions of any refrigerant that is an ozone depleting substance. The Department would be charged with adopting rules for the regulation of the use of such refrigerants. These are important steps for the State to take in restricting emissions of climate altering refrigerant gases.

The bill would also require the state building code council to establish codes and standards consistent with the goal of reducing greenhouse gas emissions associated with hydrofluorocarbons when updating the state building code.

HB197 would prepare the State to address significant causes of high greenhouse gas refrigerants escaping into the atmosphere. Please pass this bill with any needed amendments.

Mahalo!

Climate Protectors Hawai'i (by Ted Bohlen)

HB-197

Submitted on: 1/29/2023 11:17:01 PM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Paul Bernstein	Hawaii Environmental Change Agents' Decarbonization of Buildings Task Force	Support	Written Testimony Only

Comments:

Aloha Chair Lowen, Vice Chair Cochran, and Members of the Energy & Environmental Protection Committee:

On behalf of the Hawai'i Environmental Change Agents' (HECA) Decarbonization of Buildings Task Force, I am submitting testimony in strong support of HB197. If we are to truly address our greenhouse gas emissions (GHGs), we must address all GHGs: carbon dioxide, methane, nitrous oxide, and high global warming (GWP) gases such as chlorofluorocarbons (CFCs) and hydrofluorocarbons (HFCs), which are more than a thousand times more potent than carbon dioxide when it comes to global warming. As we reduce our emissions of CO2, emissions of high GWP gases will represent a greater and greater share of our GHG emissions. This bill is a necessary part of a package of policies to address our GHG emissions and complements existing acts to reduce other GHGs. This bill addresses the greatest causes of emissions of these gases and paves the way toward a transition of using far less damaging refrigerants

Much scientific analysis has been done on the benefits of reducing global emissions of CFCs and HFCs:

- “Halogenated organic compounds (i.e., CFCs and HFCs) trap much more heat in the atmosphere than most other known compounds. Scientists calculated that one third of global warming during the second half of the 20th century was due to heat trapped by halogenated compounds. (Source: <https://edu.rsc.org/download?ac=503998>)
- “Increasing atmospheric concentrations of CFCs have accounted for about 24% of the direct increase in radiative forcing from greenhouse gases over the last decade.” (Source <https://experts.illinois.edu/en/publications/the-role-of-refrigerants-in-climate-change>)
- “Avoiding production and use of high-GWP (global warming potential) HFCs by using technologically feasible low-GWP substitutes to meet the increasing global demand can avoid as much as another 0.5 °C warming by the end of the century.” (Source: <https://acp.copernicus.org/articles/13/6083/2013/acp-13-6083-2013.pdf>)

In response to the deleterious effects of HFCs, the international community put forward the Kigali Amendment to the Montreal Protocol. This amendment calls on all countries to reduce their use of HFCs and could avoid up to half a degree Celsius of global warming by the end of the century. The US has ratified this amendment.

In response to the Kigali Amendment and the long standing need to take action against HFCs, the US Federal government included in the American Innovation and Manufacturing (AIM) Act provisions to address HFCs. Of most importance for states—the AIM Act includes a five-year state preemption provision which prohibits states from enforcing their own HFC laws or actions restricting the management or use of the exempted HFCs for five years after 2020. Therefore, HB197 should be worded so as not to conflict with possible preemption of states' actions.

HB197 would prepare the State to address significant causes of high greenhouse gas refrigerants escaping into the atmosphere. Please pass this bill with any needed amendments.

Respectfully,

Paul Bernstein

Chair of HECA's Decarbonization of Buildings Task Force



To: The House Committee on Energy and Environmental Protection
From: Sherry Pollack, 350Hawaii.org
Date: Tuesday, January 31, 2023, 8:30am

In support of HB197

Aloha Chair Lowen, Vice Chair Cochran, 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 HB197** that requires the department of health to establish a refrigerant management program to reduce emissions of high global warming potential refrigerants and any refrigerant that is an ozone depleting substance from operation of stationary, commercial, and industrial refrigeration equipment responsible and adopt rules for the regulation of the use of such refrigerants. In addition, this measure requires the state building code council to establish codes and standards consistent with the goal of reducing greenhouse gas emissions associated with hydrofluorocarbons when updating the state building code.

One of the biggest sources of emissions of refrigerants is from leakage, mishandling, and improper disposal. This measure would support state greenhouse gas reduction goals and prevent leakage of these harmful chemicals into the atmosphere.

Please support and pass this important measure.

Mahalo for the opportunity to testify.

Sherry Pollack
Co-Founder, 350Hawaii.org



Environmental Caucus of The Democratic Party of Hawai'i

To: The Honorable Nicole E. Lowen, Chair
The Honorable Elle Cochran, Vice Chair
Committee on Energy & Environmental Protection

Re: **HB 197 – RELATING TO CLIMATE CHANGE MITIGATION**
Hearing: Tuesday, January 31, 2023, 8:30 a.m., Conference 325, via videoconference

Position: **Strong Support**

Aloha, Chair Lowen, Vice Chair Cochran and Members of the Committee on Energy & Environmental Protection:

The Environmental Caucus of the Democratic Party of Hawai'i stands in strong support of HB 197. This measure requires the department of health to establish a refrigerant management program to reduce emissions of high global warming potential refrigerants and any refrigerant that is an ozone depleting substance from operation of stationary, commercial, and industrial refrigeration equipment responsible and adopt rules for the regulation of the use of such refrigerants. It also requires the state building code council to establish codes and standards consistent with the goal of reducing greenhouse gas emissions associated with hydrofluorocarbons when updating the state building code. This measure also appropriates funds.

As provided in the Democratic Party of Hawai'i Platform adopted at the DPH State Convention on May 28, 2022, our policy is to “protect and preserve Hawai'i's environment and achieve energy sustainability, advance measures to re-establish a healthy climate and environment for humans and fellow species, including actions to urgently address climate change, and work towards 100% renewable energy goals.

We believe that all people have the right to live in a clean, healthy and safe environment. We believe that the preservation of our natural environment and its ecological well-being is essential to ensuring a safe, healthy, bountiful life for future generations in Hawai'i. We support policies that create a more sustainable society. We support the restoration, preservation, and protection of native ecosystems.

We believe in the resource management principles outlined in the Public Trust doctrine of [Article XI, Section 1 of the] Hawai'i State Constitution.”

Requiring (1) the department of health to establish a refrigerant management program to reduce emissions of high global warming potential refrigerants and any refrigerant that is an ozone depleting substance from operation of stationary, commercial, and industrial refrigeration equipment responsible and adopt rules for the regulation of the use of such refrigerants; and (2) requiring the state building code council to establish codes and standards consistent with the goal of reducing greenhouse gas emissions associated with hydrofluorocarbons when updating the state building code, are consistent with the Public Trust Doctrine and the policies of the Democratic Party of Hawaii as a refrigerant management program and updating the state building code to reduce GHG emissions associated with hydrofluorocarbons are sorely required to reduce GHG emissions.

/s/ Melodie Aduja and Alan Burdick, Co-Chairs, DPH Environmental Caucus

HB-197

Submitted on: 1/27/2023 9:37:51 PM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Gerard Silva	Individual	Oppose	Written Testimony Only

Comments:

NO SUCH THING AS CLIMATE CHANGE. This was all made up to make certain People very Rich it is time you Wize Up Dumies!!!!

HB-197

Submitted on: 1/29/2023 1:14:05 PM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Virginia Tincher	Individual	Support	Written Testimony Only

Comments:

Chair Lowen, Vice Chair Cochran and Committee on Energy & Environmental Protection,

Mahalo Rep. Lowen and Cochran and others for introducing this important bill to require the department of health to establish a refrigerant management program to reduce emissions of high global warming potential and ozone depleting refrigerants.

Every action helps. This guidance based on science will give businesses the direction they need to make changes.

As a consumer I will support these changes when I chose where to shop and the products I purchase.

You have my strong support for HB197

HB-197

Submitted on: 1/29/2023 2:58:22 PM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Caroline Azelski	Individual	Support	Written Testimony Only

Comments:

Please support. Thank you.

HB-197

Submitted on: 1/29/2023 6:03:24 PM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Lisa Diaz	Individual	Support	Written Testimony Only

Comments:

Aloha EEP Chair Lowen & EEP Committee members:

I strongly support HB197: RELATING TO CLIMATE CHANGE MITIGATION. Requires the department of health to establish a refrigerant management program to reduce emissions of high global warming potential refrigerants and any refrigerant that is an ozone depleting substance from operation of stationary, commercial, and industrial refrigeration equipment responsible and adopt rules for the regulation of the use of such refrigerants. Requires the state building code council to establish codes and standards consistent with the goal of reducing greenhouse gas emissions associated with hydrofluorocarbons when updating the state building code. Appropriates funds.

I support the reduction /eliminatrion of emissions of high global warming potential refrigerants and any refrigerant that is an ozone depleting substance, to protect Hawaii residents and our planet. Our state building code needs to be updated to protect our aina and planet.

Mahalo, Chair Lowen, for introducing HB197 and leading the EEP committee to responsibly move our state in the right direction to reduce greenhouse gases and manage hydrofluorocarbons. Mālama i ka aina, Mālama Kai!

Mahalo with Aloha,

Lisa Diaz

76-223 Haoa St.

Kailua-Kona, HI 96740

HB-197

Submitted on: 1/29/2023 11:06:24 PM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Andrea Nandoskar	Individual	Support	Written Testimony Only

Comments:

Strongly support!

HB-197

Submitted on: 1/30/2023 10:42:37 AM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
John Latkiewicz	Individual	Support	Written Testimony Only

Comments:

Please support HB197. As stated in the bill decription, refrigerants are thousands more times potent than CO2 in contributing to climate change

One of the biggest sources of emissions of refrigerants is from leakage, mishandling, and improper disposal.

If emissions of current refrigerants remain uncontrolled, it's estimated that they could account for up to 20% of global warming by 2050.

This bill addresses the most significant causes of refrigerants escaping into the atmosphere by establishing a refrigerant management program

From: Candi Scott <scottncandi@outlook.com>
Sent: Sunday, January 29, 2023 9:12 PM
To: webmaster <webmaster@Capitol.hawaii.gov>
Subject: Bill: HB 197

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I support this bill.

Karen Scott
280 Hauoli
Wailuku, HI 96793

HB-197

Submitted on: 1/30/2023 7:28:57 PM

Testimony for EEP on 1/31/2023 8:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Will Caron	Individual	Support	Written Testimony Only

Comments:

Hydrofluorocarbons (HFCs) are chemicals commonly used in air conditioning and refrigeration, in insulating foam, and as propellants. HFCs were designed to replace ozone depleting substances that were harming the planet's protective ozone layer. However, HFCs are now quickly building up in Earth's atmosphere, where they act as greenhouse gases that can have very high global warming potentials that are thousands of times more potent than carbon dioxide in contributing to climate change. If HFCs continue to be used, it is estimated that they could account for up to 20% of global greenhouse gas emissions by 2050. To act in concert with the federal American Innovation and Manufacturing Act, which limits HFC production and phases-out the use of HFCs by 85% over the next 15 years, Hawai'i should create a refrigerant management program requiring registration, leak inspection, and leak repair for non-residential stationary appliances, including stationary refrigeration systems and air conditioning systems. This would support state greenhouse gas reduction goals and prevent leakage of these harmful chemicals into the atmosphere. Please pass HB197.