OFFICE OF INFORMATION PRACTICES

STATE OF HAWAII
NO. 1 CAPITOL DISTRICT BUILDING
250 SOUTH HOTEL STREET, SUITE 107
HONOLULU, HAWAI'I 96813
TELEPHONE: 808-586-1400 FAX: 808-586-1412
EMAIL: oip@hawaii.gov

To: House Committee on Energy & Environmental Protection

From: Carlotta Amerino, Director

Date: March 17, 2026, 9:15 a.m.
State Capitol, Conference Room 325

Re: Testimony on S.B. No. 2376, S.D. 2
Relating to the Renewable Fuels Production Tax Credit

Thank you for the opportunity to submit testimony on this bill, which would amend the requirements of the renewable fuels production tax credit. The Office of Information Practices (OIP) testified previously to request an amendment to a confidentiality provision and exemption from disclosure under the Uniform Information Practices Act (UIPA), chapter 92F, Hawaii Revised Statutes (HRS). That amendment was made in the S.D. 2 version of the bill, and OIP has no further concerns regarding this measure.

JOSH GREEN M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

GARY S. SUGANUMA
DIRECTOR

KRISTEN M.R. SAKAMOTO
DEPUTY DIRECTOR

STATE OF HAWAIʻI
DEPARTMENT OF TAXATION
Ka ʻOihana ʻAuhau
P.O. BOX 259
HONOLULU, HAWAIʻI 96809
PHONE NO: (808) 587-1540
FAX NO: (808) 587-1560

TESTIMONY OF GARY S. SUGANUMA, DIRECTOR OF TAXATION

TESTIMONY ON THE FOLLOWING MEASURE:
S.B. No. 2376, S.D.2, Relating to the Renewable Fuels Production Tax Credit

BEFORE THE:
House Committee on Energy & Environmental Protection

DATE: Tuesday, March 17, 2026
TIME: 9:15 a.m.
LOCATION: State Capitol, Room 325

Chair Lowen, Vice-Chair Perruso, and Members of the Committee:

The Department of Taxation (DOTAX) offers the following comments regarding S.B. 2376, S.D.2, for your consideration.

S.B. 2376, S.D.2, makes several amendments to section 235-110.32, Hawaii Revised Statutes (HRS), regarding the Renewable Fuels Production Tax Credit (RFPTC).

Subsection (a) is amended to require that the credit be based on qualified renewable fuel production costs incurred within Hawai'i, and that no other tax credit may be claimed for the costs used to claim a credit under section 235-110.32, HRS, for the taxable year. This subsection is also amended to clarify that each taxpayer, together with all related entities, who currently are not eligible for more than a "single" ten-year credit period, would be eligible for a "separate" ten-year credit period "for each separate qualified renewable fuels production located at a separate physical site that meets the eligibility requirements of this section."

Subsection (f), regarding the $20,000,000 aggregate yearly cap, is amended to provide that if the total amount of credits applied for each year exceed the aggregate amount of credit allowed for that year, a taxpayer's excess credit shall be treated as

having been applied for, and shall be claimed, in the following year.

Subsection (c) changes the reporting requirements for a taxpayer to the Hawai'i State Energy Office (HSEO) from 30 days to 90 days following the close of the calendar year, and subsection (g) is amended so the public inspection and dissemination posting requirements for the HSEO exempts releasing certain information if it would jeopardize security, safety, or operations of critical energy infrastructure as determined under the Federal Power Act.

Subsection (o) is amended by defining "qualified renewable fuel production costs" as costs incurred by a qualified production within the State that are subject to general excise tax (GET) at the highest rate or income tax if the costs are not subject to GET.

The measure has a defective effective date of April 19, 2042, and is applicable to taxable years beginning after December 31, 2026.

DOTAX defers to the HSEO regarding its ability to incorporate these changes and its ability to continue to administer the aggregate credit cap and the new excess credit tracking.

DOTAX can administer the tax law changes for taxable years beginning after December 31, 2026.

Thank you for the opportunity to provide comments on this measure.

TESTIMONY OF
THE DEPARTMENT OF THE ATTORNEY GENERAL
KA ʻOIHANA O KA LOIO KUHINA
THIRTY-THIRD LEGISLATURE, 2026

ON THE FOLLOWING MEASURE:
S.B. NO. 2376, S.D. 2, RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT.

BEFORE THE:
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

DATE: Tuesday, March 17, 2026 **TIME:** 9:15 a.m.

LOCATION: State Capitol, Room 325

TESTIFIER(S): Anne E. Lopez, Attorney General, or
Joshua J. Michaels, Deputy Attorney General

Chair Lowen and Members of the Committee:

The Department of the Attorney General has concerns regarding this bill and provides the following comments, including a proposed amendment to address these concerns.

The bill amends the Renewable Fuels Production Tax Credit under section 235-110.32, Hawaii Revised Statutes (HRS), to clarify that taxpayers may claim the credit only for renewable fuels for which qualified renewable fuels production costs are incurred within the State (page 1, lines 14-15).

The bill defines "qualified renewable fuel production costs" as follows (page 8, lines 5-9):

> "Qualified renewable fuel production costs" means the costs incurred by a qualified production within the State that are subject to the general excise tax under chapter 237 at the highest rate of tax or income tax under this chapter if the costs are not subject to the general excise tax. (Emphasis added.)

This definition may expose the bill to challenge under the Commerce Clause of the United States Constitution because it could be construed as discriminating against interstate commerce.

The Commerce Clause provides that Congress shall have the power to "regulate Commerce . . . among the several States." U.S. Const. art. I, § 8, cl. 3. Although framed as a grant of authority to Congress, the United States Supreme Court has long recognized that the Clause also contains a "negative" or "dormant" aspect that prohibits states from unjustifiably discriminating against or burdening interstate commerce. *See*

Oregon Waste Systems, Inc. v. Dep't of Envtl. Quality, 511 U.S. 93, 98, 114 S. Ct. 1345, 1349 (1994). This doctrine prohibits states from "advancing their own commercial interests" by burdening out-of-state competitors or favoring in-state economic interests. *Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dep't of Natural Resources*, 504 U.S. 353, 112 S. Ct. 2019 (1992); *see also Dep't of Revenue of Ky. v. Davis*, 553 U.S. 328, 337, 128 S. Ct. 1801, 1808 (2008).

In *Bacchus Imports Ltd. v. Dias*, 468 U.S. 263 (1984), the United States Supreme Court struck down a liquor tax exemption that applied only to locally produced alcoholic beverages. The Court held that the exemption violated the Commerce Clause because it bestowed a commercial advantage on locally produced products.

Here, the bill limits "qualified renewable fuel production costs" to costs incurred within the State that are subject to Hawaii's general excise tax (GET) at the highest rate, or to Hawaii income tax if not subject to GET (page 8, lines 5-9). To the extent that this definition excludes costs associated with transactions involving out-of-state sellers—such as feedstocks purchased from out-of-state sellers that are not subject to the GET or Hawaii income tax—the bill could be viewed as favoring in-state transactions over interstate commerce. Such differential treatment may invite a challenge under the dormant Commerce Clause.

In addition, the requirement that costs be subject to GET "at the highest rate" may unintentionally exclude certain in-state production costs. For example, wholesale transactions are subject to the 0.5% GET rate pursuant to section 237-4, HRS, rather than the highest GET rate.

To mitigate potential constitutional concerns and to ensure consistent tax treatment of in-state and out-of-state transactions, the Department recommends amending the definition on page 8, lines 5-9, to read:

> "Qualified renewable fuel production costs" means the costs incurred by a qualified production within the State that are subject to the general excise tax under chapter 237 or use tax under chapter 238, or income tax under this chapter if the costs are not subject to the general excise tax or use tax.

This amendment will remedy our concerns because it would allow eligible out-of-state entities to claim the credit.

Thank you for the opportunity to provide testimony.

HAWAII STATE ENERGY OFFICE
STATE OF HAWAII

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

MARK B. GLICK
CHIEF ENERGY OFFICER

235 South Beretania Street, 5th Floor, Honolulu, Hawaii 96813 Telephone: (808) 451-6648
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804 Web: energy.hawaii.gov

Testimony of
MARK B. GLICK, Chief Energy Officer

before the
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Tuesday, March 17, 2026
9:15 AM
State Capitol, Conference Room 325, and Videoconference

Providing Comments on
SB 2376, SD2

RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT.

Chair Lowen, Vice Chair Perruso, and Members of the Committee, the Hawai‘i State Energy Office (HSEO) offers comments on SB 2376, SD2, which amends the Renewable Fuels Production Tax Credit (RFPTC), Section 235-110, Hawai‘i Revised Statutes (HRS). Amendments 1) clarify that the RFPTC shall only be claimed by taxpayers for which qualified renewable fuels production costs are incurred within the State and sold for distribution within the State, 2) allow taxpayers to be eligible for a separate ten-year credit period for each separate qualified renewable fuels production that independently meets eligibility requirements, 3) extends the time frame for taxpayers to file certain statements, and 4) introduces a rollover mechanism so that, if the total amount of credits applied for exceeds the annual cap, the remaining credits may be applied in the subsequent year.

HSEO offers the following comments and context on the remaining provisions of the bill and defers to the Department of Taxation on any additional administrative or compliance considerations.

The bill maintains existing guardrails, including:

- A credit value of $0.20 per 76,000 BTUs (lower heating value);
- A $3.5 million annual cap per taxpayer;

- A minimum annual production threshold of 2.5 billion BTUs; and
- A requirement that eligible fuels demonstrate lifecycle greenhouse gas emissions below those of fossil fuels.

While HSEO appreciates the in-state clarification included in SB 2376, SD1, (page 1, lines 14-15), as this clarification aligns the RFPTC with its underlying policy objective of encouraging renewable fuel production and use occurring within Hawai‘i, HSEO notes that in-state production alone is unlikely to achieve the scale of greenhouse gas reductions needed. Due primarily to land use constraints, any substantial progress towards greenhouse gas reductions will most likely require substantial imports of refined renewable fuels and/or feedstocks. HSEO further notes that imported fuels may offer meaningful greenhouse gas reduction potential; however, such potential cannot be assumed without lifecycle verification and reporting requirements to ensure claimed emissions reductions are measured and verifiable. To achieve Hawai‘i’s decarbonization objectives, HSEO asserts that a flexible approach to accommodate both in-state and qualifying imported fuels supported by robust lifecycle greenhouse gas accounting is necessary.

Additionally, SB 2376, SD2, clarifies the treatment of related entities by allowing separate ten-year credit periods for each qualifying production facility, rather than limiting eligibility based solely on corporate affiliation (page 2, lines 15-17). This approach more accurately reflects facility-level investment and production decisions and supports the development of additional renewable fuel capacity within the State. HSEO supports this clarification as a targeted improvement that reinforces the RFPTC’s in-state focus without expanding the overall credit value or per-taxpayer cap.

Reporting requirement amendments are summarized in the table below.

Category	**Current Statute**	**New Requirement (Per SB2376, SD2)**
Filing Deadline	No later than 30 days after the close of the calendar year.	No later than 90 days after the close of the calendar year.
Employee Data	Must report the number of full-time and part-time employees AND their states of residency.	Must report the number of full-time and part-time employees only. (Residency data removed).

Category	**Current Statute**	**New Requirement (Per SB2376, SD2)**
Facility Data	Report the number/location of production facilities inside and outside the State.	Report the number and state location of production facilities. (Refocused on Hawai‘i-specific impact).
Credit Tracking	Total credit for the year only.	Must report the current year credit AND the cumulative amount received over the 10 years.
Environmental Data	General proof of eligibility (lifecycle emissions below fossil fuels).	Must report specific lifecycle greenhouse gas emissions per BTU for each fuel type.
Public Accessibility	Generally public under Chapter 92F.	Specific locations and Critical Energy Infrastructure Information (CEII) are now Confidential.

The bill also introduces a rollover mechanism (page 5, lines 13-18) under which excess claims are treated as having been applied for in a subsequent year. While this provision may increase predictability for taxpayers, it also raises questions regarding budgeting, timing of credit realization, and long-term fiscal exposure.

Below is HSEO’s summary of this provision and potential impacts.

- Current Statute: If the $20M cap is hit, certificates are discontinued.
- SB 2376, SD1 Revision: If applications exceed the $20M cap, the excess is treated as having been applied for in the subsequent year. This ensures taxpayers do not lose out entirely if the program is oversubscribed.

Ultimately, the total statewide cap for this credit remains $20 million per year; however, the bill introduces a taxpayer-protective rollover provision.

If the state's $20 million annual limit is reached before taxpayers receive the full credit, they do not lose the money. Instead, the State pushes the claim to the front of the line for the following year. In practical terms, if claims total $25 million in a given year, $20 million is distributed on a proportional basis, and the remaining $5 million is automatically deferred to the following year.

Implications for the Producer (The Pros)

- Investment Certainty: This reduces the "race to apply" dynamic. Large-scale producers can invest in infrastructure knowing that even if the state's budget is tight one year, they will eventually receive the credit.
- Audit and Financial Planning: It allows companies to carry an "account receivable" or deferred tax asset on their books, which is much better for financial planning than a contingent credit.

Implications and considerations for the State (The Potential Risks)

- Budget "Snowballing": If Hawai‘i producers consistently produce more renewable fuel than the $20 million cap allows, a backlog will form. Eventually, the first $15 million or even the full $20 million of a future year's budget could be "pre-spent" on fuel produced years prior.
- Dilution: Note that Subsection (f) still says if the cap is exceeded, the money is "divided between all eligible taxpayers... in proportion." The rollover ensures producers eventually receive the value, but it might be spread over multiple years rather than in a lump sum.

Important Nuance: The bill states that the credit is allowed for a ten-year credit period. If the credits keep rolling forward because the state cap is always hit, the state might still process "Year 10" credits in Year 12 or 13.

Recommendation: Given the implications for the State, HSEO recommends removing the added rollover language (page 5, lines 13-18).

Thank you for the opportunity to testify.

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

LATE

EDWIN H. SNIFFEN
DIRECTOR
KA LUNA HO'OKELE

Deputy Directors
Nā Hope Luna Ho'okele
DREANALEE K. KALILI
TAMMY L. LEE
CURT T. OTAGURO
ROBIN K. SHISHIDO

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF TRANSPORTATION | KA 'OIHANA ALAKAU
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

Tuesday, March 17, 2026
9:15 a.m.
State Capitol, 325

SB2376, SD2
RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT

House Committee on Energy & Environmental Protection

The Department of Transportation (DOT) supports S.B. 2376 S.D.2, which clarifies that the Renewable Fuels Production Tax Credit shall only be claimed by taxpayers for which qualified renewable fuels production costs are incurred within the State and sold for distribution within the State, allows taxpayers to be eligible for a separate ten-year credit period for each separate qualified renewable fuels production that independently meets eligibility requirements, and extends the time frame for taxpayers to file certain statements with the Hawai'i State Energy Office. The DOT also suggest amendments.

To sufficiently incentivize local growers to grow feedstock, the DOT recommends incorporating an additional credit for low lifecycle emissions renewable fuels; i.e. fuels using feedstocks grown and produced near to where they are used. This will directly benefit our local growers.

Increasing local energy security is one of three pillars of the DOT's Energy Security and Waste Reduction Plan, in addition to affordability for residents and emissions reduction. The Plan identifies multiple strategies to reduce emissions and meet the state's 2030 and 2045 emissions reduction targets established in law. While support via financial incentives for local renewable fuels production and distribution is one of those strategies, the Plan finds that in-state production alone will not result in Hawaii meeting its emission reduction targets. To achieve both local energy security and emissions reduction in line with the state targets, the Plan recommends that a tax credit for the local production and distribution of renewable fuels should be done in tandem with a short-term tax credit for sustainable aviation fuel (SAF) including imports, and a long-term policy such as the Clean Fuel Standard that would lower the carbon intensity of Hawaii's fuel pool overall.

Aviation in Hawaii consumes 600-700+ million gallons annually, all of which is currently standard jet fuel with a high carbon intensity. The DOT recommends including an additional per gallon credit for SAF to incentive producers to allocate a portion of their production volume to SAF.

The DOT also suggests raising the per-producer cap significantly to reflect the realities of Hawaii's fuel industry; such as up to 75% of the program cap per producer, and suggests increasing the credit value to make financing feasible.

To recap the suggested amendments above:
1) Include an additional credit for low lifecycle emissions renewable fuels;
2) Include an additional per gallon credit for SAF;
3) Increase the per-producer cap; and
4) Increase the credit value.

These amendments would provide even stronger support for local renewable fuel production and Hawaii agriculture, provide a more comprehensive approach to accommodate both in-state and qualifying imported fuels, and keep the door open for Hawaii to reach its emissions reduction targets.

Thank you for the opportunity to testify in support with suggested amendments.

P.O. Box 253, Kunia, Hawai'i 96759
Phone: (808) 848-2074; Fax: (808) 848-1921
e-mail info@hfbf.org; www.hfbf.org

March 17, 2026

HEARING BEFORE THE
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

TESTIMONY ON SB 2376, SD2
RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT

Conference Room 325 & Videoconference
9:15 AM

Aloha Chair Lowen, Vice-Chair Perruso, and Members of the Committee:

I am Brian Miyamoto, Executive Director of the Hawaiʻi Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,800 farm family members statewide and serves as Hawaiʻi's voice of agriculture to protect, advocate, and advance the social, economic, and educational interests of our diverse agricultural community.

The Hawaiʻi Farm Bureau supports SB 2376, SD2, which strengthens and clarifies the renewable fuels production tax credit, providing greater certainty for in-state renewable fuel production. For agriculture, this credit represents a potential value-added opportunity for locally grown crops, agricultural residues, and byproducts to serve as renewable fuel feedstocks.

Locally grown biofuel feedstocks can provide farmers with additional revenue streams, particularly when cultivated on marginal or underutilized lands. In some cases, these crops may also function as cover crops, contributing to improved soil health, reduced erosion, and more sustainable land management practices while still producing marketable outputs. Integrated systems that utilize agricultural residues and waste streams can further generate co-products such as livestock or aquaculture feed, strengthening both the agricultural and energy sectors while keeping economic activity within Hawai'i.

Market certainty is critical for farmers considering whether to invest in new crops or production systems. Renewable fuel feedstock production requires forward planning, acreage commitments, and long-term agreements. The tax credit must provide a sufficiently strong and predictable market signal to support participation at the farm level. As this measure moves forward, we encourage continued collaboration to ensure the credit structure meaningfully supports in-state agricultural production and aligns with Hawai'i's cost environment.

Renewable fuel opportunities can complement agriculture, but only if viable agricultural operations are able to persist and grow. Continued attention to land access, water availability, labor, invasive species pressures, transportation costs, and energy costs remains essential to ensuring that agriculture can fully participate in Hawai‘i’s renewable energy future.

Thank you for the opportunity to provide testimony.

TESTIMONY OF TINA YAMAKI, MANAGING DIRECTOR
HAWAII TRANSPORATION ASSOCIATON
March 17, 2026
SB 2376 SD2 RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT.

Aloha Chair Lowen and members of the House Committee on Energy & Environmental Protection. I am Tina Yamaki, Managing Director of the Hawaii Transportation Association and I appreciate this opportunity to testify.

The Hawaii Transportation Association (HTA Hawaii) was founded in 1938 and incorporated in 1963, and is a private, non-profit trade organization dedicated to the service and assistance to the commercial ground transportation industry in the State of Hawaii. Our members include family owned small and medium sized businesses, independent owner operators, and national motor carriers range from delivery services to passenger carriers - as well as allied industry partners.

The HTA Hawaii supports SB 2376 SD2. This measure clarifies that the Renewable Fuels Production Tax Credit shall only be claimed by taxpayers for which qualified renewable fuels production costs are incurred within the State and sold for distribution within the State; allows taxpayers to be eligible for a separate 10-year credit period for each separate qualified renewable fuels production that independently meets eligibility requirements; extends the time frame for taxpayers to file certain statements with the Hawai‘i State Energy Office; applies to taxable years beginning after 12/31/2026; and is effective 4/19/2042.

This measure clarifies that the Renewable Fuels Production Tax Credit may only be claimed by taxpayers for which qualified renewable fuels production costs are incurred within the State of Hawai‘i and whose renewable fuels are sold for distribution within the State. This ensures that the tax credit directly supports in-state production and advances Hawai‘i’s energy independence and sustainability goals, rather than subsidizing out-of-state activities.

This measure also allows taxpayers to qualify for a separate ten-year credit period for each separate qualified renewable fuels production that independently meets eligibility requirements. This provision appropriately recognizes that renewable fuel projects are often developed in phases or as distinct facilities, and it provides certainty for long-term investment while maintaining clear eligibility standards.

However, this measure does not explicitly provide that an existing entity may qualify for an additional ten-year credit period, as included in other versions of the Production Tax Credit. This omission is significant because, without that provision, some local companies would not qualify for the credit. Other iterations of the Production Tax Credit expressly allow for an additional ten-year claim period, and we believe similar language should be included here to ensure consistency and eligibility.

In addition, the bill extends the timeframe for taxpayers to file certain required statements with the Hawai‘i State Energy Office. This added flexibility improves compliance and administrative efficiency, particularly for smaller producers that may have limited staffing and resources.

Of particular importance, this measure helps ensure that smaller, local renewable fuel producers are able to access and benefit from this tax credit. By tying eligibility to in-state production and distribution, and by allowing credits for independently qualifying projects, the bill promotes a more equitable and inclusive renewable fuels market. This supports local businesses, encourages innovation, and strengthens Hawai‘i’s clean energy economy.

Mahalo for this opportunity to testify.

P.O. Box 30166 ● Honolulu, HI 96820 | ☎ (808) 833-6628 | ✉ tina@htahawaii.org

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. Amy A. Perruso, Vice Chair

March 17, 2026
9:15 a.m.
Conference Room 325

SB 2376 Renewable Fuel Production Tax Credit SUPPORT

Aloha Chair Lowen, Vice Chair Perruso, 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 56 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.

It is easy to make assertions: non-burn clean energy solutions exist for every Hawai`i sector except aviation.

The assertion without even minimal analysis, contradicts analysis done by experts across all sectors of universities, industry, government, and the environmental community.

Biofuels can serve a useful role now and in the future. Every effort should be made to fully understand, publicize and minimize all life cycle externalities.

The reality is that firm power will need to be 5-20% of the total energy consumed in 2045, and the realistic options all have huge negative technical, financial, and/or environmental impacts: petroleum, geothermal, pumped storage hydro, bioenergy, and hydrogen

Tax credits are useful tools in developing alternatives.

Mahalo

Henry Curtis
Executive Director

SB-2376-SD-2
Submitted on: 3/15/2026 7:29:24 PM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Susan B Roberts Emery	Green Party of Hawai'i	Oppose	Written Testimony Only

Comments:

Aloha Chair Lowen, Vice Chair Perruso, and Honorable Members of Committee,

My name is Susan RobertsEmery, as Co Chair of the Green Party of Hawai'i, and on behalf of our members, we stand in Opposition of SB2376 SD2. These dirty fuel companies do not need tax breaks! Enough already!

Green Party of Hawai'i asks that you HOLD SB2376 SD2.

Mahalo,

Susan RobertsEmery

Green Party of Hawai'i

Paauilo

March 17, 2026

TESTIMONY IN SUPPORT OF SB 2376 SD2
RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT

House Committee on Energy and Environmental Protection (EEP)
Representative Nicole E. Lowen, Chair
Representative Amy A. Perruso, Vice Chair

March 17, 2026, 9:15 AM
Conference Room 325
State Capitol
415 South Beretania Street

Chair Lowen, Vice Chair Perruso, and Members of the Committee,

Thank you for the opportunity to provide testimony in **SUPPORT** of **SB 2376 SD2**, Relating to the Renewable Fuels Production Tax Credit. We respectfully urge the Committee to advance this measure with the amendments proposed by the Hawaii Renewable Fuels Coalition to ensure it fulfills its purpose of effectively supporting Hawaii-based renewable fuel production and providing economic benefits to a broad range of local businesses and sectors. Specifically, we urge you to incorporate the low lifecycle emissions renewable fuels framework as well as other provisions proposed in HB 1695 HD2 and SB 2403:

<u>"Low lifecycle emissions renewable fuels" means renewable fuel that meets the lifecycle greenhouse gas emissions reduction threshold, product transportation emissions threshold, and feedstock transportation emissions threshold.</u>

Adding this language requires fuels to meet defined thresholds for lifecycle greenhouse gas emissions, as well as limits on emissions associated with transporting both the feedstock and the finished fuel. This methodology strongly supports in-state production of renewable fuel and locally grown feedstocks by incentivizing shorter transportation distances and lower associated emissions. By focusing on objective environmental performance standards, the policy can maximize local economic opportunity while advancing Hawai‘i’s climate and long-term energy goals. This will help establish a new agricultural market by providing an additional credit of $1 per gallon for low lifecycle emissions renewable fuels, which can be produced from locally grown renewable feedstocks.

Pono Pacific is Hawai‘i’s first and largest private natural resource conservation company, providing land management, restoration services, sustainable agricultural development, renewable energy, and eco-asset development for projects throughout the state. Our work is focused on activating working lands, increasing food security and community engagement, and protecting natural resources to build a more resilient future for Hawai‘i.

Finding viable uses for agricultural lands that promote environmental sustainability while generating positive economic returns is a critical need for Hawai‘i. Locally grown biofuel feedstocks such as camelina can be grown in rotation with food crops or on currently fallow land, improving soil health and reducing erosion. Camelina trials completed in 2025 across Oahu, Maui and Kauai produced encouraging results, averaging approximately 1,200 pounds of seed per acre, and local farmers, ranchers, and feed producers have expressed strong interest in the crop’s potential. Pono Pacific recently entered into an agreement with HARC to continue trials of Camelina on Oahu through 2026 with the goal of improving both yield per acre and oil content through further research and development.

Camelina requires less water and fertilizer than traditional row crops, making it well suited to Hawai‘i’s diverse landscapes. In addition to supplying low-carbon feedstock for renewable fuels, camelina produces nutritious meal that can be used as feed for cattle and chickens or processed into pellets for aquaculture feed, creating multiple revenue streams from a single crop. By creating a stable demand for these crops and their byproducts, the renewable fuels industry can help revitalize rural communities, create new jobs, and diversify farm income streams across the islands.

We urge you to pass this legislation with amendments. Thank you for your time and consideration.

Mahalo,

Chris Bennett
Vice President of Sustainable Energy Solutions
Pono Pacific Land Management, LLC
Pono Energy Inc.

PONO PACIFIC

Camelina FAQs

What other industries can benefit from growing Camelina?

Beyond supplying oil for renewable fuel production at the Par Hawaii refinery, camelina creates meaningful value through its co-products, particularly camelina meal. The high-protein seed cake remaining after oil extraction can be used as livestock feed for cattle and poultry, incorporated into aquaculture pellets, thereby reducing Hawai'i's dependence on costly imported feed inputs. This supports local ranchers, dairies, egg producers, and aquaculture operations while keeping more dollars circulating within the state. In addition, we have had discussions with companies exploring the use of camelina meal as a feedstock for bio-based materials, including bioplastics, which could open an entirely new value-added manufacturing pathway in Hawai'i. These diversified end uses strengthen the overall economics of the crop, create multiple revenue streams from a single acre, and help build a more resilient, circular agricultural and clean energy economy.

What agricultural lands will be used?

According to recent informational testimony to the Hawai'i Senate from the Hawai'i Farm Bureau and others, Hawai'i farms are on the decline – down 10% from 2017 to 2022. Efforts are underway to expand Hawai'i agriculture, expand Hawai'i lands in production, and expand the availability of Hawai'i-grown feed for our ranching communities. Our focus is on former sugarcane/pineapple lands with low opportunity cost, reactivating these lands for both renewable fuel feedstocks and food production, and at the same time mitigating fire hazards from unmanaged lands. There are tens of thousands of acres of these lands available on Kaua'i, Maui County, Oahu and Hawai'i Island. These lands are held by private entities such as Kamehameha Schools, Maui Land and Pineapple, Grove Farm, Gay & Robinson, as well as various government agencies.

Although we are several years from commercial production, we are engaged in ongoing discussions with many of these landowners to enter into potential lease agreements. We currently hope to scale the project up to 1,500 acres by the end of 2027, and up to 25,000 acres over the following 5 years focusing on privately held fallow lands previously in sugar and pineapple production, as well as rotating with food production on currently active lands.

What are the water requirements for growing Camelina?

Pono Pacific recognizes that water use and management in Hawai'i have historically been sensitive and complex issues, and we remain mindful of that context in all aspects of our work.

Camelina is not a water intensive plant, and in reality, camelina does not like 'wet feet' (too much water). A combination of 8-12 inches of rainfall and irrigation across its 80-day growing cycle is all that is required, with some producers on the Continent recommending even lower rates of 4-6". Germination and emergence, then pre-flowering, are the critical stages for irrigation. Camelina needs good soil moisture for a uniform stand establishment and even germination. Very limited watering, if any, is recommended after flowering due to lodging commonly occurring. This works out to approximately 2,715 gallons per acre per day – again, a combination of rainfall and irrigation. Here is a comparison to other common Hawai'i-grown crops, per information from the Hawai'i Department of Agriculture (AGRICULTURAL WATER USE AND DEVELOPMENT PLAN):

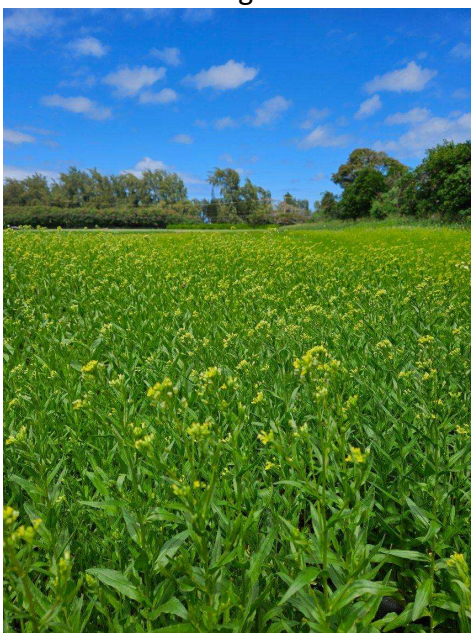
HDOA IRRIGATION WATER USE GUIDELINES (2004 AWUDP)

Crop	Water Use Rate (gals/acre/day)	Crop	Water Use Rate (gals/acre/day)
Alfalfa/Corn (grain)	7,700	Orchids	3,700
Aquaculture	145,000	Papaya	5,000
Dendrobium	4,000	Passion Fruit	10,000
Field Crops (grass & seed)	6,700	Pineapple	1,350
Foliage Plants	4,000 - 6,000	Protea	2,000-2,500
Forage Crops	7,400	Sugarcane (drip)	6,700
Guava	4,400	Sugarcane (furrow)	10,000
Leafy Vegetables (drip)	4,050	Taro (Asian)	4,000 - 8,000
Leafy Vegetables (sprinkler)	5,400	Taro (dryland)	5,400
Macadamia Nuts	4,400	Taro (wetland)	80,000 - 100,000
Nursery (potted plants)	6,000	Vegetables	6,700

Takeaway: Although the exact amount can vary significantly depending on several factors, Camelina's low water requirement, combined with its short cycle, makes it attractive for regions where water resources are limited.

PONO PACIFIC

Camelina flowering on Oahu



Camelina seed pods on Maui

Camelina field on Kauai

Camelina field on Kauai

Hawai'i Renewable Fuels Coalition

March 17, 2026

TESTIMONY IN SUPPORT OF SB 2376 SD2 RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT

Aloha Chair Lowen, Vice Chair Perruso and Members of the House Committee on Energy & Environmental Protection,

My name is Nahelani Parsons, and I am the Executive Director of the Hawai'i Renewable Fuels Coalition (HRFC). On behalf of our coalition members across the energy, agriculture, labor, and transportation sectors, we offer our strong support for SB2376 SD2, which updates the Renewable Fuels Production Tax Credit (RFPTC). We respectfully urge the Committee to advance this measure with targeted amendments to ensure it fulfills its intended role as a catalyst for a new, locally rooted renewable fuels economy.

The HRFC is a diverse alliance of stakeholders working to achieve Hawai'i's renewable energy goals. Our founding members include:

- **Hawaiian/Alaska Airlines**: Leaders in adopting Sustainable Aviation Fuel (SAF) to decarbonize the aviation sector.
- **Pono Pacific**: Hawai'i's largest natural resource conservation company, advancing oil crop feedstock cultivation to support renewable fuel production.
- **Par Hawai'i**: The state's largest energy supplier, investing over $100 million in renewable fuel production technology to strengthen energy security and sustainability.

In addition to these partners, HRFC collaborates with:

Pacific Biodiesel, a local producer of biodiesel. The Hawai'i Farm Bureau, representing 1,800 farm families statewide, to support renewable feedstock cultivation and enhance food and energy security. Ranchers, dairy farmers, and conservationists, such as Meadow Gold and Haleakalā Ranch, contributing to Hawai'i's resilience and self-sufficiency. Airlines for America, which advocates for SAF adoption nationwide to reduce aviation emissions.

Hawai'i Renewable Fuels Coalition members:

Airlines for America	Alaska Airlines	Haleakala Ranch
Hawaii Farm Bureau	Hawaii Fuelling Facilities Corp	Hawaiian Airlines
HECO	ITOCHU Corporation	Japan Airlines
Kuilima Farm	Meadow Gold Hawaii	Pacific Biodiesel
Par Hawaii	Pono Pacific	United Steelworkers

The Role of the Coalition and Why This Credit Matters

The Hawai‘i Renewable Fuels Coalition is a broad, cross-sector partnership representing agriculture, energy, labor, transportation, and community stakeholders. As Executive Director, my role is to bring together the many voices impacted by a policy like this and help align them around a shared goal: building a new economic driver for Hawai‘i that connects renewable fuel production with local agriculture, workforce transition, and long-term energy security.

Updating the RFPTC to make it accessible advances Hawai‘i’s response to the *Navahine v. HDOT* climate settlement by providing the financial mechanism needed to support the production of renewable fuels such as sustainable aviation fuel (SAF) and renewable diesel. With the transportation sector contributing nearly half of Hawai‘i’s greenhouse gas emissions, and with aviation fuel consumption exceeding 700 million gallons annually, this measure offers a realistic and scalable pathway to decarbonize transportation while strengthening local economic resilience and supporting Hawai‘i-based jobs and agriculture.

Renewable fuels, especially sustainable aviation fuel and renewable diesel, represent one of the few climate solutions that can:

- Create new demand for agricultural production,
- Put underutilized lands back into productive use,
- Support skilled, local jobs, and
- Keep energy dollars circulating in Hawai‘i instead of leaving the state.

The Renewable Fuels Production Tax Credit (RFPTC) is the foundation of that system. Without it being properly calibrated, the system simply does not work.

Support SB2376 SD2 With Amendments

We understand and appreciate that the intent of SB2376 SD2 is to prioritize production in Hawai‘i, and we share that goal. However, the current credit structure does not yet provide a strong enough signal to farmers, producers, or investors to build this new market at scale.

The Coalition believes the most effective approach is one that recognizes building a local renewable fuels economy requires a tax credit that reflects real production costs, rewards

fuels with the lowest climate impact, and supports in-state production in a legally sound and durable manner. As SB2376 SD2 is the measure currently under consideration, our goal is to work collaboratively to refine its core provisions so the credit can maximize the economic, agricultural, and environmental opportunities available to Hawai‘i. By strengthening the policy’s structure and incentives, we can ensure it delivers meaningful progress toward the State’s long-term energy security and climate goals.

Why We Are Recommending Changes to the Credit Amount

We strongly recommend increasing the Renewable Fuels Production Tax Credit from 20 cents to 35 cents per 76,000 BTUs. At the current 20-cent level, the credit does not adequately support feedstock cultivation, long-term offtake agreements, or the capital investments needed for local refining and processing. A 35-cent credit more accurately reflects Hawai‘i’s cost environment and provides the level of certainty farmers, producers, and investors need to move projects forward and commit to building a local renewable fuels market.

Addressing the $3.5 Million Per-Producer Cap

SB2376 SD2 currently includes a $3.5 million annual cap per producer. While we understand the importance of program safeguards, we respectfully ask the Legislature to consider increasing this cap to better reflect the scale of opportunity before us. Hawai‘i is projected to have access to nearly **70 million gallons of renewable fue**l, and allowing producers to reach sufficient scale is essential to maximizing the economic, workforce, and agricultural benefits for our communities. Providing additional flexibility in the per-producer cap would help ensure Hawai‘i can capture as much of this opportunity as is economically feasible, particularly in the early years when anchor projects are critical to establishing a successful local renewable fuels market.

Prioritizing Local Production

We understand and appreciate that the intent of SB2376 SD2 is to prioritize renewable fuel production in Hawai‘i, and we share that goal. We also strongly support the development and use of local feedstocks as a core component of building a resilient, Hawai‘i-based renewable fuels economy. Strengthening local agriculture and integrating Hawai‘i-grown feedstocks into renewable fuel production is essential to maximizing economic, environmental, and energy security benefits for the State.

One effective way to accomplish this is through a “low lifecycle emissions renewable fuels” standard. This framework provides an additional $1 per gallon credit for fuels that meet limits on emissions associated with transporting feedstock. In practice, this structure strongly supports local feedstocks, since feedstocks grown and produced closer to where they are used inherently benefit from shorter transportation distances, lower associated emissions, and stronger alignment with Hawai‘i’s agricultural sector. By focusing on objective environmental performance standards, the policy can maximize local economic opportunity while advancing Hawai‘i’s climate and long-term energy goals.

Enabling Sustainable Aviation Fuel (SAF)

The additional $1 per gallon credit for sustainable aviation fuel (SAF) reflects the economic realities of the aviation sector. Without this additional value, producers will not have incentive to allocate any production volume to SAF. SAF is significantly more expensive to produce than conventional jet fuel and, in many cases, more costly than other renewable fuels due to its stringent ASTM specifications, advanced processing requirements, lower yield, and evolving supply chains. Aviation is also Hawai‘i’s largest transportation fuel market and one of the most difficult sectors to decarbonize. Providing an additional value for SAF helps close the price gap, attracts investment, levels the playing field with renewable diesel, and signals that Hawai‘i is serious about reducing emissions in air transportation. This targeted incentive ensures that SAF production is financially viable while supporting the broader goal of building a competitive, locally integrated renewable fuels industry.

Why This Matters for Agriculture

Farmers will not plant crops without a reliable and stable market signal, and the Renewable Fuels Production Tax Credit including the amendments noted above provides that certainty. Renewable fuel crops such as camelina and other oilseeds can be grown on fallow or rotational agricultural lands, do not displace food crops, and help improve soil health while keeping land actively managed and reducing wildfire risk. Through ongoing crop trials, camelina has shown particular promise in Hawai‘i due to its low water requirements and suitability for local growing conditions. These crops also generate valuable byproducts that can be used as local feed for Hawai‘i’s ranchers and farmers, further strengthening the agricultural economy. However, this system only works if the RFPTC is strong enough to support the full value chain, from feedstock cultivation and processing to fuel production, so farmers can confidently invest, plan acreage, and participate in a growing local renewable fuels market.

Proposed amendments to SB2376 SD2:

1. **Increasing the credit value from 20 cents to 35 cents per 76,000 BTU.**
2. **Modify the $3.5 million per-producer cap, to 75% of the program cap per producer.**
3. **Incorporating the $1 additional credit for low lifecycle emissions renewable fuels, to further incentivize local feedstock.**
4. **Adding an additional $1 credit for SAF to level the playing field with renewable diesel and encourage producers to allocate some production volume to SAF.**

These updates would help establish a coordinated system that connects agriculture, energy, labor, and climate responsibility in a way that delivers lasting benefits to communities across Hawai‘i. We respectfully urge the Legislature to advance SB2376 SD2 with these amendments.

Mahalo for the opportunity to testify and for your leadership on this important issue.

Nahelani Parsons,

Executive Director, Hawai‘i Renewable Fuels Coalition

Par Hawaii

March 17, 2026

TESTIMONY ON SB 2376 SD2
RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT

House Committee on Energy & Environmental Protection
Representative Nicole E. Lowen, Chair
Representative Amy A. Perruso, Vice Chair

Tuesday, March 17 at 9:15 a.m.
State Capitol, Conference Room 325

Aloha Chair Lowen, Vice Chair Perruso, and members of the Committee,

My name is Eric Wright and I serve as President of Par Hawaii. Par Hawaii is the largest local supplier of fuels, including various grades of utility fuels, as well as diesel, jet fuel, gasoline and propane.

Thank you for the opportunity to provide testimony in **COMMENTS** on SB 2376 SD2, Relating to the Renewable Fuels Production Tax Credit. **We note that HB1695 HD2 is the preferred measure for updating and strengthening the Renewable Fuels Production Tax Credit (RFPTC)**. The structure and policy design of HB 1695 HD2 more effectively supports Hawaii-based renewable fuel production, aligns with the State's climate and energy-security goals, and preserves the administrative clarity needed for timely implementation.

HB 1695 HD2 increases the base credit from 20 cents to 35 cents per 76,000 BTU and adds two targeted enhancements which lower costs for consumers:

- $1.00 per diesel-gallon-equivalent for low-lifecycle-emissions renewable fuels
- $1.00 per gallon for sustainable aviation fuel (SAF)

These additions are essential to closing the cost gap between renewable fuels and imported petroleum. Without these enhancements, Hawaii-produced renewable fuels will remain significantly more expensive than fossil fuels and will be diverted to higher-value markets on the West Coast. HB 1695 HD2 directly addresses this risk.

Second, HB 1695 HD2 maintains the existing RFPTC framework while improving it. HB 1695 HD2, by contrast, introduces structural changes—such as multiple ten-year credit periods per facility—that create uncertainty, increase administrative burden, and could unintentionally dilute the program's effectiveness.

Par Hawaii has invested over $100 million to construct Hawai'i's largest renewable fuels manufacturing facility at Kapolei, expected to produce 61 million gallons per year of renewable diesel, sustainable aviation fuel, and renewable naphtha. We believe these amendments provide the level of certainty and incentive strength needed to ensure renewable fuels produced in Hawaii stay in Hawaii.

Mahalo for the opportunity to offer comments and ask for your consideration for the contents of SB 2376 SD2.

March 17, 2026

COMMENTS TO
SB 2376 SD2
RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT

House Committee on Energy & Environmental Protection
The Honorable Nicole Lowen, Chair
The Honorable Amy Perruso, Vice Chair

Tuesday, March 17, 2026, 9:15 a.m.

VIA VIDEOCONFERENCE
Conference Room 325
State Capitol
415 South Beretania Street

Chair Lowen, Vice Chair Perruso, and Members of the Committee,

Island Energy Services, LLC ("IES") offers the following comments on SB 2376 SD2 which proposes the establishment of a sustainable aviation fuel tax credit program for the State.

- The current language of SB 2376 SD2 indicates it is intended to "support local production of SAF and other renewable fuels" the State goals are best served by allowing any imported finished sustainable aviation fuel and other renewable fuels produced outside of Hawai'i to qualify for the same proposed tax credit provided it meets the same lifecycle greenhouse gas emission threshold.

We thank the House Committee on Energy & Environmental Protection for hearing this bill and thank you for the opportunity to testify.

Albert D.K. Chee, Jr
Executive Vice President Island Energy Services, LLC

Comments before
March 17, 2026 House Committee on
Energy and Environmental Protection

OPPOSING
Senate Bills 2999 and 2376
Relating to "Clean Fuels" Standards & Tax Credits

Mike Ewall, Esq.
Founder & Executive Director
Energy Justice Network
215-436-9511
mike@energyjustice.net
www.EnergyJustice.net

Aloha Honorable Committee members. Energy Justice Network is a national organization supporting grassroots groups working to transition their communities from polluting and harmful energy and waste management practices to clean energy and zero waste solutions. In Hawai'i, we've been working with residents, members and member groups since our support and involvement was first solicited in 2015.

We'd love to see Senate Bills 2999 and 2376 deferred indefinitely. However, should you choose to advance these bills, we ask that you at least consider amending them to avoid some of the major harms associated with these policies.

Here are some high-level suggestions for amendments:

1) Remove eligibility of fuels produced from solid wastes such as municipal solid waste (household and commercial trash) or construction and demolition (C&D) wastes unless it can be demonstrated that the feedstocks have no greater concentrations of halogens or toxic metals (like arsenic) than the conventional fossil fuels or biofuels that they would replace.

2) Limit the bills to supporting only in-state production of biofuels, and only after demonstrating that land and water resources used are unable to be used for in-state food production.

3) Limit the scope to what is required in state law. Note that HRS §225P-8 mandates zero emissions by 2045 of greenhouse gases from "ground transportation and sea and air interisland transportation" – *not* fuel for intercontinental flights (which is also subject to federal preemption and commerce clause litigation).

4) Put any subsidies and tax credits toward electrification (like seagliders for interisland travel) instead of into burnable fuels to avoid a prohibitively expensive double-transition by 2045.

Why are we opposed to these bills?

They would have the state violate the legal settlement in *Navahine F. v. Hawaii Department of Transportation*. This settlement requires that the State achieve a goal of zero greenhouse gas emissions across all transportation modes within the State, including ground transportation and sea and air interisland transportation no later than 2045. This is not possible if biofuels or waste-based fuels are part of the mix, as they are not carbon free.

Calling it "clean fuel" or "sustainable aviation fuel" (SAF) does not make it clean. There is not enough land and water to grow a significant amount of biofuels in-state. The biotech industry keeps testifying in favor of biofuels bills because they know genetically modified enzymes and crops will be involved, risking biosecurity if grown or processed in-state. It is clear that most of this "clean fuel" will be imported big ag monocrop (mostly GMO) biofuels from the Americas, and that much of what would come from in-state is from toxic waste-to-fuels schemes like Aloha Carbon's plan to try to gasify construction and demolition waste in Campbell

Industrial Park on O'ahu... using wood that the Hawaii Natural Energy Institute documented to have 200 times as much arsenic as clean wood.

There are no green alternatives for intercontinental flights and this falls outside of the *Navahine F.* settlement scope and the scope of state laws the settlement aims to enforce. Interisland flights can best be decarbonized by switching to a combination of electric ferries and electric seagliders which can be powered by clean electricity sources like wind and solar. There is no need to be building infrastructure for differently dirty fuels that will involve companies that later lobby to prevent the transition to clean options we can start adopting now.

Production will not be local: As was discussed in the 1/29/2025 Joint Hearing on SB 995 before the Senate Energy and Intergovernmental Affairs and Agriculture and Environment Committees, the Department of Agriculture testified to the fact that there simply is not sufficient land or water to have a significant biofuels production industry within the state. This means that most of the production will come from the continent, predominantly the Midwestern states, and from South America, defeating the goal of establishing biofuels as a home-grown industry.

Competition with food: The same Senate hearing exposed how growing crops for biofuels in Hawai'i would take up land and water needed for the state's own food security goals to have more food grown in-state.

Genetic engineering: The Biotechnology Industry Organization regularly submits testimony in favor of biofuels bills, yet fails to be transparent about their motivation. Clearly, they expect to have genetically engineered crops and/or enzymes used for the production of supposedly "sustainable" aviation fuels. This raises many biosecurity concerns, as well as concerns over increased herbicide spraying, since most genetically modified food crops are modified to withstand increased herbicide use.

Toxic waste streams as feedstocks: At least two companies are pursuing goals of producing fuels in the state using contaminated waste streams like construction and demolition waste. This is terribly polluting and even if the toxic metals and dioxins/furans do not end up in the fuel, they'll end up in the air, water, and/or waste byproducts at the in-state production facilities being proposed. More on the toxics concerns below.

Finances: The rather costly fuels are not competitive and are inherently quite expensive. If they were truly clean, one could argue that the expense is worth it, but a state mandate would have to be stacked with multiple federal subsidies to make it remotely feasible. However, those federal subsidies are vanishing as we speak under the Trump administration and cannot be expected to carry the day.

Faulty Greenhouse Gas (GHG) accounting: Biofuels look like a climate solution only because of biases in carbon accounting systems and life cycle assessments. There is a long-standing controversary over whether biofuels production uses more energy than it produces. The incredible amount of fossil fuel resources, land, water, fertilizer, chemicals, and other production systems needed to replace fossil fuels is enough to raise the question over whether it even makes sense to replace fossil fuels with biofuels – fuels that, are still carbon based and will still release GHGs when burned.

The incentives would be based on assessing the fuels for their "lifecycle greenhouse gas emissions." There are many flaws and biases in greenhouse gas (GHG) accounting that cause plant-based (biomass/biofuels) and waste-based feedstocks to be assumed to be "carbon neutral," even though there is a credible scientific debate over this controversy going for over two decades. Some of the science shows biofuels such as corn-based ethanol to consume more fossil fuels than they displace. The very existence of a debate over this shows that the "net energy" of biofuels are close enough to 1:1 that there can even be a scientific dispute over it. If

biofuels require about as much fossil fuel (to grow, process, and transport) as they displace, there is no point subsidizing them and building new infrastructure to support a system that is not really an improvement.

Sustainable Aviation Fuel does not exist: There is no clean or sustainable way to produce a burnable fuel from raw resources and turn it into air pollution when burned. It is inherently not sustainable or circular. There is one approach that comes close to being sustainable or circular, and that is the approach advanced by Feather Fuels and by Twelve Benefit Corporation, one of the companies testifying in favor of "clean fuels" bills. That involves using wind or solar electricity to pull carbon dioxide out of the air, and to also electrolyze water to obtain hydrogen, then use Fischer-Tropsch gas-to-liquids technology to turn the carbon dioxide and hydrogen into a burnable hydrocarbon fuel. This combination of very expensive and energy intensive technologies is rather experimental and has not been done at scale. It could be good to experiment with and prove up as a technology that could make sense in 20 years, but it makes no sense to use clean wind and solar energy on this approach, when wind and solar can decarbonize things much faster and more efficiently if used to replace the burning of oil, biofuels, trash, and trees in the state's electric grid, and then to eliminate oil and gas in transportation by electrifying that sector. More on this not being the right time below.

Toxicity concerns

Biofuels are impractical and unaffordable to produce in-state. The main efforts to make "sustainable" aviation fuel in the state involve waste-based fuels. There are plans to gasify construction and demolition debris to make burnable aviation fuels on O'ahu. This is part of an array of experimental incinerator-like technologies that aim to convert waste into fuels. These waste-to-fuels (WTF) technologies usually start with pyrolysis or gasification – technologies that, when the resulting gases are burned, are defined and regulated by EPA as municipal waste combustors (waste incinerators). Typically, these two-stage technologies will replace the second stage (burning the gases) with a liquefaction stage, to make liquid fuels to be burned elsewhere. This is known as Fischer-Tropsch gas-to-liquids technology, named after the two German scientists who developed the ability to make oil from coal by gasifying, then liquefying it.

These are toxic and dangerous technologies that are experimental and often fail both technically and economically. When fuels are burned off-site in land vehicles or for air travel, they are not subject to the sorts of air pollution controls that can be applied to a centralized facility with a single smokestack. Even when such a facility burns the gasified waste on-site with the full complement of air pollution control devices, waste incineration is still dirtier than burning coal for the climate as well as for most other air pollutants. This is even *with* all four air pollution control systems that waste incinerators should have (note that H-POWER's two older burners are missing half of these four control systems, though their third burner has all four).

Unlike coal, construction and demolition (C&D) waste is very heterogenous, which can be comprised of steel, concrete, brick, lumber, plaster, empty paint cans, asphalt, wire, shingles, and much more. Pyrolysis and gasification technologies do not work well on heterogenous fuels. They break down constantly and operate only in batches. These finicky technologies require very homogenous fuels. Even those trying to process scrap tires fail repeatedly, because tires are not homogenous enough for pyrolysis. Even the nation's top cheerleader for tire burning, a spokesperson for the Rubber Manufacturers Association, once stated that "scores of start-ups have tried and failed to make money from tire pyrolysis. The road is littered with the carnage of people who were trying to make this technology viable."

These technologies have been unable to operate at commercial scale, and typically are garage-scale pilot projects that go nowhere. This trend has led the nation's leading incinerator-promoting solid waste consulting outfit, GBB, to classify the technology as "high" risk due to "previous failures at scale, uncertain commercial

potential; no operating experience with large-scale operations" (pyrolysis) and "limited operating experience at only small scale; subject to scale-up issues" (gasification).

Hawai'i has been targeted in recent years by quite a few fly-by-night companies aiming to cash in on state and federal subsidies to satisfy the desire for sustainable aviation fuels while making waste streams go "away." Companies like Aloha Carbon and Yummet prey upon uninformed public officials who don't have time to research the track record of this industry, the toxic hazards associated with it, or the better alternatives.

Regarding toxic hazards, please see this heavily-cited (92 footnotes) six-page overview I wrote on the toxic pollution issues associated with construction and demolition (C&D) waste incineration. While the paper focuses on direct incineration, many of the same principles apply, as the high temperature processes used in WTF technologies still release toxic metals while producing new toxic pollutants such as dioxins and furans, the most toxic chemicals known to science.

C&D waste contains many toxic ingredients. There are chlorine sources in wood treatment chemicals like pentachlorophenol, and in PVC plastics in C&D waste. Painted wood can contain lead and mercury, while treated wood can contain other toxic metals, namely arsenic, chromium, and copper. Testimony on House Bill 976 of 2025 from the Hawaii Natural Energy Institute (on pages 43-44 of the testimony packet), affirms high levels of arsenic, chromium and lead in C&D waste, with arsenic concentrations 200 times higher than clean wood. Their research also shows high levels of hydrochloric acid, copper and zinc fron C&D waste, but doesn't point out a significant conclusion about this – that numerous published studies show that copper and zinc serve as catalysts for dioxin formation. Dioxins are the most toxic chemicals known to science and are formed in processes like those used to make these "sustainable" aviation fuels, where you have hydrocarbons, halogens like chlorine, and medium-high temperatures that are perfect for dioxin formation. These ultratoxic chemicals rapidly bioaccumulate and concentrate in meat and dairy products where 92% of human exposure comes from. Even if these emissions are blown out to sea, they concentrate and come back in the form of seafood.

Not the right time

Prioritizing Conservation and Efficiency

Transportation fuels should first be tackled by prioritizing a reduction in the need for unnecessary travel, then more efficient transportation. After prioritizing these, electrifying transportation is the best solution so that combustible fuels can be avoided entirely. Any system that relies on extraction of resources, burning them up, polluting the air, and having to dispose of wastes is not sustainable. For long-distance flights where electrification may not become possible, perhaps hydrogen has a role, but not until the electric grid is cleaned up and we have *extra* wind and solar available for truly green hydrogen production.

No Such Thing as Transition Fuels

Burnable fuels are not a long-term option, as they are not clean or sustainable, no matter whether they're "biofuels" or waste-based. Any such move is in-between the present and the arrival of clean, non-burn options. Such fuels are often called "transition" fuels. However, the concept of a transition fuel is that we can go from A to B to C, as if B helps us get to C. However, transition fuels have different infrastructure and their own economic weight that causes them to stand in the way of a future transition to clean options.

By the time we finish transitioning the energy sectors that we have clean, non-burn solutions for, long-distance air travel will probably have viable solutions we can focus on to complete the job. However, investments in "differently bad" fuels are an economic investment dead-end, requiring another transition later, wasting time and money needed to do the proper transitions in other energy sectors. In fact, the notion of "transition" fuels is a false one, since it entails investing in infrastructure that could last for 30+ years. No company developing so-called "transition" infrastructure, and trying to amortize their investment, is going to step aside in 5-10 years when something cleaner comes along. They're going to fight to stop the transition to cleaner options to protect their investment. In this sense, it's dangerous to steer resources into false solutions such as waste-based burnable transportation fuels.

Prioritize the Energy Sectors That Have Clean Alternatives

There are three sectors of energy consumption: electricity, transportation, and heating. Transportation can be broken down into land, sea, and air. Heating is broken down in federal energy reporting as industrial, residential, and commercial/institutional sectors of use.
Just as there are preferable non-burn solutions for every waste management need, there are clean non-burn solutions for nearly every energy sector, though long-distance commercial passenger aviation is not there yet.

Cleaning up these energy sectors should start with solutions we already have, without trying to solve the most unsolvable sector by replacing one type of burnable fuel (petroleum-based aviation fuel) with differently bad burnable fuels (crop-based biofuels) or even more hazardous types of burnable fuels (waste-based fuels).

Since the way to clean up the transportation and heating sectors is to electrify them so that they can run on wind and solar without burning anything, it's critical to clean up the electricity sector first, and faster, since electricity demand will grow as the other energy sectors are electrified. Electricity production is easiest to fully transition to non-burn technologies – mainly solar and wind with energy storage, which are becoming the cheapest options over time. The state's renewable portfolio standard (RPS) aims to transition the electricity sector to "renewable" sources by 2045, but still counts some combustion sources as renewable – the worst of them being solid fuel combustion (burning of trash and trees). SB 680 aimed to clean up the RPS starting by removing solid fuel combustion sources, which will speed up the implementation of solar, wind, and energy storage.

The heating sector is dominated by industrial heating, which is increasingly possible to electrify, while residential and commercial space heating and cooking needs are easily electrified. Electric stoves and heat pumps for space heating can be incentivized.

The transportation sector is easily electrified for land-based travel. International shipping is now possible with electric ships (see also here and here). The hardest sector to make non-burn is long-distance air travel, though inter-island air travel can now be electrified with sea gliders, as Hawaiian Airlines has been exploring.

While waiting for good non-burn solutions to powering long-distance air travel, let's focus where we have good alternatives:

1) end combustion in the electricity sector, which is mostly oil in Hawai'i, but also some burning of trash, trees, and biofuels; replace with conservation, efficiency, solar, wind, and energy storage.
2) electrify any heating needs... most use is industrial sector, but also help transition residential or commercial sectors where cooking and space heating is done with combustible fuels (mainly gas made from oil).

3) end combustion use for land-based vehicles by reducing vehicle use, having better (and fare-free) electrified public transit, and electrifying other land vehicles.
4) replace inter-island air travel with electric sea gliders, and electrify shipping, which is now possible.

The 2024 *Navahine F. vs. Hawaii Department of Transportation* settlement requires that the state come up with a plan to reach zero emissions in the transportation sector, which requires doing the same in the electricity sector. This bill would violate that requirement by advancing carbon-based fuels instead of investing in the transition needed in the electricity and (certain) transportation sectors to decarbonize properly and in the right order.

Attached is a resolution adopted by the Democratic Party of Hawaii in 2024 in support of an alternatives study, called for in SB 2369, which would look at non-burn alternatives for the transportation and other energy sectors. Such a study would be more appropriate and in line with the state's greenhouse gas (GHG) reduction goals and legal requirements.

Also attached are our 8/31/2025 comments on HDOT's Draft Energy Security & Waste Reduction Plan which explain how greenhouse gas accounting for biofuels is gamed and unreliable, how the plan is insufficient in many ways, not to mention unaffordable, and how the plan will be ridiculously expensive and environmentally harmful if relying on burnable "alternative" or "sustainable" fuels.

Democratic Party of Hawai‘i Resolution Adopted May 18, 2024

2024-15: Urging the Hawai‘i State Energy Office to Study Non-Burn Alternatives to Combustible Fuels

Whereas, It is important to use Hawai‘i state taxpayer funds wisely to create the most good without speculative investments, unnecessary subsidies, or promotion of energy technologies or fuels that conflict with the state’s climate change goals, or the peoples’ constitutional right to a clean and healthful environment under Article XI, Section 9 of the Hawai‘i State Constitution; and

Whereas, Energy consumption sectors tracked by the U.S. Energy Information Administration are electricity, transportation, and industrial, commercial and residential heating; and

Whereas, Technology exists to meet the needs of the electricity sector using conservation, efficiency, solar, wind, and energy storage, which can be made as firm as needed with added storage capacity; and

Whereas, Residential and commercial cooking space and water heating needs are easily electrified with existing technology, including ground- and air-source heat pumps and hybrid electric water heaters; and

Whereas, Industrial heating needs are increasingly possible to meet through a combination of concentrated solar, electricity, and—if necessary—green hydrogen sources from wind and solar; and

Whereas, Land-based transportation, even heavy trucking, can now be fully electrified and powered on clean, non-burn, electricity sources; and

Whereas, Ocean-based transportation is now possible to fully electrify, including international cargo ships with batteries, and some with stationary wind masts; and

Whereas, Interisland air travel is possible with electric sea gliders, as Hawaiian Airlines is exploring, while intercontinental air travel is the one sector that is hardest to convert to clean energy, though Airbus aims to bring to market the world’s first hydrogen-powered commercial aircraft by 2035; and

Whereas, Combustible carbon-based fuels release greenhouse gasses as well as other harmful air pollutants, and the production of burnable fuels has many other environmental implications, including the use of land for fuel instead of food, water and soil depletion, spread of genetically modified organisms, and—if using waste streams to make fuel—toxic chemical releases and solid waste byproducts; and

Whereas, Technologies to turn waste into fuels are highly speculative, controversial and polluting, and typically fail to operate at a commercial scale, usually falling apart technically, economically, or both; and

Whereas, Climate impacts of biomass and waste-based biofuels can be close to or greater than those from fossil fuels, especially where trees are cleared to grow bioenergy crops; and

Whereas, Investing in “transition” fuels only builds up an economic interest that makes it harder, politically and economically, to move to the next step where burnable fuels are ultimately replaced; and

Whereas, It is wise to spend public funding first on clean, combustion-free solutions that already exist, focusing on energy sectors where those solutions are not yet fully implemented; therefore be it

Resolved, That the Democratic Party of Hawai‘i urges the Hawai‘i State Energy Office to conduct a study of the different energy consumption sectors to determine which can be most quickly and cost-effectively decarbonized through additional public investment in combustion-free alternatives; and be it

Ordered, That copies of this resolution shall be transmitted to the offices of the Governor and Lieutenant Governor of the State of Hawai‘i, the Hawai‘i Chief Energy Officer, and all members of the Hawai‘i State Legislature who Democrats.

Energy Justice Network

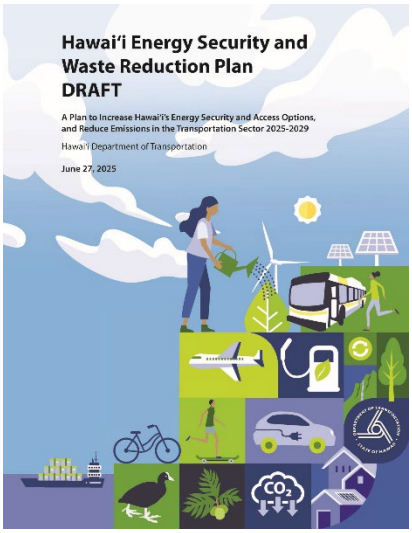
www.EnergyJustice.net

Kōkua nā ʻĀina

CLEAN ENERGY & ZERO WASTE

Comments on HDOT's Draft Energy Security & Waste Reduction Plan

8/31/2025



Aloha HDOT:

We submit these comment to express our concerns over the fiscal and environmental consequences of the Hawai‘i Department of Transportation (HDOT) Draft Energy Security & Waste Reduction Plan (hereinafter “ESWRP”). We urge HDOT staff, consultants and stakeholders, including members of the Hawai‘i Youth Transportation Council to read these comments in full, and to spend time digging into the references and footnotes, as there is much to understand about the wide range of false solutions being advanced by this draft plan.

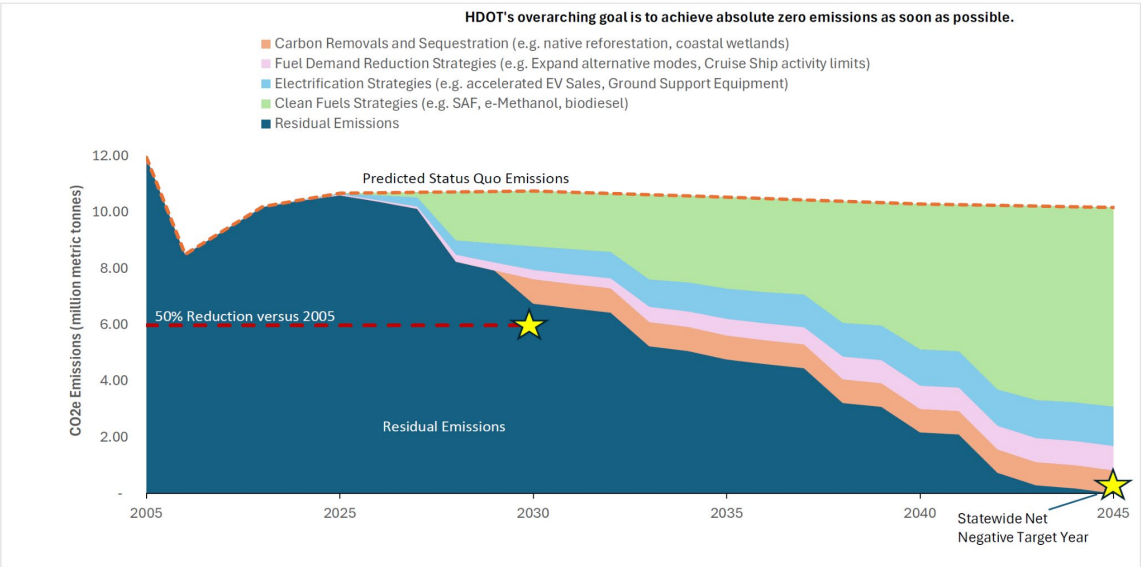
The plan’s objective is to meet the goal of zero greenhouse gas (GHG) emissions from the state’s “ground transportation and interisland sea and air transportation” systems by 2045, in accordance with state law (HRS § 225P-8)[1] and the *Navahine F. v. Hawai‘i Department of Transportation* court settlement.[2]

Sadly, the plan falls short of this goal and advocates for harmful false solutions and for a “double transition” approach that will be far more expensive than necessary by making two (or three?) major industrial transformations within 20 years instead of one, more thoughtful, transition.

An environmentally-friendly plan should rely on about 40% demand reduction and 60% electrification, which requires that the state’s electric grids’ capacities be expanded and that combustion-based generation be eliminated.

Instead, as the chart below shows, the plan relies about 70% on burnable “clean fuels” (in green) which are far from clean (some are even worse than the fossil fuels they’d replace), only 14% electrification (light blue), only 8% demand reduction (pink), and the remaining 8% is a shortfall (orange) that HDOT wants to make up with controversial “reductions” elsewhere, in violation of the legal settlement.[3] The plan’s text states that the shortfall is actually 10%, but the chart in Figure 3-1 shows it to be closer to 8%.[4]

Figure 3-1. Transportation 2045 Net-Negative Emissions Strategy



[1] https://law.justia.com/codes/hawaii/title-13/chapter-225p/section-225p-8/
[2] https://statecourtreport.org/sites/default/files/2024-07/first-circuit-court-of-hawai-i-joint-stipulation-and-order.pdf
[3] Hawai‘i Department of Transportation, “Draft Energy Security & Waste Reduction Plan,” (hereinafter “ESWRP”) June 27, 2025, p.27, Figure 3-1. https://hidot.hawaii.gov/wp-content/uploads/2025/06/Draft-ESWRP-6.27.25.pdf
[4] ESWRP, page 28 states: “The combined strategies are projected to achieve a 90 percent reduction of baseline emissions in 2045, with the remaining 10 percent reduction coming from hard-to-decarbonize sectors addressed by future carbon removal projects.”

Let's not plan to fail

To fulfill legal mandates, the plan must go all the way to zero greenhouse gas emissions by 2045. No plan can guarantee success, but it has to be designed so that it is possible. It's not adequate to start off the plan with this in the first paragraph:

> "A sustainable and just intermodal transportation system is one that is ***largely*** powered by clean and locally sourced power, including electricity fueled by renewable energy, ***low-carbon fuels***, and people walking or rolling" (emphasis added).

Furthermore, in the second paragraph of the substance of the plan, on page 14, it states that the plan "aims to lead the state to **net**-negative emissions **by 2045 and ultimately** zero emissions in the transportation sector **as soon as possible**" (emphasis added).

"Net" meant "not" (hence the need to meet shortfalls of the mandated zero emissions with reductions outside of the transportation sector), and the "ultimately" (implied to be *after* 2045) reaching zero emissions "as soon as possible," is an admission that this plan aims to push the zero emissions target past 2045, the year mandated in the state law and enforced in the settlement agreement.

Page 90 of the plan states:

> "…the reality that currently available SAF [sustainable aviation fuels] has significant remaining lifecycle GHG emissions. Because of these hurdles, despite HDOT's and stakeholders' expected best efforts to reduce GHG emissions, it is anticipated that **achievement of absolute zero GHG emissions will occur after 2045**" (emphasis added).

It is good to see the honesty, but HDOT is still required to have a plan that lands at zero by 2045. As discussed later, this means that sustainable aviation fuels (SAF) must go, as there is not adequate time or money to waste on false solutions that are not zero GHG emissions.

HDOT cannot start off with a plan that expects to miss its mark by 8-10%. Since the "clean" fuels and electricity that make up about another 84% of the plan are not zero GHG emissions sources, the draft plan would miss the mark by far more than 8-10%.

Air travel comprises over half of the GHG emissions this plan aims to reduce. The plan expects 62% of air travel emissions reductions to come from "traditional SAF" by 2045.[5] SAF is not zero emissions and could easily have greater emissions than the jet fuel currently used. Planning for "traditional" SAF to still be used by the 2045 goal is also not in line with the plan's intention to move from "near-term" biofuels options (synonymous with "traditional SAF") to long-term electrofuel options that supposedly have lower or zero GHGs.

[5] ESWRP, p.69, Table 3-3.

Avoid greenwashing language

"Clean fuels" and "sustainable aviation fuels" are inappropriate terms. To be more credible and objective, we recommend using "alternative fuels" or "alternative aviation fuels" so that the name itself is not pre-judging that the fuels are clean or sustainable when the plan (in appendix F) even addresses how most of these fuels have downsides that make them not so clean or sustainable.

Similarly, terms like "zero-carbon alternative fuels" (p.18 of the plan) should not be used since nearly every burnable fuel contains carbon and releases it when burned. Fuels that do not contain carbon have other GHG impacts associated with them such as nitrous oxides from burning ammonia, or the indirect effects of leaked hydrogen, which helps methane persist in the atmosphere. When people hear "zero carbon," it is typically understood to be synonymous with "zero GHG impacts."

All uses of the words, "clean," "sustainable," or "zero" should be searched and reviewed for objectivity. Similarly, assumptions that "renewable" means "clean" or "zero GHG emissions" must be reviewed, as it does not mean that when combustion-based systems are used. The state's Renewable Portfolio Standard (RPS) law counts as "renewable" the burning of "biomass" (trash, trees and other solid waste and crops), liquid biofuels, and biogas (toxic landfill gases and anaerobic digester gas), none of which are clean or zero-GHG emission, and some of which are worse than the fossil fuels they replace. Nearly half of the energy from the burning of trash comes from fossil fuel sources like plastics made from oil and gas. Even once the 100% renewable electricity by 2045 RPS goal is met, assumptions that this means electricity is GHG-free will be false unless these combustion sources are eliminated from the electric utility's portfolio.

As the opening of the 2023 Cerulogy report, "Scrutinising the future role of alternative fuels in delivering aviation decarbonisation" states:

> "Readers who are used to the discussion of alternative aviation fuels might have noticed that… we have studiously avoided using a term that has become standard in the industry in recent years – SAF, standing for Sustainable Aviation Fuel. Instead, we prefer to say 'alternative aviation fuel'…. The reason that we prefer not to use the term SAF is because sustainability is a characteristic of a fuel pathway that is at least somewhat subjective (i.e. it depends on which sustainability criteria are considered important), that may change over time (sustainability can be affected by variables outside the control of a fuel producer such as deforestation rates), and that is at least somewhat scale-dependent – one might feel differently about devoting a couple of farms to bioenergy cropping than devoting half of the agricultural area of Europe."[6]

The report goes on for two pages on this deliberate use of language, and we encourage HDOT to take it to heart as well.

[6] Malins, C., Scrutinising the future role of alternative fuels in delivering aviation decarbonisation: Part 3 – the pathway to decarbonised aviation," October 2023. https://www.aef.org.uk/uploads/2023/11/Cerulogy_Alternative-fuels-in-aviation_Part-3-decarbonisation_Oct2023-1.pdf#page=10

Discuss public health impacts in a balanced way

It is also important to provide balance and not selectively present only benefits and not harms when discussing energy sources that have both. Page 49 of the plan states: "Biodiesel also significantly lowers sulfur oxide (SOx) and particulate matter (PM) emissions, improving air quality for nearby residents." There is no mention in the body of the report that other pollutants increase, such as nitrogen oxides (NOx) that trigger asthma attacks and volatile organic compounds (VOCs) that can cause cancer. One must reach into Appendix F on page 150 of the PDF to find out that there could be increased NOx emissions from biodiesel "in some cases" – and no mention of other pollutants that could increase, or of the health consequences of exposure to them.

Putting only benefits up front and burying the harms deep in an appendix is a form of greenwashing and misleads readers. The entire document has only one mention of asthma, one mention of respiratory disease and two mentions of cardiovascular disease (in Appendix F on pages 150 and 152 about biodiesel and renewable diesel). Both of these sentences speak in terms of diseases that would be avoided when these biofuels are burned in place of fossil fuels. However, asthma can be aggravated by increases in NOx from biodiesel burning. While there is a slight admission of the possibility of NOx increasing, there is no corresponding statement that it could aggravate asthma… only that respiratory disease could be alleviated. There are zero mentions of cancer or other public health impacts associated with some of the solutions in the plan.

We expect one-sided discussion of topics from corporations advancing their interests, but not from a public agency that is charged with implementing a plan that should benefit the environment and public health.

"Transition" fuel approach is politically unrealistic and makes high costs more extreme

The plan's "transition" approach is that it aims to build up a biofuels industry that will lobby against the subsequent transition to electrofuels because private corporations do not want to finance and build 30+ year infrastructure just to tear it down in 10-15 years.

In recent years, there has been a phalanx of lobbyists pressing the state legislature to subsidize "clean fuels" and "sustainable aviation fuels." This includes airlines, the PAR oil refinery, biorefiners, electric utilities, agribusiness interests, the biotechnology industry trade association, fledgling startups aiming to turn waste streams into fuels, and some nonprofits who are aligned with these interests. Should they succeed and build out this industry to grow, import, and refine biofuels and waste-based fuels, which will take several years just to start up, it would make no sense for them to throw out these investments and tear down all of this infrastructure just to facilitate a transition to "electrofuels" in the latter portion of the 20-year plan period.

It can easily take 5-10 years to get a major new infrastructure project like a biorefinery financed and built. Financing typically involves a 10-20 year investment. The lifetime of the infrastructure can be 20-30 years. No business person will go along with tearing down their investment half-way through its operational life if they can avoid it.

Building up a biofuels industry with the intention to switch gears to an electrofuels industry means that all the economic interests invested in the biofuels buildout will use their profits and political power to lobby against the next transition.

Despite this glaring political problem, the plan aims to make two transitions, if not actually needing a third transition after 2045.

The plan would have state taxpayers subsidize building up "low-GHG" biofuels industries in the short term just to tear them down within 20 years to replace them with other burnable "synthetic" and "electrofuels" that are terribly inefficient and purport to be zero GHG, but are not.

As the table below, from the plan, demonstrates, between 2030 and 2045, the plan would build up, then aim to dismantle 35% of the biodiesel industry, 65% of the ethanol industry, and 72% of the renewable LNG industry – both the supply side, as well as the storage and transportation infrastructure using these fuels unless the same infrastructure can run on the electrofuels that replace them.

Table F-1. Projected Alternative Fuel Demand by Type, Year, and Sector

Fuel Type	Estimated Demand (2030)	Estimated Demand (2045)	Applicable Sectors
Biodiesel	20 million gallons	13 million gallons	Ground (heavy-duty)
Renewable Diesel	19 million gallons	52 million gallons	Ground and Marine
Ethanol	17 million gallons	6 million gallons	Ground (light-duty)
Renewable Gasoline	Not included	Not included	Ground (light-duty)
Renewable LNG	32 million therms	9 million therms	Marine
SAF	410 million gallons	600 million gallons	Aviation
eSAF	No demand in 2030	110 million gallons	Aviation
BECCS SAF	No demand in 2030	36 million gallons	Aviation
e-Methanol	No demand in 2030	58 million gallons	Marine
e-Ammonia	No demand in 2030	62 million kg	Marine
Green Hydrogen	No demand in 2030	1.6 million kg	Marine

Many examples throughout the plan spell out this intent to make at least two transitions:

Page 24: "Develop the infrastructure and supply chain for bio-/renewable diesel and renewable LNG in the short term, enabling intra- and inter-state vessels to transition to these low-carbon fuels, while planning for a long-term shift to alternative clean fuels such as green methanol, green ammonia, or green hydrogen to fully decarbonize marine operations."

Page 30: Fig 3-3:

2. **Cruise Vessel:** Non-home ported vessels transitioning to bio-LNG near term and e-fuels longer term
3. **Interisland Operation:** 100% biodiesel by 2030, transitioning to e-fuels by 2045.
4. **Inter-state Operation:** 70% bio-LNG by 2030, shifting to e-fuels by 2045.
5. **Assist Tugs :** 100% biodiesel by 2030, moving to zero emissions by 2045.

Page 49: "Clean marine fuels include biofuels (such as biodiesel or renewable diesel), methanol, ammonia, hydrogen, and bio- LNG, each of which has different technological requirements and operational impacts. Renewable biodiesel offers a drop-in solution for existing diesel engines with minimal modifications, making them an attractive early-stage emissions reduction strategy. In

contrast, LNG, methanol, ammonia, and hydrogen, require engine modifications or entirely new vessel builds, making them longer-term solutions."

Page 49: "For intra-state marine vessels, the recommended transition strategy starts with low-carbon drop-in fuels such as biodiesel and renewable diesel in the near term, with a goal of fully adopting these fuels across intra- state operations by 2030. Beyond 2030, the transition is expected to shift toward e-methanol and e-LNG, with ammonia adoption beginning in 2035 and green hydrogen introduced post-2040. These alternative fuels will require new vessel designs or engine modifications, making their adoption more complex and capital-intensive."

Page 52: "In the short term (by 2030), efforts should focus on biodiesel infrastructure, followed by LNG, e-methanol, and ammonia bunkering by 2035, and ultimately hydrogen infrastructure post-2040."

> "Given the higher costs of biodiesel, bio-LNG, e-methanol, ammonia, and hydrogen; financial incentives are critical to encourage adoption." (ESWRP, p.52)

The high costs of these fuels are admitted throughout the plan, more so in the appendices. Requiring two or more transitions will make an expensive plan far more expensive. Alternative aviation fuels being explored are projected to cost about 2-5 times as much as fossil jet fuel, and this approach of making two transitions within two decades will only magnify the costs to taxpayers and consumers.

Most of these "longer-term solutions" are not genuinely zero GHG emission in their burning or lifecycle, which could necessitate a third transition to full electrification with non-burn renewable electricity sources. It would make more sense to go directly to these solutions as soon as they can be made available, and to focus on what is possible on our way there, such as conservation and efficiency strategies, cleaning up and expanding the grid, and electrifying transportation where we can, as soon as we can.

Ensuring Proper GHG Accounting & Modeling

<u>Counting emissions from electricity generation</u>

It is unclear whether and how GHG emissions from the electricity sector will be counted. The plan seems to state it both ways. On one hand, it seems as if they'll be counted:

Page 80 states:

> "This GHG inventory boundary includes the following two sources of indirect emissions:
>
> - Emissions from EV electricity consumption until the electricity grid becomes 100 percent renewable
> - Upstream emissions from the production of alternative fuels
>
> The inclusion of emissions from electricity production transportation emissions is one deviation from the statewide DOH inventory approach. Because of the carbon-intensive electrical grid in Hawai'i, it would be disingenuous for this Plan to assume

zero GHG emissions from EVs. Therefore, electricity emissions from EVs and other electric non-road equipment are quantified in this Plan."

Page B-12 reinforces this: "the baseline emissions projection includes emissions from electricity generation needed to charge EVs. …electricity grid emissions from EVs and equipment were considered in assessing the impact of electrification on the HDOT emissions inventory."

As the first bullet above states, emissions will be counted from EV electricity *until* the electric grid becomes 100% renewable. This notion is repeated on page 84, where it states "Emissions from EV electricity consumption will be included in this Plan until the electricity grid becomes 100 percent renewable."

This assumes that "renewable" energy sources are not releasing GHGs. In fact, trash incineration (like the H-POWER incinerator on Oʻahu) releases 65% more GHGs per unit of electricity produced than a coal burning power plant, and nearly half of those emissions are from the burning of fossil fuel-derived plastics. Burning trees, as Mahipapa, LLC does on Kauaʻi, and as Hu Honua has been trying to do in Pepeekeo on Hawaiʻi Island for nearly two decades, releases 50% more GHGs per unit of energy than a coal power plant does. Biofuels and biogas combustion are also not without their own GHG emissions. **"Renewable" does not mean GHG-free. It is imperative that <u>all</u> GHGs are counted, including from "renewable" sources.**

Whether electricity emissions are counted at all seems to be contradicted on page 29, where it states, "EVs are assumed to have zero emissions in transportation," and on page B-11:

> **"Exclusions**
>
> This Plan is written with the assumption that, for purposes of tracking against net-negative and interim GHG reduction targets, transportation emissions are defined using a similar basis as the DOH GHG Inventory. In that inventory, transportation emissions are limited to the fuels consumed by ground vehicles, aircraft, and watercraft. The following briefly describes excluded sources:
>
> - **Upstream impacts of fuel production**, which are included in the Industrial Process and Product Use (IPPU) sector or **excluded entirely for fuels produced outside Hawaiʻi**.
> - Like fuels, **production of concrete, asphalt and steel** is covered under IPPU or **excluded for materials from outside Hawaiʻi**.
> - **Electricity generation**, which is a portion of the Energy sector" (emphasis added).

Is this last bullet really stating that electricity generation will not be counted, even for EVs, contradicting the prior statements in the plan?

The first bullet also contradicts a statement from page 80, which correctly indicates that upstream impacts of fuel production must be counted, even for the bulk of the biofuels that are imported. Page 80 states:

> "The other deviation is the inclusion of upstream emissions from the production of alternative fuels. Clean fuels and other alternative fuels vary widely on lifecycle GHG impacts, and **it is very important that this Plan not incentivize use of alternative fuels with high upstream emissions, assume all clean fuels result**

> **in zero anthropogenic emissions, or ignore any shift of GHG emissions from Hawai'i tailpipes to international fuel production and processing**. Therefore, similar to the approach with electricity, the reduction pathways in Chapter 3 include pro-rated reductions to account for the estimated lifecycle impacts of fuels. For example, a shift of a group of vehicles from petroleum diesel to biodiesel is not illustrated as a 100 percent reduction in emissions in this roadmap" (emphasis added).

Is the use of the term "anthropogenic" implying that "biogenic" emissions can be ignored?

Counting Refrigerants

Page 22 of the plan dismisses refrigerants as negligible:

> "HDOT acknowledges that there are other GHG pollutants such as hydrofluorocarbons and perfluorocarbons being emitted as a result of transportation such as leakage from vessel and vehicle air conditioning systems. However, these are outside the boundary of the emissions inventory and are also expected to be quite minimal compared to combustion emissions from aviation, marine, and ground transportation vehicles and equipment, and thus negligible."

This should be reconsidered in light of the following:

- Older mobile air conditioning systems may not be factory sealed.
- Unlike stationary units, they get jostled a lot, making leaks inevitable. This study on R134a emissions from vehicles may be useful.[7]
- Refrigerants historically have very high global warming potentials (GWP). R134a was the norm in systems and has a high GWP of 1,526 over 100 years (meaning that it is 1,526 times as potent as CO_2 over that time frame), and a GWP of 4,144 over 20-years, which is a more relevant time frame, and the time frame of this policy.
- Most passenger vehicles built in 2025 use R1234yf instead of R134a. R1234yf is an HFO with an ultra-low global warming potential (GWP100 is less than 1 in AR6), however larger vehicles and trucks have not all changed over. While the amount of R134a will be decreasing over the years, R1234yf produce trifluoroacetic acid (TFA), a single-chain PFAS, which is of greater concern than its GWP value.[8] R1234yf completely breaks down into TFA in 7-10 days' time, which means local concentrations of that "forever chemical" will increase. TFA is being regulated in the EU, but I think the U.S. does not yet recognize it as something to worry about.
- DIY vehicle air conditioner recharging is an activity that should be regulated. Discharging a can of R134a into a leaky system will just cause that R134a to be emitted. Since systems don't necessarily need a whole can, people are likely to throw away partial cans, resulting in contents being expelled into the atmosphere. One way of lowering the environmental impact is to require cans of refrigerant to be filled with "reclaimed," not "virgin," refrigerant. In Washington State, they have banned the use of all small containers (or DIY) of automotive refrigerants. They did that because the R134a in the cans always left over a little bit, and the collective impact of those heels was significant.

[7] https://pubmed.ncbi.nlm.nih.gov/11878368/
[8] https://naturalrefrigerants.com/experts-sound-the-alarm-about-rising-tfa-levels/

- New York and California have programs relating to refrigerant recovery and recycling.[9,10] In New York, Part 494 bans the use of small containers of automotive refrigerant containing virgin substances effective January 1, 2027.
- In New York State's 2021 HFC emissions inventory, 15.9% of HFC emissions were from transportation HVAC (which does not include transportation refrigeration). This is more than residential HVAC emissions (10.9%) and commercial HVAC (13.3%), although less than commercial refrigeration (26.8%) and the general category for foams and propellants (29.8%). If Hawaii hasn't done an HFC inventory, the plan should not assume that transportation HVAC emissions are negligible.
- California had a program that charged a $10 deposit on the DIY cans, but I see that program has been discontinued, in favor of another one, which pays up to 90% of the cost of professional automotive AC repair, for income-eligible residents.

Policies that shift more residents away from DIY cans and toward getting professional help with their automotive AC systems would have long-term benefits. Most shops have a piece of equipment that automatically recovers refrigerant from vehicles, cleans the refrigerant, tests the system for leaks, and recharges the refrigerant (and oil) to precisely the right amount. This is the best practice for long-term vehicle maintenance with environmental benefits for everyone else.

Global warming potentials (GWP)

Page 22 states:

> "Using global warming potentials (GWP), emissions from these gases are converted to CO2e in this report. Only CO2e values are presented, as they account for all three GHGs in a standardized measure, with CO2 comprising the largest share of emissions from the included source categories. All GHG emissions are reported in metric tons."

GWPs are published by the International Panel on Climate Change (IPCC) through large "Assessment Reports" that come out about every seven years. The most recent data is from IPCC's Sixth Assessment Report (AR6), which was released in 2021. The plan provides GWPs for 20-year and 100-year time frames, where 20-year GWPs are more appropriate if we're to avoid climate change tipping points.

Is this plan using AR6 20-year GWP values? Will GWPs be updated as the Seventh Assessment Report (AR7) comes out in 2029 and when future reports come out?

The GREET Model: Underestimating Climate Impacts of Biofuels

Page 57 states that "emission factors for these fuels are sourced from the GREET Well-to-Wheel (WTW) Calculator (2022 version)."

"GREET" is the Greenhouse gases, Regulated Emissions, and Energy use in Technologies (GREET) model, a life-cycle analysis tool that calculates the direct greenhouse gas emissions from the production and use of various transportation fuels, such as ethanol and biodiesel.

[9] https://dec.ny.gov/sites/default/files/2023-12/part494expressterms2023public.pdf
[10] https://ww2.arb.ca.gov/resources/fact-sheets/small-containers-automotive-refrigerant-consumer-requirements

While mentioned only once in the plan, the use of the GREET model is pivotal, as it is proposed to be used as the measuring tool with which different burnable fuels will be considered to be reducing GHG emissions from the transportation sector.

A deciding factor in whether many biofuels are better or worse for the climate than the fossil fuels they replace is indirect land use change (ILUC). Through GREET, ILUC estimates for crop-based fuels are provided by the Global Trade Analysis Project BIO (GTAP-BIO) model which estimates the area of land converted during biofuel production.[11]

Leading climate and biofuels experts have written up a scathing and thorough critique of the GTAP model and how it vastly understates the impact of biofuels on climate change by downplaying ILUC. Authors include Yale professor Steven Berry, who has served as a consultant for the California Air Resources Board relating to ILUC from biofuels, and Princeton Senior Research Scholar Timothy Searchinger, who authored some of the landmark critiques of biogenic carbon neutrality assumptions. They write that "GTAP lacks a credible economic foundation" and "is particularly unable to credibly evaluate land use changes."[12]

In GTAP, "estimated ILUC carbon losses from a gallon of corn ethanol and soybean biodiesel are extremely low, meaning there is little carbon cost for diverting even vast areas of prime farmland to biofuel production."[13]

"Of thousands of economic parameters, only a small number claim to have any direct, empirical basis. Of these, few of the cited empirical studies make any use of credible techniques for distinguishing correlation from causation and, most fundamentally, supply from demand."[14]

"We also review how additional, empirically unsupported decisions added to the model since the first version used for CARB have further reduced the estimated ILUC. As an example, the model makes a pure assumption, without any supporting economic analysis, that most new cropping area will be supplied not by expansion of cropland but by cropping existing cropland more frequently. This assumption also contradicts actual experience in the U.S."[15]

ILUC, according to these authors, results in emissions that are roughly 3 to 4.5 times the emissions of the fossil fuels that the ethanol or biodiesel is replacing. However, only 10% of these average emissions are accounted for in GTAP's ILUC estimate used by CARB, and the version used in GREET is even lower. The authors point out that GTAP, as used in GREET, would claim that all the cropland in Iowa can be diverted to biofuel production – or to any other use – with almost no effect on global land use elsewhere and almost no resulting climate consequences.[16]

The models incorrectly assume that converting pasture to cropland will not lead to deforestation to replace the pasture.[17]

Regarding some of the simplistic assumptions made in the model, they write: "This choice is understandable as a research strategy, but it does not produce a model that can be treated

[11] https://www.epa.gov/system/files/documents/2022-03/biofuel-ghg-model-workshop-gtap-bio-model-2022-03-01.pdf
[12] Berry, S., Searchinger, T., & Yang, A., "Evaluating the Economic Basis for GTAP and Its Use for Modeling Biofuel Land Use," Yale Tobin Center for Economic Policy, March 19, 2024. https://www.energyjustice.net/fuels/gtap.pdf
[13] *Id.* at 1.
[14] *Id.* at 2.
[15] *Id.* at 3.
[16] *Id.*
[17] *Id.* at 7.

seriously as a policy tool."[18] They later point out that GTAP "appear[s] to be picking parameters to fit a narrative."[19]

Their conclusions include the following:

> "To summarize, the structure of the economics of the model produces physically impossible results. Even if the economics were reliable, the imposed adjustment factor generates an inconsistent result and lower ILUC."[20]

> "GTAP is generating results that project the lost carbon from land to generate additional crops for biofuels is only a very small fraction of the average carbon lost to produce these crops in the past. Only with these large reductions in ILUC can a model even project greenhouse gas reductions from these biofuels relative to using fossil shows. By contrast, as shown in Table 1, using this average carbon loss would indicate that crop-based biofuels do not come close to reducing greenhouse gas emissions from transportation over 30 years."[21]

<u>The ACERT Model</u>

Page 70 of the plan has a sidebar called "Lifecyle Emissions Analysis" (same title as the one mentioning GREET on page 57) that states:

> "This emission inventory considers the use of sustainable aviation fuel as a clean fuel. To determine the emission reduction potential of SAF, an emission reduction factor was established by comparing the emission factor SAF to that of kerosene jet fuel (KJF). For example, KJF has a baseline emission reduction factor of 0 percent and SAF has an emission reduction factor between 65 and 80 percent. Conservatively, SAF was assumed to start at 65% reduction in 2028 and scale up reduction by 5% every five years through 2045. Note that these are some of the preliminary reduction factors assumed for this version of the report and they will be further refined in the final version."

We ask that HDOT please respond to us to let us know what model was used to come up with these assumptions.

Elsewhere on the same page is mention of the "Airport Carbon And Emission Reduction Tool (ACERT)" which is an apparent misnaming of the "Airport Carbon and Emissions Reporting Tool."[22] The ACERT model's assumption on GHG emissions from biomass for electricity is 26 times lower per kilowatthour than EPA and Energy Information Administration (EIA) data shows. It also assumes that trash incinerator GHG emissions per tonne are 56 times lower and that wood/plant burning emissions per tonne are 108 times lower than EPA and EIA data show. How can we trust this airport industry tool on other metrics when they're so far off on every input data value we spot checked so far?

[18] *Id.* at 11.
[19] *Id.* at 13.
[20] *Id.* at 17.
[21] *Id.* at 21.
[22] https://store.aci.aero/form/acert/

In addition, ACERT uses outdated GWPs from 2014 (AR5)[23] when 2021 (AR6)[24] is available, and uses the 100-year instead of 20-year GWPs, which is inappropriate considering the policy time frame (2045) being 20 years away and the fact that global warming tipping points (already showing up) aren't about to wait for 100 years. They also choose the more optimistic figures with no climate-carbon feedback which allows them to pluck out the 28 number for methane instead of 34, and 265 instead of 298 for nitrous oxide (N_2O). In fact, if they used the latest science (which was out for two years before the ACERT tool's latest release in 2023), the GWP for methane would be 80-82 (over 20 years), not 28 or 34 (over 100 years).

Finally, some of ACERT's data sources and emissions factors are listed as "Wikipedia," or simply as "Internet." The foundation for GHG accounting in Hawai'i state policy should have a more solid foundation than tools like GREET and ACERT, which are not confidence inspiring!

Making public policy based on deeply flawed models is problematic and results in exaggerated claims of emissions reductions that are illusory, making agencies and politicians look good while we're still cooking the planet and violating legal mandates.

Why burnable fuels are false solutions

All burnable fuels have significant pollution issues, including climate impacts. It is critical to move on from burning things.

The plan includes 10 kinds of burnable fuels. Actually, 11 are listed, but renewable gasoline is not included while all 10 other kinds are part of the plan.

The dominant near-term alternative fuels are corn-based ethanol and soy-based biodiesel that would have to be imported, as Hawai'i has insufficient land and water to produce much in-state.

The U.S. Environmental Protection Agency's website (since before the current administration) states the following:

> "Biofuel production and use has drawbacks as well, including land and water resource requirements, air and ground water pollution. Depending on the feedstock and production process, biofuels can emit even more GHGs than some fossil fuels on an energy-equivalent basis."[25]

There are three major congressionally-mandated reports on biofuels as it relates to the federal Renewable Fuels Standard, the last of which is over 1,000 pages long, backing up these concerns in great detail. We encourage HDOT to at least review the 19-page Compilation of Key Findings (Chapter 17) in "Biofuels and the Environment: Third Triennial Report to Congress," starting on page 856 of the PDF file.[26]

[23] https://www.climatechange2013.org/images/report/WG1AR5_Chapter08_FINAL.pdf#page=56
[24] https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_FullReport.pdf#page=1034
[25] https://www.epa.gov/risk/biofuels-and-environment
[26] https://assessments.epa.gov/biofuels/document/&deid=363940

Counting all the carbon

In addition to the underestimated GHG impacts resulting from indirect land use change (ILUC), there is a tendency to assume that GHG emissions from burning biofuels is simply zero because it's "carbon neutral."

Nearly all of the proposed fuels will still release CO_2 when burned. Assumptions about biogenic carbon neutrality has been repeatedly debunked by climate scientists for over 15 years. It would be good for HDOT to get familiar with these critiques, especially with regard to fuels that involve trees, municipal waste, and construction and demolition waste, where the large time lag between harvesting trees for wood and paper, and the recapture of that CO_2 by newly growing trees, is so long that there is no real "carbon neutrality" in a meaningful time frame.

"Biogenic" CO_2 comes from the burning of paper, food scraps, yard waste, wood, leather, and other materials that ultimately grew from soil. Biogenic carbon dioxide emissions are real CO_2 molecules that warm the atmosphere just like any CO_2 molecule released from the burning of plastics and other materials made from fossil fuels.

A majority of the CO_2 emissions from trash incinerators like H-POWER get erased in most GHG reporting due to outdated assumptions that "biogenic" carbon should not be counted. It is important to recognize that even if HDOT will not look at the science challenging biogenic carbon neutrality assumptions, the fossil fraction of trash-derived fuel must be recognized as fossil, even though the state Renewable Portfolio Standard law brands it "renewable."

The carbon neutrality assumption comes from the notion that this carbon should not be counted because trees and plants regrow, and that this carbon is simply recirculating in the biosphere, as opposed to being "new" carbon in the biosphere that was extracted from underground in the form of coal, oil, or gas.

However, carbon (CO_2 or methane) in the air causes global warming, while carbon in a plant or tree does not. We cannot simply pretend that carbon in a tree is the same as carbon in the air. Carbon in a plant or tree does not warm the climate until burned (or slowly decayed).

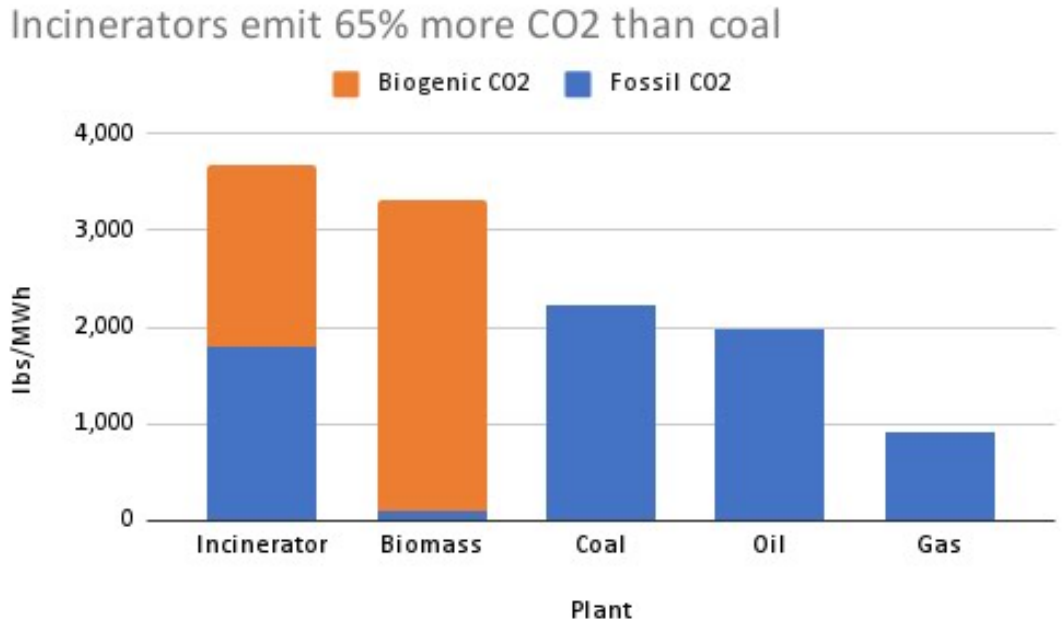
This biomass carbon neutrality notion has been debunked by climate scientists since at least 2009. There are two main reasons: double counting, and the time lag problem.

Carbon absorbed by growing plants is already factored into global climate models. The reason why it became a practice not to count carbon emissions in certain sectors was, *when looking at all sectors together*, to avoid double counting when assuming carbon is released when trees are cut down, then counting it again if those trees are burned. However, when looking just at one sector, such as vehicle emissions, it is improper to subtract biogenic carbon as if it has not already been accounted for elsewhere. This becomes an accounting problem.[27]

Should HDOT subtract GHG emissions because of plants and trees that already grew? [This would be the double counting error.] …or to subtract emissions from plants and trees that they presume will grow later? [This would be speculative, and there is not always a guarantee of trees or crops being replanted, as the Hu Honua court case demonstrated. And then there is the time lag problem…]

[27] Searchinger, T. D., Hamburg, S. P., Melillo, J., Chameides, W., Havlik, P., Kammen, D. M., et al. (2009). "Fixing a Critical Climate Accounting Error," *Science*, 326(5952), 527-528. https://doi.org/10.1126/science.1178797

Burning trees for electrical power releases 50% more CO_2 per unit of energy than burning coal. Burning trash for power releases 65% more CO_2 per unit of energy than burning coal. The following data is from EPA's Greenhouse Gas Reporting Program:



Growing trees do not instantly reabsorb this extra pulse of carbon. As the Manomet Center for Conservation Sciences documented when studying the issue for the Commonwealth of Massachusetts, it takes newly growing trees around 40-70 years to take up enough carbon to make it equivalent to burning coal.[28] This is not carbon neutrality, but just absorbing that extra CO_2 so that it's as bad as coal burning after several decades. Carbon neutrality would take centuries and is never quite reached, even if trees were replanted and not cut down in that time frame (or burned up in wildfires on a warming planet).

In trying to avoid critical global warming tipping points, we do not have several decades to wait for trees to suck up extra carbon released by burning trash or trees. This carbon must be counted, not discounted as if there's a free pass to release that CO_2 because a slow carbon cycle will eventually suck it back up.

Ironically, it is better for the climate to burn coal and plant trees than to burn trees and plant trees. We are not recommending either. However, this CO_2-only metric shows the absurdity of allowing biogenic carbon to be offset in this manner.

Burning trash and planting trees (which incinerator corporations are not doing, anyway) often allows the incinerator industry to subtract their emissions. However, if a gas-burning power plant planted trees, that rightfully would not count against their emissions.

[28] Thomas Walker, et. al., "Biomass Sustainability and Carbon Policy Study," Manomet Center for Conservation Sciences Report to the Commonwealth of Massachusetts Department of Energy Resources, June 2010 (Report NCI-2010-03). https://www.mass.gov/doc/manometbiomassreportfullhirezpdf/download Executive Summary available at: https://www.manomet.org/wp-content/uploads/2018/03/Manomet_Biomass_Report_ExecutiveSummary_June2010.pdf

For further background on biogenic carbon accounting, see these footnotes cited here.[29,30,31,32] We ask that these footnoted references, in full, be considered part of our comments by reference and are to be made part of the decision-making docket.

Feedstocks

A wide variety of feedstocks exist to make burnable fuels. Every one of them has its own significant problems, many of them rivalling fossil fuels, and all of them just "differently bad." This includes liquefying and/or gasifying or otherwise cleaning, converting or processing municipal solid waste,[33] sewage sludge,[34] construction and demolition waste,[35] animal wastes,[36] trees,[37] purpose-grown crops,[38] crop wastes,[39] vegetable oils,[40] anaerobic digester gas,[41] landfill gas,[42] algae,[43] and even "thin air" and water with electrofuels that involve direct air capture[44] and "green" hydrogen.[45]

Much has been written on these topics, and we cannot reasonably provide a full exploration of them all in these comments, but please include all of these footnoted reports and the sources within them as part of our comments, as there is much to read and know about each. Please also review our 6-page comments on Senate Bill 1120 here: https://www.capitol.hawaii.gov/sessions/session2025/Testimony/HCR70_HD1_TESTIMONY_TRN_04-01-25_.PDF#page=9

On biofuels generally, please review the excellent reports by Biofuelwatch at: https://www.biofuelwatch.org.uk/category/reports/general-overview/ and https://www.biofuelwatch.org.uk/category/reports/biofuels-liquid/

Also, the reports by Aviation Environment Federation: https://www.aef.org.uk/category/reports-briefings/

Most critically, on aviation fuel, please read this report in full: https://www.aef.org.uk/uploads/2023/11/Cerulogy_Alternative-fuels-in-aviation_Part-3-decarbonisation_Oct2023-1.pdf

---

[29] Biomass Incineration and Climate. https://energyjustice.net/biomass/climate

[30] Energy Justice Network comments on EPA WARM Model. https://downloads.regulations.gov/EPA-HQ-OLEM-2023-0451-0112/attachment_1.pdf

[31] Partnership for Policy Integrity comments on EPA WARM Model. https://downloads.regulations.gov/EPA-HQ-OLEM-2023-0451-0112/attachment_7.pdf

[32] Landfill Gas https://energyjustice.net/lfg/ and the articles and links referenced at the top and under "related links," specifically this report: https://www.sierraclub.org/sites/www.sierraclub.org/files/landfill-gas-report.pdf

[33] http://www.energyjustice.net/incineration, on waste pyrolysis, see pages 3-7 and the reports footnoted within these recent comments: https://www.energyjustice.net/ny/Sullivan2025RFPComments.pdf

[34] https://sewagesludgeactionnetwork.com; http://www.ejnet.org/sludge

[35] https://energyjustice.net/waste/cd/; https://energyjustice.net/incineration/cd.pdf

[36] https://energyjustice.net/poultrylitter/

[37] https://energyjustice.net/biomass/; https://energyjustice.net/biomass/woodybiomass.pdf; https://energyjustice.net/hi/huhonua.pdf

[38] https://energyjustice.net/ethanol/ethanol-factsheet.pdf; https://energyjustice.net/biodiesel/biodiesel-factsheet.pdf

[39] https://energyjustice.net/ethanol/cellulosic/factsheet_cellulosic.pdf (covers cellulosic ethanol generally)

[40] https://www.biofuelwatch.org.uk/2025/fat-grab-report/

[41] http://www.energyjustice.net/digesters; https://zwia.org/composting-and-anaerobic-digestion-policy/; https://www.foodandwaterwatch.org/wp-content/uploads/2024/01/RB_2401_LCFS_Methane.pdf; https://foodandwaterwatch.org/wp-content/uploads/2021/04/ib_1611_manure-digesters-web.pdf; https://www.foodandwaterwatch.org/2024/01/09/the-big-oil-and-big-ag-ponzi-scheme-factory-farm-biogas/

[42] http://www.energyjustice.net/lfg

[43] https://www.biofuelwatch.org.uk/docs/Microalgae-Biofuels-Myths-and-Risks-FINAL.pdf; https://www.biofuelwatch.org.uk/category/reports/biofuels-liquid/cellulosic-algal-biofuels/; https://www.thenation.com/article/environment/exxon-algae-biofuels/; https://web.archive.org/web/20230323143637/https://www.greentechmedia.com/articles/read/lessons-from-the-great-algae-biofuel-bubble; https://www.canarymedia.com/articles/climatetech-finance/stop-trying-to-make-algae-biofuels-happen

[44] https://www.foodandwaterwatch.org/wp-content/uploads/2023/01/FSW_2212_DirectAirCapture.pdf

[45] https://www.energyjustice.net/hydrogen/

As these articles and reports document, in addition to climate change impacts, there are also many other harmful impacts that will come in the form of toxic releases, genetically modified crops and microorganisms, water and soil depletion, chemical use, land use, food insecurity, and – since most of this cannot be produced in-state – a heavy reliance on importing these fuels even while aiming to be energy independent and secure.

Relating to Hawai‘i having sufficient land or water to grow biofuels vs. the need to import most of them, as well as concerns relating to whether taxpayers or airline customers should foot the bill for subsidizing these biofuels, we encourage all to watch the 35-minute hearing on Senate Bill 995 of 2025, pertaining to "Sustainable Aviation Fuel Import Tax Credit; Renewable Fuels Production Tax Credit."[46] Senator DeCoite calls up staff from the state Department of Agriculture who make it clear that there is not sufficient land or water available for this purpose. Other testimonies during this hearing are quite eye opening. You can view it here: https://www.youtube.com/live/eLQmyLuHOu8?feature=shared&t=283

As page 51 of the plan admits, most of the envisioned fuels do not exist and are not low-GHG at this point where they do exist:

> "While Hawai‘i is committed to transitioning marine operations to low- or zero-carbon fuels such as green hydrogen, methanol, and advanced biofuels, many of these alternatives are not yet commercially viable, lack supporting infrastructure in the state, or currently carry high lifecycle carbon intensities due to existing production methods."

This reality is not likely to change for biofuels, though electrofuels (horribly expensive and inefficient at this time) will get cleaner over time as the electric grid gradually shifts to clean, renewable sources.

Food vs. Fuel; Imports

Page 2 of the plan states "we must decrease our dependence on imported energy and food." The plan also acknowledges the problem on page F-7 where it states: "But if virgin oils such as palm or soybean oil are used extensively, it can create tension with food supply and raise concerns about deforestation and agricultural expansion."

This is a great reason not to grow biofuels in-state.

Hawai‘i is dependent on importing about 80-90% of its energy and 80-90% of its food. Using precious land to grow fuel for vehicles necessarily means making the state even more food insecure. As the Department of Agriculture testimony showed on SB 995 of 2025, there is next to no land or water available to grow fuels in the state, requiring that nearly all reliance on biofuels will mean shipping it in from the continent. The answer is not to grow or import biofuels, but to electrify with local (non-burn) renewable energy production.

Biotechnology

The biotechnology industry's trade association routinely testifies in favor of biofuels bills in the state legislature. Their testimonies never state why they are so supportive of biofuels, but it is obvious to anyone who knows enough about the industry. The main biofuels currently in

[46] https://www.capitol.hawaii.gov/session/measure_indiv.aspx?billtype=SB&billnumber=995&year=2025

production are corn-based ethanol and soy-based biodiesel. As of 2024, 94% of corn grown in the U.S. is grown with genetically modified organisms (GMOs) and 96% of the soy is GMO.[47] This is primarily to withstand higher doses of herbicides, which leads to more herbicide spraying, mainly with Bayer (formerly Monsanto) product, Roundup (glyphosate), which is the subject of many lawsuits now that it is shown that it's not as safe as table salt, and indeed causes cancer. These herbicides have also been tied to harming amphibians, including deformities in frogs born with extra legs and such. There are other food and biofuel crops and trees that industry has been working to make GMO varieties of for many years, which could also be on the horizon for biofuel production in Hawai'i. Read more on the impacts of ethanol and biodiesel production in our factsheets linked in footnote 38.

As living organisms, GMO crops don't always stay where they are planted. There is a history of them contaminating nearby farms of organic farmers, for example. Since the GMO crops are patented intellectual property, there is a brutal history of Monsanto suing farmers whose farms were contaminated with their seed, as if the farmer was stealing the company's property.

Far more disturbing, however, is the biotech industry's other main motivation for supporting biofuels bills. They have long been experimenting with genetic modification of bacteria, algae and enzymes. Algae biofuels have been explored extensively, and have been a huge failure, whether genetically modified or not. Please review the reports in footnote 43 for details. Enzymes have been a part of efforts to make cellulosic ethanol viable… an industry that aims to convert everything from corn husks to pizza boxes to trash into liquid fuels. This industry has also been riddled with failed attempts for 2-3 decades. Genetically modifying bacteria is also linked to biofuels production. Given how impossible it is to contain microbes, and how quickly they can reproduce, having unnatural versions of microbes out in the wild could have unintended and disastrous consequences.[48]

A European company has developed a GMO variety of Klepbsiella planticola (KP), one of the most common bacteria on the planet, designing it to make alcohol out of plant matter. The idea was to make use of wheat straw, stalks and leaves. A researcher at University of Oregon tested it to see if it could survive in the wild, and found that it readily killed the plant in his experiment while the non-GMO variety did not.[49] If microbes like this were to be able to survive in the wild, the ecological consequences could be unthinkable.

Waste-based fuels

Some companies are pushing to use gasification or pyrolysis technologies to make burnable fuels from trash, construction and demolition (C&D) debris, and other waste streams. This is toxic and polluting, quite expensive, and has not worked at commercial scale. Please see our comments on the Maui Aloha Aina Project that seeks to turn trash into fuels to barge to O'ahu.[50] As we discuss in our testimonies on "clean fuels" bills,[51] the toxic hazards associated with pyrolysis or gasification of C&D waste are serious, especially where wood treated with copper, chromium and

[47] https://www.ers.usda.gov/data-products/adoption-of-genetically-engineered-crops-in-the-united-states; https://www.ers.usda.gov/data-products/adoption-of-genetically-engineered-crops-in-the-united-states/recent-trends-in-ge-adoption
[48] Szyjka, S. et al. (2017). Evaluation of phenotype stability and ecological risk of a genetically engineered alga un open pond production. Algal Research, 24. http://www.sciencedirect.com/science/article/pii/S2211926417300024
[49] https://www.sciencedirect.com/science/article/abs/pii/S0929139398001292 (bypass paywall here); See also: https://www.gmwatch.org/en/latest-listing/1-news-items/8951-full-story-of-the-dr-elaine-ingham-controversy-over-klebsiella-p; https://www.saynotogmos.org/klebsiella.html; https://web.archive.org/web/20071219095433/http://www.purefood.org/ge/klebsiella.cfm
[50] The project is described here: https://files.hawaii.gov/dbedt/erp/Doc_Library/2025-06-23-MA-DEA-Maui-Aloha-Aina-Project.pdf and our comments on this Environmental Assessment are here: https://www.energyjustice.net/hi/MauiWTFcomments.pdf
[51] https://www.capitol.hawaii.gov/sessions/session2025/Testimony/HCR70_HD1_TESTIMONY_TRN_04-01-25_.PDF#page=9

arsenic is present. For example, Aloha Carbon's plan to try to gasify C&D waste in Campbell Industrial Park on O'ahu would inevitably involve handling treated wood which the Hawaii Natural Energy Institute documented to have 200 times as much arsenic as clean wood.[52]

Green Hydrogen

Half of the ten fuel pathways involve "green hydrogen" (SAF, eSAF, e-Methanol, e-Ammonia, and green hydrogen itself). Hydrogen is typically extracted from fossil gas, but can come from other hydrocarbons. Green hydrogen involves electrolyzing water to split it with renewable energy into hydrogen and oxygen, which recombine when used in a fuel cell or burned.

Green hydrogen production is very inefficient, and will never be truly "green" until there is excess wind or solar on the grid. Until then, wasting 50-80% of the clean wind or solar energy in the process of splitting water and using the hydrogen fuel makes no sense because it would be better to use that clean energy to displace oil directly on the grid instead of displacing a much smaller amount of oil in a vehicle.

The plan ought to be careful not to over-claim, such as stating that there is no associated carbon emissions from production of green hydrogen if made from renewable sources. After all, burning trash, trees, and other sorts of biomass, biofuels or biogas are all renewable, and all have significant carbon emissions.

There are many other issues with hydrogen. Please review the top articles linked from our https://www.energyjustice.net/hydrogen page for good overviews. Also, newer evidence shows that hydrogen can be an indirect greenhouse gas when it inevitably leaks (it's tiny and hard to contain and can embrittle steel pipe).[53]

Long-distance aviation and some industrial heating applications are the only sectors that may need green hydrogen, and both are outside of the scope of this settlement. Prematurely allowing "green" hydrogen in the plan just means more oil burning to make up for the electricity wasted making hydrogen.

Electrofuels

Direct air capture is another inefficient and wasteful scheme some aim to combine with other energy-wasting ideas (green hydrogen) to make "sustainable aviation fuel" which is specifically promoted in the settlement. Like green hydrogen, it makes no sense to use before the electric grid is 100% powered by non-combustion renewable energy sources and has extra wind and solar to spare. Doing so would release about as much or more CO_2 than it would capture, either directly by using oil-fired power, or indirectly by using up renewables that could be displacing oil-fired power.

[52] See pages 2-3 in their testimony here: https://www.capitol.hawaii.gov/sessions/session2025/Testimony/HB976_TESTIMONY_EEP_01-28-25_.PDF#page=42

[53] https://www.canarymedia.com/articles/enn/scientists-warn-a-poorly-managed-hydrogen-rush-could-make-climate-change-worse; https://www.dnv.com/article/is-hydrogen-a-greenhouse-gas--243214/; https://www.cleanegroup.org/initiatives/hydrogen/areas-of-concern/

Leaky pipelines

Transportation of hydrogen and methane in existing, leaky gas pipelines risks ongoing GHG releases and should not be allowed.

Electrify

In order to get away from burning things, we need to electrify the transportation sector, and ensure there are zero greenhouse gases from the electricity sector. (The transportation sector cannot become zero emission if it relies on an electricity sector that is still powered, in part, by GHG-emitting combustion sources.) Currently, the state's combustion sources of electricity generation are 66% from oil-burning, plus another 4% from "renewable" burning of trash, trees, and biofuels... all of which need to be eliminated to reach a zero GHG emissions target.

It is not enough to rely on the state's Renewable Portfolio Standard, which requires 100% "renewable" electricity by 2045, since this law includes the burning of "biomass" (trash, trees and other solid waste and crops), liquid biofuels, and biogas (toxic landfill gases and anaerobic digester gas). These fuels have carbon emissions worse than fossil fuels. Several corporations are aiming to expand use of these "bio" fuels, which will undermine the state's climate goals. The state's Renewable Portfolio Standard (RPS) law must be fixed to remove combustion so that these fuels no longer qualify.

It is possible to electrify ground transportation, and sea and air interisland transportation, while decarbonizing the electricity sector, in a clean way that focuses on conservation, efficiency, solar, wind, and energy storage. This can be done reliably, more cheaply, and with fewer environmental impacts than the false solutions in the draft plan.

HECO is 64.2% oil generation and 3.3% waste/biofuels as of 2024. Clean (non-combustion) renewable electricity must displace this 67.5% combustion power before wasting energy on "green hydrogen" or electrofuels for planes. Otherwise, you're keeping the grid dirtier and contributing to more GHGs.

HDOT's plan should focus on ensuring an adequate supply of clean electricity by speeding up the process of cleaning up the electric grid while expanding clean renewable generation.

As the chart on the next page demonstrates, it's far more efficient to displace coal or gas power on the grid (oil would be in between those two) than to use clean energy to make hydrogen or jet fuel.[54]

[54] See page 24 in https://www.aef.org.uk/uploads/2023/11/Cerulogy_Alternative-fuels-in-aviation_Part-3-decarbonisation_Oct2023-1.pdf

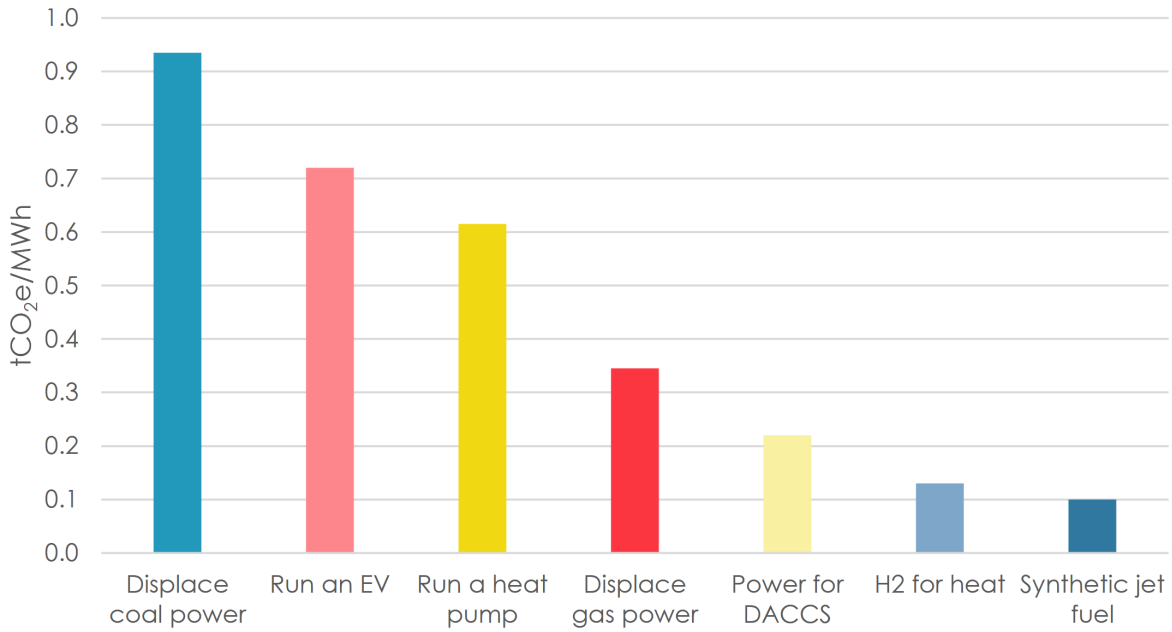


Figure 4 **Emission avoidance with 1 MWh of zero carbon electricity in example applications**

Clearly, cars and small trucks can be electrified. Heavy trucking, planes and boats are the areas that are less common. However, aside from long-distance air travel, all the rest can be electrified today, and the technology exists.

The plan says, on page 24, that "EVs may not meet the operational needs for some heavy-duty truck applications." This is outdated information. There are now EV trash trucks and long-haul trucks long enough to do any land distance in Hawai'i. The longest likely heavy truck trip possible in the state would probably be a trash truck going as much as 130 miles for the longest routes to the West Hawaii Sanitary Landfill from the east side of Hawaii Island. EV semi trucks have ranges of 150-500 miles as of this 2023 article.[55] Specific to trash trucks, Waste Today Magazone writes: "Designed for commercial and residential refuse collection, the Model 520EV can handle up to 1,100 trash bins on a single charge."[56]

Avoiding Fraud / Double-Counting

There are plenty of ways to game the system, and not enough safeguards in place. With a state mandate for 100% "renewable" electricity by 2045 and a concurring mandate for zero GHG emissions from the transportation sector by 2045, it could be attractive to allow the same "renewable" electricity (which could be burning trash or trees or could be real renewables like wind and solar) to serve both at the same time. However, this is generally considered double-counting and some states and regional grids have protections against that sort of fraud. HDOT ought to work with the PUC and legislature to ensure that there is no double counting of electrons

[55] https://www.eesi.org/papers/view/fact-sheet-the-future-of-the-trucking-industry-electric-semi-trucks-2023
[56] https://www.wastetodaymagazine.com/news/peterbilt-delivers-ev-trucks-to-waste-connections-of-new-york/

or emissions attributes when developing any parallel mandate that will inevitably draw on renewable electricity to some degree.[57]

Reduce demand

Demand reduction in both the electricity and transportation sectors must be a priority to help make it reasonable for both sectors to be clean and renewable by 2045. Conservation and efficiency strategies to reduce electricity waste would reduce the amount of new clean renewable energy generation capacity and storage that needs to be added to the grid in order to have enough excess clean electricity to power vehicles.

The Elephant in the Air; Stay within the Scope

According to the pie chart on page 15 of the plan, 53% of the greenhouse gases from the state's transportation sector are from air travel. How much of that 53% is from flights to other U.S. states? HDOT is only required by HRS § 225P-8 and the *Navahine F.* settlement agreement to address interisland air transportation (but not military aviation, nor flights to and from Hawaii).

On page B-11, it states "[p]er the settlement agreement, international marine and aviation activities are not included in the calculations and strategies identified in this Plan, which is also consistent with the DOH GHG Inventory." Note that it's not just international aviation, but interstate aviation is also excluded. The only marine or air travel that is in the scope is that which is within the state. This is not the time to broaden the scope, making a hard task even harder. Get this right, then once 2045 rolls around, perhaps there will be better options for long-distance air travel. Long-distance container shipping already has electrification piloted, but that's not for HDOT to worry about yet!

Solving local air travel

Interisland air travel can be electrified through a combination of electric-powered ferries and seagliders, as the Hawaiian Seaglider Initiative is exploring with the major airlines.[58]

Granted, seagliders are fairly new, but they now exist and are being tested out. The Regent Seaglider[59] seats 12 people so far, which is 12-15 times fewer than the planes typically used. Hawaiian Airlines uses a Boeing 717 (128 passengers) and Southwest uses a Boeing 737 MAX8 (175 passengers).

To make this possible without congestion, there can be more departure and landing points. HDOT should be working to plan out infrastructure for this as part of this plan.

Also, since many of the flights are surely for tourists, there are many who may not be in such a rush and might opt for a ferry between islands, which would be slower, but likely cheaper. It would allow for whale and dolphin watching and will reduce the numbers who have to be in planes. Prior controversies over the Super Ferry can hopefully be avoided. After all, plenty of cruise ships and

[57] See discussion of double-counting here: https://www.aef.org.uk/2025/08/05/double-counting-risks-in-saf-global-supply-chain/
[58] https://www.hawaiiseaglider.org/april-press-release
[59] https://www.regentcraft.com/seagliders/viceroy; see also https://www.youtube.com/watch?v=ggK0vIqiSV4, https://www.youtube.com/watch?v=QVMeSbgdOL0, and https://www.youtube.com/watch?v=s-GP_0Cud98

cargo ships already go between the islands. Some passenger ships shouldn't make a major difference.

Page 58 contains the plan's only mention of Electric Aircraft, which is a case study of a 3-passenger electric plane for "travel across the island of Maui." This may make sense for emergency medical transportation if electrifying a helicopter doesn't make more sense, but "enable faster and more frequent travel across the island of Maui" should not be a goal as it's simply increasing transportation use, and to what end? Let people drive an EV or take an electric bus. Electric aircraft are needed to get between islands, and the current electric options (sea gliders) can do 12 passengers, four times more than this case study. Why is that not featured in the plan instead?

Dangerous "Carbon Removal" Schemes

Instead of trying to reach zero GHG emissions, as legally required, the plan assumes HDOT will fall short by 8-10%, and aims to make up for this with projects that purport to reduce emissions elsewhere.

Plans to burn trees and other organic material (biochar, BECCS) are also harmful and toxic, and carbon capture and storage technologies do not capture 100% of their CO2 emissions. Biochar (mentioned on page C-3) is an incineration technology (pyrolysis) that is toxic and problematic.[60]

Plans to filter seawater with membranes to remove CO2 would impact any other sea life that is caught up in the process.

"Enhanced rock weathering" would risk spreading metals into the environment while disturbing natural features.

Injecting CO2 into concrete can leak out over time.

Recycling plastic waste into roads (mentioned on page 33) is adding many toxic chemicals to asphalt, making it far more toxic than asphalt already is with the introduction of additives (catalysts, stabilizers, color pigments), PFAS and more.[61]

While not directly mentioned, several sections "pave" the way for Honolulu's plan to recycle toxic H-POWER trash incinerator ash into roads, which would spread toxic chemicals throughout our environment. While there is great controversy in O'ahu over the building of a new (double-lined) landfill over the aquifer, the City and County of Honolulu is pursuing plans to take the same waste (the toxic ash from the H-POWER trash incinerator) and build roads with it over the island. These would be linear unlined landfills, exposing people and the environment to dioxins and toxic metals in the ash. However, this will likely be framed as a strategy for "low carbon concrete."[62] In New York state, the state with the most trash incinerators (ten of them), the toxic chemical content of their incinerator ash is high enough that if placed on the land, it would meet the soil cleanup standards and would be required to be cleaned up.[63]

---

[60] https://energyjustice.net/incineration/biochar.pdf; https://www.biofuelwatch.org.uk/wp-content/uploads/Biochar-briefing-2024.pdf; https://www.biofuelwatch.org.uk/category/reports/biochar/

[61] https://pmc.ncbi.nlm.nih.gov/articles/PMC12347778/

[62] For info on incinerator ash testing, safety and "recycling," see https://www.capitol.hawaii.gov/sessions/session2025/Testimony/SB438_HD2_TESTIMONY_JHA_04-02-25_.PDF#page=45 or pages 9-12 here starting half-way through page 9: https://www.energyjustice.net/ny/Sullivan2025RFPComments.pdf

[63] https://www.energyjustice.net/incineration/ashvssoilcleanup.pdf

The last 8% is a violation of state law and the legal settlement, as it represents GHG emissions that will continue, but are to be compensated by supposed reductions elsewhere.

Policy solutions / Legal authority

Page 3 states: “Establish a market-based mechanism to incentivize the use of clean marine fuels and discourage the use of fossil fuels.” In policy-making, avoid “market-based mechanisms” like carbon fees since they are not guaranteed to be strong enough or specific enough to meet a target. HDOT will not get to zero with policies like “discourage” rather than “ban.”

Page 36 states: “If every new vehicle sold in Hawai‘i was an EV starting in 2030, some gasoline vehicles could remain on the road in 2045.” If the legal authority exists to actually meet the goal of zero, then make this goal mandatory. Also, if it’s close enough to zero, will there really be gas stations left to service the rare people left with gasoline vehicles?

Page 3: “Increase the use of electric vehicles (EVs) statewide by expanding public charging infrastructure, converting transit vehicles to electric, and providing financial incentives for EV adoption.” Can the state set emissions standards? Can it ban sales of gasoline or diesel vehicles?

Page 56 discusses curtailing cruise ships. Will this run into interstate Commerce Clause challenges, or does the state really have the power to mandate it? It would be unrealistic to rely on cruise companies to voluntarily curtail their business.

There are discussions on pages 59 and F-16 on why the state cannot mandate SAF. If that’s the case, then what indirect ways can the state get people out of planes and into the seagliders and ferries that can be fully electrified? Build it, and making it cheaper, more flexible, and attractive and they will come?

There are several areas in the plan that seem to have been written as if Trump is not president and as if the “One Big Beautiful Bill” had not passed. This includes page 35 where it says that “current federal regulations will spur increasing sales of EVs,” and page 41 where it talks about “securing federal grants” for electric fleets, page 84 where it says HDOT has applied for and received a Clean Materials Grant (is this secured or vulnerable to Trump admin cuts?). Page B-12 also talks about EPA CAFE standards. Were these not recently gutted?

Public Involvement

Page 61 mentions that “HDOT will lead a statewide coalition of airlines, fuel producers, farmers, NGOs, and government agencies to build a shared roadmap for producing, importing, and using sustainable aviation fuel (SAF) in Hawai‘i.” This is mostly the fox in charge of the henhouse. Before involving all of these economic interests, how about revisiting whether SAF makes sense and whether HDOT plans to tackle interstate air travel, even though it’s beyond the scope of the state law and settlement agreement?

There must be more knowledgeable people with critical views involved in the inner circle as this work continues. The small circle of agency staff, industry interests, plaintiffs and youth have clearly not been sufficient to prevent this draft plan from being a laundry list of false solutions.

Page 61 states that in September 2025, a “first coalition meeting” will be held. Will these meetings be open to the public? Please answer this in time for us to participate.

Page 77 states “This strategy represents HDOT’s chosen approach to implement the strategies in this Plan. It is already underway with HDOT engaging key stakeholders to consult on this Plan prior to its release, and regularly communicating and collaborating with Earthjustice, Our Children’s Trust, and Hawai‘i Youth Transportation Council.” Please regularly communicate with us as well. Being on the outside trying to look in has not been productive or collaborative.

Page 91 states: “HDOT plans to update the plan annually for the first 5 years after the issuance of the first plan. This will allow for additional analysis as needed, integration of new technologies as they become available, and will reflect progress made by HDOT.”

It’s good to see this. How do we become an integral part of the process rather than a once-per-year opportunity to comment on something already drafted?

Errata

- Page 16: “four general aviation airports” should say five?
- Fig 3-4: “overacrching” and “aagressive”
- Pages 8 & 70: “Airport Carbon And Emission Reduction Tool” should be “Airport Carbon **a**nd Emission**s Reporting** Tool”
- Page F-13: “the climate benefit of renewable LNG hinge” - need ‘s’ on benefit or hinge

Conclusion

There are many ideas in the HDOT plan that are decent and just need to be scaled up, especially every method to electrify transportation. Public transportation needs to be ramped up a lot, and be fare-free. Trash, recycling and composting collection should be one hauler going to all homes for curbside collection so that we don't have people doing separate trips to transfer stations in the neighbor islands. Efforts to grow more food (not fuel!) on the islands will increase food security while reducing shipping. Let’s make this all happen… the right way, in the right order, without more combustion, please!

Mahalo nui loa,

Mike Ewall, Esq.
Executive Director, Energy Justice Network
Co-Chair, Environmental Caucus of the Democratic Party of Hawai‘i
215-436-9511
mike@energyjustice.net
http://www.energyjustice.net

Melodie Aduja
Chair, Kōkua nā ‘Āina

Alan Burdick
Co-Chair, Environmental Caucus of the Democratic Party of Hawai‘i

HAWAII CLEAN POWER ALLIANCE

TESTIMONY TO THE COMMITTEE ON ENERGY and ENVIRONMENTAL PROTECTION

9:15 AM, March 17, 2026

Conference Room 325 & Via Videoconference

SB 2376 SD1

Chair Lowen, Vice Chair Perruso and Members of the Committee,

Hawaii Clean Power Alliance (HCPA) **supports SB 2376 SD1**, clarifies that the Renewable Fuels Production Tax Credit shall only be claimed by taxpayers for which qualified renewable fuels production costs are incurred within the State and sold for distribution within the State. Allows taxpayers to be eligible for a separate ten-year credit period for each separate qualified renewable fuels production that independently meets eligibility requirements. Extends the time frame for taxpayers to file certain statements with the Hawai'i State Energy Office.

This bill makes limited refinements to the Renewable Fuels Production Tax Credit to improve clarity, fairness, and investment predictability, while maintaining all existing fiscal guardrails. The bill does not expand the size or scope of the credit. Instead, it ensures the incentive functions as intended by supporting qualifying renewable fuel production that contributes to Hawai'i's energy objectives, economic and jobs outcomes.

The bill incents innovation, diverse technologies and allows multiple investments by experienced producers, improving market certainty and recognizing that renewable fuel projects are developed and financed on an individual project basis. Allowing independently qualifying facilities to access separate credit periods removes a structural disincentive to incremental investment, without increasing per project or statewide caps. This adjustment supports orderly development and fair competition among participants rather than favoring any particular technology, company or business model.

The bill also enhances predictability by allowing proportional allocation and carryforward of credits when the statewide cap is reached, reducing arbitrary timing risk while preserving the statutory cap. Administrative updates, including a modest extension of reporting timelines, reflect standard verification practices and maintain transparency while protecting sensitive infrastructure information.

Overall, SB2376 SD1 strengthens an existing policy tool without increasing its fiscal impact. It improves program administration, treats applicants equitably, and supports continued private investment aligned with Hawai'i's long-term electric energy goals, jobs creation and economic development.

We respectfully ask the Committee to pass SB2376 SD1.

Thank you for the opportunity to testify.

HAWAIʻI GAS
THE CLEAN ENERGY COMPANY

Testimony to The Committee on Energy & Environmental Protection
Tuesday, March 17, 2026, 9:15 AM
Conference Room 325 & VIA videoconference

SB 2376 SD2

Chair Lowen, Vice Chair Perruso and members of the committee,

Hawaii Gas respectfully submits this testimony in **support of SB 2376 SD2.**

Hawaii Gas is the state's only regulated gas utility, providing essential energy services to homes, businesses, and critical facilities across all islands. The company is committed to Hawaii's transition to a cleaner, more sustainable energy system by advancing renewable fuels such as renewable natural gas and hydrogen while maintaining the reliable infrastructure needed to keep energy affordable and resilient for Hawaii's communities.

Hawaii Gas strongly supports SB 2376 SD2, which clarifies and strengthens the Renewable Fuels Production Tax Credit to allow eligible entities, regardless of location, to access the credit, while recognizing the nexus of in-state activities that generate benefits for Hawaiʻi's economy and workforce. Additionally, the bill reinforces the State's renewable energy goals while encouraging private investment in diverse types of renewable fuels that can lower the state's carbon emissions. Renewable fuel production investments in Hawaii are in the early and growth stage, especially in energy sectors such as firm, dispatchable generation and direct use energy services. Maintaining this tax credit will help to bolster investments by a variety of participants.

For Hawaii Gas, SB 2376 SD2 directly supports ongoing efforts to decarbonize our fuel mix. We are actively expanding renewable natural gas and hydrogen initiatives that can displace imported fossil fuels and lower emissions. This bill removes major disincentives to expansion and reinvestment in new technologies and ventures by clarifying that the credits are project based, while preserving, not increasing the state's economic impacts.

Investments in renewable fuels takes years of planning and commitment and this bill now strengthens the predictability and financing of these projects by reducing the risk of not receiving the tax credit because credits are prorated if the Cap is reached and projects applied for in the later part of the year can carry forward to the following year.

Administratively, extending the reporting requirements from 30 to 90 days recognizes the market realities of engaging a third party to verify data. Infrastructure security protections helps to align with Federal disclosure of critical infrastructure while preserving data transparency.

Hawaii Gas respectfully urges the Committee to pass SB 2376 SD2.

Thank you for your consideration.

TESTIMONY **ON SENATE BILL NO 2376, SD2** RELATING TO
RENEWABLE FUELS
Position: **Support**

To Representative Nicole Lowen, Chair; Representative Amy Perruso, Vice Chair; and Members of the Committee on Energy & Environmental Protection:

Simonpietri Enterprises LLC (SEL) **SUPPORTS** the intention of this measure.

SEL is an O'ahu-based small business developing innovative ways to recycle some of Hawai'i's most challenging wastes into renewable fuels and other beneficial recycled-material products for use in Hawai`i. For the better of the last 6 years, we have been designing the Aloha Carbon integrated plant in Campbell Industrial Park to divert over 2000 tons per day of construction & demolition (C&D) debris from landfilling to be converted into renewable natural gas starting with a small manufacturing plant – the Aloha Sustainable Materials Recycling and Fertilizer Facility (Aloha SMRFF) – which will serve as the pilot plant for Aloha Carbon.

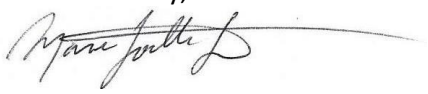
The Aloha SMRFF will divert over 200 tons per day of construction & demolition (C&D) waste from landfilling along with invasive and pest infested biomass and remanufacture that waste to displace over 10,000 tons per year of imported fossil fuels, fertilizers, and building materials for Hawai'i. This facility is the first step to demonstrating our Aloha Carbon manufacturing process to manufacture pipeline-quality renewable fuel from solid wastes – 100% of which are generated in Honolulu. Even with modest fuel and fertilizer production, we anticipate this initial project to have sizable benefits that will support the state's emission reduction and energy resilience goals, while creating other economic opportunities.

The cost to develop energy infrastructure projects in Hawai'i is a limiting factor for many companies especially when considering the efforts invested in project development and engineering to mature our innovations from concept to pilot scale. The implementation of a renewable fuel tax credit incentivizes and helps smaller businesses, like ours, developing these types of projects to contribute their innovative solutions with greater success. While the 20-cent level is a step in the right direction, if truly serious about enticing production of renewable fuels at meaningful scale by new companies, we would like to urge the committee to consider recommendations proposed by the Hawai'i Renewable Fuels Coalition.

We would also ask that the measure be amended to have construction and demolition (C&D) debris added to the list of "renewable feedstocks" to produce eligible fuels. Hawaii Gas's IRP identified C&D waste as the largest viable feedstock readily available on island to produce fuel at scale. While there have been concerns previously raised about the various contaminants in C&D debris that keep it from being recycled currently, our company has been working to develop the technology to safely do so and have a recognized patent for the process. By opening up the feedstock to include C&D debris, this measure would stimulate greater environmental impact through waste reduction and related circular economy benefits.

We appreciate the opportunity to testify on this measure, and urge your support for this bill with considerations.

Sincerely,



Marie-Joelle Simonpietri
President

About Simonpietri Enterprises LLC

Simonpietri Enterprises is a Kailua, Hawaii-based woman- and veteran-owned small business with ten employees, focused on technical innovation and first-of-kind project development of emerging clean and renewable technologies. Since founding in 2006, we have helped dozens of small and large industrial companies in Hawaii, the continental U.S., Australia, and Canada improve the environmental and economic sustainability of their operations through technical and business advice in renewable energy conversion, waste reduction and re-use, and greenhouse gas lifecycle impact reduction. Simonpietri Enterprises' founder and employees have participated in the strategy, planning, design, financing, development, construction, and energy efficiency/greenhouse gas reduction/sustainability renovation for over $400 million in new renewable and first-of-kind sustainable fuel projects over the past 15 years. Since launching the Aloha Carbon waste-to-fuel technical development process in August 2020, Simonpietri Enterprises is now developing renewable fuel production facilities in its own right, starting with the Aloha Sustainable Materials Recycling and Fertilizer Facility (SMRFF) in Kapolei, Hawaii to divert wastes generated in Honolulu from landfilling and transform it to renewable fuel, organic fertilizer, and recycled-material building products.

PACIFIC BIODIESEL TECHNOLOGIES

2050 Main Street, Suite 3B
Wailuku, Hawai'i 96793
(808) 877-3144
www.biodiesel.com

March 16, 2026

TESTIMONY ON SB2376 SD2, RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT

SUPPORT

Committee on Energy and Environmental Protection
Rep. Nicole E. Lowen, Chair
Rep. Amy A. Perruso, Vice Chair
Hearing: March 17, 2026, 9:15am, Conf Room 325

Aloha Chair, Vice Chair and Members of the Committee,

Pacific Biodiesel **supports SB2376 SD2,** which updates the Renewable Fuel Production Tax Credit previously established by the State Legislature and supports a very real, sustainable ongoing solution.

This production tax credit will support continued expansion of biodiesel production for our state – more urgent now than ever. It enables the continued expansion of our local biodiesel crop production which addresses both fuel and food security for Hawai`i.

Pacific Biodiesel is acutely aware of the important role our biodiesel production plays in supporting military readiness and energy resilience in our state. Given our state's strategic location, locally produced biodiesel ensures a reliable, readily available local supply of biofuel at key locations in Hawai`i to help protect United States national security and further reduce reliance on imported crude oil, especially from sources like Russia-backed Libya.

Additional funding for locally sourced feedstock and increasing the rate per BTU would be helpful.

There is no silver bullet for a 100% zero emission future. The further we move towards our goal of 100% renewable, the more critical liquid biofuel sources will become in our State renewable energy portfolio of sustainable solutions. We must continue to support the expansion of local production now to meet our needs later.

Mahalo,

Jenna Long
Director of Operations
Pacific Biodiesel

Testimony of
ALASKA AIRLINES and HAWAIIAN AIRLINES

Before the House Committee on
Energy & Environmental Protection

Tuesday, March 17, 2026
9:15 A.M.
Hawai‘i State Capitol, Room 325

In consideration of
SENATE BILL 2376, S.D. 2
RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT

The Honorable Nicole Lowen, Chair of the Committee on Energy & Environmental Protection
The Honorable Amy Perruso, Vice Chair of the Committee on Energy & Environmental Protection
Members of the Committee on Energy & Environmental Protection

Re: **Testimony in Support of S.B. 2376, S.D. 2 Relating To The Renewable Fuels Production Tax Credit**

Chair Lowen, Vice-Chair Perruso and members of the committee,

Alaska Airlines and Hawaiian Airlines respectfully submit testimony in support of SB 2376 SD2, relating to the Renewable Fuels Production Tax Credit (RFPTC), provided that the measure is amended to ensure it meaningfully supports in-state renewable fuel production and the development of sustainable aviation fuel (SAF) in Hawai‘i.

Our airlines share Hawai‘i’s commitment to reducing emissions, strengthening energy resilience, and supporting the development of a locally integrated renewable fuels economy. Hawai‘i’s geographic isolation and heavy reliance on imported fuel make the development of local renewable fuel production particularly important for both energy security and long-term climate goals.

SB2376 SD2 represents an important step toward building that foundation. While Alaska Airlines and Hawaiian Airlines support the direction of the measure, we respectfully recommend several refinements that would strengthen the policy and better position Hawai‘i to attract the investment needed to build a viable local renewable fuels market.

Strengthening the Credit to Reflect Hawai‘i’s Cost Environment

As currently structured, SB2376 SD2 provides a credit equal to 20 cents per 76,000 British thermal units of renewable fuel produced. Although this is an important starting point, the credit level is not strong enough to support the significant capital investments required to develop local feedstock

supply chains, processing facilities, and refining capacity. Hawai‘i’s higher land, labor, and transportation costs present unique challenges that must be reflected in the policy design.

For this reason, Alaska Airlines and Hawaiian Airlines recommend increasing the credit to 35 cents per 76,000 BTU. A stronger credit would provide clearer market certainty for farmers, fuel producers, and investors who are evaluating whether to commit to projects in Hawai‘i.

Revisiting the Per-Producer Cap

SB2376 SD2 also maintains the $3.5 million annual cap per producer and the $20 million annual statewide program cap. While program safeguards are understandable, the current per-producer limit may unintentionally constrain early projects from reaching the scale necessary to establish a functioning renewable fuels market. Hawai‘i has the potential to support significant renewable fuel production, and allowing projects to scale appropriately will help maximize the economic, workforce, and agricultural benefits for local communities.

We respectfully recommend modifying the per-producer cap so that a single producer may access up to 75 percent of the program cap, particularly during the early years of market development when anchor facilities will be critical to establishing supply.

Encouraging Local Feedstocks Through Lifecycle Standards

Alaska Airlines and Hawaiian Airlines strongly support the integration of locally grown feedstocks as part of Hawai‘i’s renewable fuels strategy.

One effective way to encourage this is through the addition of a low lifecycle emissions renewable fuels incentive. Providing an additional $1 per gallon credit for fuels that meet limits on emissions associated with transporting feedstock would support local feedstocks, since shorter transportation distances typically result in lower associated emissions.

This type of framework strengthens Hawai‘i agriculture while maintaining a performance-based approach that is durable and consistent with climate policy goals.

Supporting Sustainable Aviation Fuel

The aviation sector is one of the most challenging areas of the transportation system to decarbonize, and sustainable aviation fuel (SAF) will play a critical role in reducing emissions from air travel.

However, SAF remains significantly more expensive to produce than conventional jet fuel and often more costly than other renewable fuels due to strict ASTM certification standards, complex processing requirements, lower yield, and evolving supply chains.

For this reason, Alaska Airlines and Hawaiian Airlines recommend including an additional $1 per gallon credit specifically for sustainable aviation fuel. This targeted incentive would help close the economic gap, attract investment in SAF production, and ensure that Hawai‘i remains competitive as the aviation industry transitions toward lower-emission fuels.

Benefits for Hawai‘i Agriculture

A strong Renewable Fuels Production Tax Credit can also create new opportunities for Hawai‘i’s agricultural sector.

Farmers are unlikely to plant new crops without a reliable and predictable market. A strengthened credit can provide that signal by supporting demand for renewable fuel feedstocks such as camelina and other oilseed crops. These crops can be grown on fallow or rotational agricultural lands, require relatively low water inputs, and can help improve soil health while keeping land actively managed.

In addition to producing renewable fuel feedstocks, these crops can generate valuable co-products used for livestock feed, creating additional benefits for Hawai‘i’s ranching and agricultural communities.

Proposed Amendments

To strengthen SB2376 SD2 and maximize its impact, Alaska Airlines and Hawaiian Airlines respectfully recommend the following amendments:

1. Increase the credit value from 20 cents to 35 cents per 76,000 BTU.
2. Modify the $3.5 million per-producer cap to allow producers to access up to 75 percent of the program cap.
3. Add an additional $1 per gallon credit for low lifecycle emissions renewable fuels to support local feedstocks.
4. Include an additional $1 per gallon credit for sustainable aviation fuel (SAF) to help close the cost gap to conventional fuels, level the playing field with renewable diesel, and encourage producers to allocate some production volume to SAF.

Together, these improvements would help establish a coordinated system that connects agriculture, energy production, aviation, and climate responsibility while delivering meaningful benefits to communities across Hawai‘i.

Mahalo for the opportunity to provide testimony. Alaska Airlines and Hawaiian Airlines respectfully urge the Legislature to advance SB2376 SD2 with these amendments

SB-2376-SD-2
Submitted on: 3/12/2026 4:43:57 PM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Johnnie-Mae L. Perry	Individual	Comments	Written Testimony Only

Comments:

I, Johnnie-Mae L. Perry, Comment NOT LGN fuel

2376 SB RELATING TO THE RENEWABLE FUELS PRODUCTION TAX CREDIT.

SB-2376-SD-2
Submitted on: 3/12/2026 9:17:44 PM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Moss Kuon	Individual	Support	Written Testimony Only

Comments:

Aloha e Chair, Vice Chair, and Members of the Committee,

My name is Moss Kuon and I am testifying in support of this measure given the following amendments.

1. **Modify the $3.5 million per producer cap** to better reflect realistic production scale (for example, up to 75% of the program cap per producer or another more workable level).
2. **Add a $1 additional credit for low lifecycle emissions of renewable fuels**, which directly incentivizes locally grown feedstocks and supports farmers bridging the cost gap between renewable and fossil fuels.
3. **Add a $1 additional credit for Sustainable Aviation Fuel (SAF)** to encourage producers to allocate production volume toward aviation fuel.
4. **Increase the credit value from 20 cents to 35 cents per 76,000 BTU** to better reflect Hawai‘i’s higher production costs and provide the market certainty needed for farmers, producers, and investors to participate in building a viable local renewable fuels industry.

While the bill as written is a good first step, it does not

- Expand our ability to utilize the renewable fuel supply available to Hawai‘i.
- Provide sufficient market certainty for farmers to dedicate land to renewable fuel crops.
- Create the economic signal needed for long term investment in local renewable fuel production.

I urge you to pass SB2376 with these amendments. Mahalo for the oppotunity to testify.

SB-2376-SD-2
Submitted on: 3/15/2026 3:42:15 PM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Joseph Kohn MD	Individual	Oppose	Written Testimony Only

Comments:

Strongly Oppose!

The bill details vary, but they all aim to advance production, importation, and burning of liquid ("biofuel") or gaseous ("biogas") fuels made from everything from trash to trees, including algae, crops, construction and demolition (C&D) waste, and basically anything they can liquefy.

All of these are problematic in many ways. In short:

- There is not enough land or water in the state to produce biofuels domestically. Precious land and water should be used for local food production, not fuel. Biofuels will be imported from North and South America where they are grown in monoculture plantations of genetically modified crops, often directly or indirectly deforesting areas.
- They all make pollution when burned, meaning that they are a short-term solution because state law requires zero greenhouse gas emissions by 2045.
- Switching in less than 20 years from fossil fuels to biofuels, then again to supposedly carbon-free "electrofuels" will massively increase energy costs instead of simply phasing in one transition by electrifying and transitioning to conservation, efficiency, solar, wind, and energy storage.
- Waste-based fuels, such as the plans to liquefy trash in Maui or construction and demolition waste in Oʻahu have many toxic chemicals involved, and will result in toxic ash and toxic air emissions. These experimental pyrolysis and gasification technologies have been a failure throughout the country and cannot operate commercially, but could suck up public subsidies before the failures become obvious.

Except for long-range air travel (which the state isn't required to tackle, and may not have legal authority to address), non-burn clean energy solutions exist for every other sector, and we should focus public investment on decarbonizing the electric grid, heating (cooking, hot water, and industrial uses), and ground, sea, and inter-island air travel -- without burning anything, making these biofuels bills an expensive and dangerous distraction.

SB-2376-SD-2
Submitted on: 3/15/2026 5:34:53 PM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Elisabeth Sherman	Individual	Oppose	Written Testimony Only

Comments:

Biofuels are not renewable & produce toxic waste when burned in addition to the environmental cost of transporting them.

SB-2376-SD-2
Submitted on: 3/15/2026 6:48:12 PM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Laura Alskog	Individual	Oppose	Written Testimony Only

Comments:

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

My name is Laura Alskog, and I am a resident of Kailua on O‘ahu. I respectfully submit testimony in opposition to SB 2376, which proposes creating a Renewable Fuels Production Tax Credit.

While supporting innovation in energy production is important, this bill raises concerns about the responsible use of taxpayer funds and the effectiveness of subsidizing fuel production through tax credits. Hawai‘i residents already face a heavy tax burden, and creating additional tax credits risks reducing state revenues that are needed for essential public services such as education, infrastructure, and environmental protection.

SB 2376 would provide significant financial incentives to private fuel producers, but it is unclear whether the benefits would meaningfully reduce fuel costs for Hawai‘i residents or provide measurable long-term environmental gains. Without strong safeguards and accountability measures, there is a risk that taxpayers will subsidize private industry without receiving clear public benefits.

Additionally, Hawai‘i has a history of energy subsidies that have produced mixed results, sometimes costing taxpayers millions while failing to deliver the promised economic or environmental outcomes. Before creating new tax credits, the Legislature should carefully evaluate whether existing programs are effective and whether limited public funds could be better invested in solutions that directly benefit residents.

Given Hawai‘i’s current fiscal challenges and the ongoing cost-of-living crisis affecting local families, the state should prioritize policies that deliver clear, measurable benefits to residents rather than expanding industry tax subsidies.

For these reasons, I respectfully urge the Committee to oppose SB 2376.

Mahalo for the opportunity to testify.

Laura Alskog

Kailua, O‘ahu

SB-2376-SD-2
Submitted on: 3/15/2026 6:49:47 PM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Georgia L Hoopes	Individual	Oppose	Written Testimony Only

Comments:

Aloha Committee Members.

I strongly oppose SB2376 SD2 on the basis that the tax credit would subsidize a polluting, expensive, and unsustainable fuel industry.

Please do not pass SB2376 SD2.

Mahalo,

Georgia Hoopes, Kalaheo

SB-2376-SD-2
Submitted on: 3/16/2026 8:29:05 AM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Jim Scancella	Individual	Oppose	Written Testimony Only

Comments:

We need to oppose the burning of anything.

SB-2376-SD-2
Submitted on: 3/16/2026 8:59:27 AM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
Darlene Scancella	Individual	Oppose	Written Testimony Only

Comments:

Planet before profit. This one is dirty and deceptive! I oppose!!

THE SENATE
THE THIRTY-THIRD LEGISLATURE
REGULAR SESSION OF 2026

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
Rep. Nicole E. Lowen, Chair
Rep. Amy A. Perruso, Vice Chair

Rep. Cory M. Chun
Rep. Kirstin Kahaloa
Rep. Matthias Kusch
Rep. Sean Quinlan
Rep. Lauren Matsumoto

HEARING

DATE: February 17, 2026
TIME: 9:15 AM
PLACE: VIA VIDEOCONFERENCE
Conference Room 325

Public commentor: Ted Metrose (independent) Position: **In Support**

SB2376-HD1 – Amend the Renewable Fuel Production Tax Credits (RFPTC) for renewable fuels including sustainable aviation fuel which are sold in the State.

Referred from: The Senate after 3rd reading

Companion House Bill: None
Competing House Bill: HB1695 which also amends the RFPTC, but much differently

Synopsis

For taxable years beginning 1/1/2026, it clarifies that the Renewable Fuels Production Tax Credit shall only be claimed by taxpayers for which qualified renewable fuels production costs are incurred within the State and sold for distribution within the State. Allows taxpayers to be eligible for a separate ten-year credit period for each separate qualified renewable fuels production that independently meets eligibility requirements. Extends the time frame for taxpayers to file certain statements with the Hawai‘i State Energy Office.

Commentary and Proposed Amendments

I am in support of the amendment to the renewable fuel production tax credit (RFPTC) proposed by SB2376. The proposed changes are reasonable and superior to other bills which have been introduced to provide tax credits for renewable fuels (HB1694, HB1695, SB2403, SB2375 and SB 2027, the last two of which are identical).

Provided below are some additional comments and suggestions for additional amendments that would further enhance SB2376 or any final version of the RFPTC.

- The bill is superior to HB1695 and others because it preserves the original intent of sparking innovation of startup in renewable fuels and ensures that tax credits benefit Hawaii and its residents the most. It does not propose to provide a huge public subsidy and potential windfall for producers of renewable fuels and renewable feedstocks, many of which are located out-of-state and out-of-the country.

- The proposed helps ensure that more of the tax credit will be retained and used to support the production of renewable fuels in Hawaii. After representing that its 90-million-dollar investment in renewable fuels (and partnership with Pono Pacific) would "rejuvenate Hawaii's agricultural sectors" Par Hawaii Refining, has more recently acknowledged that importation of feedstocks and renewable fuels will be required and capitalized on the opportunity, by selling a 36.5% stake in its recently formed joint venture, Hawaii Renewables, for $100 million dollars in 2025. Par Pacific's July 21, 2025, news release about its new joint venture (Hawaii Renewables) with Mitsubishi and ENOES in 2025 made it perfectly clear that the vast majority of the feedstocks for its renewable fuel production facility in will be sourced from outside Hawaii and not grown locally. Par Pacific partners with Mitsubishi Corp. and ENEOS Corp. for Renewable Fuels - Par Hawaii

- Serious consideration should be given to limiting the availability of the RFPTC to just transportations fuels, much like the federal tax program. There is little merit in shifting the cost of renewable fuels from utilities who are already mandated to transition to renewables to the taxpayers. The State's renewable portfolio standards already obligate utilities to embrace renewable fuels and most are already planning to convert from fossil fuel to biodiesel because it is easiest conversion to make without walking away from existing generator and the surrounding infrastructure. The allocation of costs to utility

customers is already wide and reasonably equitable, when considering that there are a number of programs for lower income people with utility bills. Subsidizing the renewable fuels for power supply, although widely embraced, serves as a disincentive for carbon free alternatives, which is the alternative preferred by most the HSEO and most environmental groups and arguably by the Navahine settlement. As depicted below there is so much fossil fuel to be replaced with renewable sources Hawaii could not possibly afford to provide tax credit for all of it.

-

Fossil Fuels (taxed)	DOTAX's 3 Yr Ave (2022-2024)	
Replaceable by Biofuels	**BBLS**	**MM Gals**
ERT - Petroleum Products	24,689,150	1,037
Aviation Fuel (taxed)	6,761,233	284
Pet Products plus Aviation	31,450,382	1,321

Originally the tax credit in 235-110.32 was intended to spur production of ethanol in Hawaii and that is just a small segment of the transportation sector. Even the modest tax credit currently embraced by the RFPTC $0.76/ MMBTU which equates to about $0.34 cent per gallon could not possibly be granted to shift all fossil fuels to biofuels because it would be prohibitive at roughly $450 million dollars per year. Moreover, the industry has repeatedly stated that such a small tax credit will not induce investment or imports of renewable transportation fuels.

- Consequently, the RFPTC should be narrowed and target to just transportation fuels, and kept small until other mechanisms of providing incentives such as the clean fuel standard can be put in place.
-
- HSEO's Alternative Fuels Study stated: "Prioritizing biofuels for the most challenging sectors to decarbonize—such as aviation and maritime transport, where electrification is less practical and gains in combustion efficiency provide limited emissions reductions—is essential for achieving economy-wide decarbonization. Given the current costs of different fuels, competition for biofuel production may favor the aviation sector, which has a higher willingness to pay. Furthermore, directing biofuels to these sectors ensures cost-effective use of resources, helping to optimize their allocation and maximize overall emissions reductions."

- Further evidence that the tax credit should not be directed to utility fuels is provided by DBEDT. Over a 3- year period from CY 2022 to 2024 utility companies paid:

Utility Cost of Diesel CY22-34		
Biodiesel	4.48	$/gal
Diesel	3.46	$/gal
Delta	1.02	$/gal
Premium	29%	%

The tax credits under RFTPC had relatively little impact and the extra costs for biodiesel must be considered reasonable without them, because Pacific Diesel is a fully integrated supply. As anticipated cost may be reduced in the future as more supplies come online, but in any case the utilities are in a far better position to control those costs through competitive bid processes. A tax credit for biofuels used in the utility sector will only serve to ensure the price of biofuel remains elevated. With the recent run up in cost of fossil fuels, there is even less justification for providing a public subsidy for its production.

- Consistent with the objectives of SB 2376, the city, state, territory and country of origin of feedstocks used for each fuel category or fuel types should be submitted as part of the claim on credits. Both Par Hawaii and Pacific Biodiesel made grand claims about using local supply of renewable feedstocks, but (almost unbelievably) that is not part of the reporting or prequalification criteria. Likewise, the State report to the legislature should also include a summary of the source of supply (in-State or out-of-State) and the nature of source - from which crops/trees or waste stream. While the State may be hard pressed to mandate that feedstock be sourced exclusively from Hawaii, it has every right to know exactly how much is coming from outside the State, particularly as additional expansion of the tax credits are requested with hope and promise of using local supply.

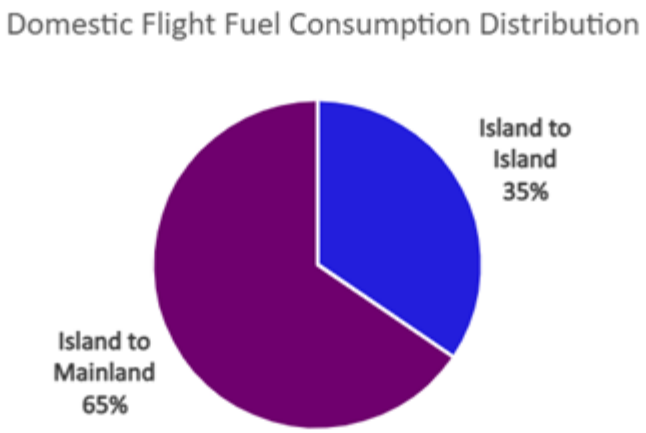
- Over a 4-year period Pacific Biodiesel imported 68% of their feedstocks from the West Coast. The legislature did not hear one word from Pacific Biodiesel about out-of-state sourcing in their reoccurring appeals for more tax credits from the State. Instead, the legislature is just lucky to learn about the source of supply through reports prepared by HECO who are required to disclose that information for the PUC. The source of feedstock was also not covered/reported by HSEO in the required report because that "little detail" is not currently specified by HRS 235-110.32. Similarly, and as reflected in the joint press release, both of Par's partners (Mitsubishi and ENEOS) are anxious to provide feedstocks and optimize the sourcing of feedstocks and yet the only testimony provided by Par Hawaii is on developing a local supply of feedstocks with affiliate Pono Pacific. The State should know all about sourcing, particularly, before endorsing any further expansion of the RFPTC which has been conveyed (sold) by its advocates as means of sparking agriculture interests throughout the State. See prior testimony from

advocates for tax credits for renewable fuels. EET-GVO DEFER, EET, EET Public Hearings 2-06-2024

- Tax credits for Renewable jet fuel or sustainable aviation fuel SAF should only be approved and issued when used on inter-island flights. Making tax credits available for interstate travel is a significant financial incentive and as such would be a violation of the Airline Deregulation Action and other federal regulations Adding this constraint will help ensure that more of Hawaii's tax dollars stay in Hawaii and they are utilized to advance the State priorities for transportation fuels as set forth in HRS 225P-8. The airlines, Par Hawaii Refining and it partners want the State to pay for SAF, but the State legislative and executive branch is quite reasonably trying to shift some of burden of the energy transition to tourist, and visitors. While taxpayers will still pay to subsidize the production SAF, at least the cost of using renewable fuels on interstate travel will be somewhat (slightly) less than it would be otherwise. In prior hearings Senator Waikai has made this point, and it is good one. Building on that point on February 6, 2024, Senator Felleva, also suggest that adding an in-State use prerequisite to tax credits for SAF tax credits would help the State return some tax revenues through the collection of excise taxes on its sale. Senator Felleva expressed frustration that previously authorized tax credits for genetically modified crops more specifically their seeds, did not benefit the State, as they were sold out outside the State.(I believe the program was suspended.)

According to HDOT's Energy Security Plan and as specifically presented in Figure 2-4 interisland aviation fuel represents 35% of domestic jet fuel consumption. While there is good legal rationale for excluding aviation fuel used in interstate travel from the CFS, (the State does not have legal authority to regulate interstate fuels), the CFS should nonetheless be mandatory for aviation fuel consumed within the State.

Figure 2-4. Domestic Flight Fuel Consumption Distribution



Related Note: Throughout the 2026 legislative session Hawaiian Airlines and Alaska Airlines have been providing repeated testimony that the commercial consumption (uplift) of aviation jet fuel in Hawaii is about 600 million gallons per year, which is a reasonable approximation of the average over a number of years. **However,** the State's largest airlines (Hawaiian and Alaska Airlines) have also been testifying that amount of aviation fuel used on **interisland flight represents only 10% of the aviation fuel used on domestic travel**. Relative to HDOT's estimate, that is a very big disparity - 350%. The 10% estimate for in-state aviation fuel consumption gives the false impression that SAF credits are needed for interstate travel, when in fact infact tax credits should be dedicated to inter-island travel, which is the clear priority for the State.

- Particularly since claims for tax credits for renewable fuels is nearly certain be oversubscribed in 2026 and beyond and assuming that HDOT continues to assert that Navahine settlement extends the scope of State's responsibilities well beyond its boundaries and beyond those specified in HRS 225P-8 , once emissions from interisland travel has been addressed to the fullest extent possible. After securing special exemption for federal regulation of airline industry tax credits for SAF could be extended to interstate travel. However, that consideration should be reserved for a future legislative session. The heavy reliance on SAFas part HDOT's GHG reduction plan for transportation, should not undermine the legislature's authority to specify how public funds should be prioritized. It would seem a rather quick consensus could be

reached on directing public funds to transportation fuels which are used within the State over those which are used in transpacific transit.

- The current RFPTC states: *"No other tax credit may be claimed under this chapter for the costs incurred to produce the renewable fuels that are used to properly claim a tax credit under this section for the taxable year."* Particularly because there has been interest in creating a separate or more robust tax credit for SAF, serious consideration should be given to explicitly stating a taxpayer can only claim a tax credit for the same product SAF under one section of this chapter. As evidenced by HB1694, SB2027 and SB2375 because it advocates for SAF keep pressing for a higher per gallon credit and aggregate values for SAF than other renewable fuels, I suggest that SAF be explicitly and intentionally excluded from the RFPTC section 235-110.32. As mentioned previously, even if the RFPTC is left unaltered SAF would qualify for the RFPTC. That creates all sorts of confusion if a tax credit exclusive for SAF is established by the legislation. Given the seeming strong interest in having a dedicated tax credit for just SAF, the RFPTC should be revised to reflect that SAF and alternative jet fuel do not qualify as renewable fuel under the provisions of the RFPTC. If segregations of the tax credit for SAF cannot be segregated from other renewable fuels, then certainly the credit value for SAF should be the same wherever it is provided in HRS 235. There is no good rationale for different credit levels, qualifying criteria or attributes for the same material and yet a dichotomy has already been proposed.

- If the entire tax credit program for just SAF could be more effectively managed and assured if the tax credit for SAF was given to airlines who uplift SAF in Hawaii. That would help eliminate Par's Hawaii Refinning on-going threat of shipping SAF and other renewable fuels to the west coast, the value of the tax credits or the aggregate amount of credits is considered insufficient Allowing the airline to claim tax credits, use Hawaii's remote location to its advantage and provides a greater assurance that any credits claimed will be used within the State and ideally on interisland travel as a first priority.

<u>Affordability Issue for the Airfares passed on to Taxpayers?</u>

The airlines and their advocacy groups, including the Hawaii Renewable Fuels Coalition contend the tax credits even more robust than those proposed by SB2376 are needed to keep airfares affordable. Rather than having the tourists and visitors pay for SAF, they contend Hawaii taxpayers should pay for SAF instead. That logic is the exact opposite of the recently enacted green fee/TAT surcharge. In testimony Hawaiian and Alaska Airlines make a concerted point that they will not get any portion of the tax credit, because it goes to the renewable fuel producer. While that may be true it is also a really big problem. How are the airlines going to keep the cost of flying in check, if they don't get any portion of the tax credit passed on from the renewable fuel producer? Just making SAF available in Hawaii is not

going to drop the price of the fuel or the airline ticket. Even more bizarrely, Hawaiian and Alaska Airlines have testified that they have no idea how much using SAF, instead of traditional fuels, will impact ticket prices and yet undeterred they still lobby (because they are paid to) for State tax credits, under the goodwill shield of trying to keep airline ticket prices affordable.

Airlines already know the current cost of SAF and can estimate its effect on ticket prices. Even today, the cost impact of introducing SAF is modest, but airlines rarely disclose this because emphasizing high costs helps them argue for larger tax credits. The math is straightforward. If fuel represents about 25% of operating costs and only half of that fuel is SAF, then just 12.5% of total flight cost is tied to SAF. If SAF costs twice as much as conventional jet fuel, ticket prices would rise by roughly 12.5%. If SAF costs three times as much, the increase would be about 25%—still manageable in the broader context of airfare volatility.

Because SAF supply is limited, adoption would naturally ramp up over time. And if you accept the coalition's premise that SAF prices will fall as production scales, the long-term impact becomes even smaller. Using the same assumption—SAF at twice the cost of conventional fuel—a gradual 1% annual fare increase would be enough to reach more than 50% SAF usage on Hawaii departures by 2045, without any taxpayer subsidy

- As recommended by the HSEO the current base tax for the "renewable fuels production tax credit during the ten-year credit period shall be equal to [20] cents per seventy-six thousand British thermal units of renewable fuels" should be updated or deleted because ethanol production is no longer a relevant goal or Standard. The proposed credit should be listed in terms of $/gal and based on equivalence with traditional diesel based on lower heating value LHV of 129,000 BTU/gal because that is the fuel that will be most widely replaced by renewable fuels.

- As explicitly recommended by DOTAX, to limit abuse the tax credits should be made non-refundable. Last year on February 12, 2025, for HB976 which also proposed amendments to the RFPTC, DOTAX recommended *"making the sustainable aviation fuel import tax credit nonrefundable, as refundable credits are more susceptible to fraud and abuse."* Even though DOTAX may have neglected to reiterate that recommendation, this safeguard is merited and should be taken up this year. Carry over provisions for the tax credits sound reasonable, but additional consideration should be given to what happens when the credit period is up. Does the legislature have to fund (extend) tax credits that have been carried over beyond the planned end date. If tax credits are allowed to be carried-over they should not be allowed beyond the date of the authorized credit period.

- The State tax credits should be contingent upon having a satisfactory tax history, just as the IRS established as a procedural perquisite for the 45Z clean fuel tax credits. N-2025-10 DOTAX should have more explicit authority to reject claims for renewable fuel tax credits. Before endorsing and issuing tax credits to Par Hawaii Refining and it partners DOTAX should have the authority to review Par Hawaii Refining tax history particularly in light of the of the quit tam case 1CCV-21-0000632 that State has intervened as previously reported by Civil Beat. Unlike the federal tax credit to produce clean transportation fuels, the current RFPTC does not give explicit authority to DOTAX or it direct to deny the tax credit based on an unsatisfactory tax history. It should be revised accordingly.

SB-2376-SD-2
Submitted on: 3/16/2026 10:09:44 AM
Testimony for EEP on 3/17/2026 9:15:00 AM

Submitted By	Organization	Testifier Position	Testify
janice palma-glenie	Individual	Oppose	Written Testimony Only

Comments:

aloha and BIG NO to SB2376 SD2 that allow more burning of fossil fuels (including Hu Honua) when clean alternatives are available to us.

are we going to increase the cost of transportation fuels well beyond the rising oil prices so corporations can make more money in a state where we're already drowning in energy costs?

this and other current bills would increase the imbalance, pollution and cost of dirty fuels over clean, efficient ones.

mahalo for using your integrity to OPPOSING SB2376 SD2 nd other legislation suporting the burning and importing of dirty fuels.

sincerely,

janice palma-glennie

kaillua-kona