HAWAII STATE ENERGY OFFICE
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

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Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

Friday, February 5, 2021
3:00 PM
State Capitol, Conference Room 224

Comments in consideration of
SB 931
RELATING TO RENEWABLE ENERGY.

Chair Wakai, Vice Chair Misalucha, and Members of the Committee, the Hawaii State Energy Office (HSEO) offers comments on SB 931, which "eliminates fossil fuels in Hawai'i for electricity generation and storage," beginning in a year not yet specified.

This straightforward and profound bill proposes to eliminate, from Hawai'i's energy diet, the use of fossil fuels for electricity production by regulated utilities.

Discussions of how, and when, this can take place is occurring in many venues, including in the Integrated Grid Planning docket before the Public Utilities Commission. The results of that work, which involves a broad cross-section of organizations, will be beneficial to establishing retirement dates for various power plants. The benefits, roles, and changing forms of energy generation and storage are being developed. It is clear that it is important to plan for flexibility and resilience in our electrical systems during the transition, which will be accelerated with the retirement of the coal plant on Oahu in 2022, Kahului Power Plant in 2024, and other units as new renewable generators come on-line.

HSEO looks forward to the discussion.

Thank you for the opportunity to testify.

DAVID Y. IGE
GOVERNOR

JOSH GREEN
LT. GOVERNOR

STATE OF HAWAII
OFFICE OF THE DIRECTOR
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
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CATHERINE P. AWAKUNI COLÓN
DIRECTOR

JO ANN M. UCHIDA TAKEUCHI
DEPUTY DIRECTOR

Testimony of the Department of Commerce and Consumer Affairs

Before the
Senate Committee on Energy, Economic Development, and Tourism
Friday, February 5, 2021
3:00 p.m.
Via Videoconference

On the following measure:
S.B. 931, RELATING TO RENEWABLE ENERGY

Chair Wakai and Members of the Committee:

My name is Dean Nishina, and I am the Executive Director of the Department of Commerce and Consumer Affairs' (Department) Division of Consumer Advocacy. The Department offers comments on this bill.

The purposes of this bill are to prohibit: (1) any new extension, improvements, overhauling, or refurbishing of any fossil fuel electricity generation or fossil-fuel powered electricity use for grid-tied battery energy storage after an unspecified date; and (2) the use of fossil fuels for electricity generation or grid-tied battery energy storage after an unspecified date.

Given the renewable portfolio standard that requires 100% renewable energy by 2045, the Department appreciates the bill's intent to have statutory language that comports with the renewable portfolio standards. The Department has concerns, however, that the unspecified dates may not properly align with the renewable portfolio standards. This inconsistency could cause unintended consequences, such as a degradation of the reliability of Hawaii's electric grids. Since the existing renewable

portfolio standards will essentially result in the same outcome, the proposed language is unnecessary.

The Department also appreciates section 3's amendments to Hawaii Revised Statutes section 269-6, as the current language can be interpreted to require the Public Utilities Commission (Commission) to conduct greenhouse gas emissions analyses when a utility seeks approval for such matters as financing authority, as well as when other utilities, such as a water or wastewater company, file an application with the Commission.

The Department respectfully suggests deleting "battery" from "fossil fuel electricity generation and fossil fuel-powered battery energy storage" on page 4, lines 1 and 2, and from "renewable energy generation and renewable energy-powered battery energy storage" on page 4, lines 11 and 12. Since different forms of storage are commercially available, deleting "battery" from both sentences will ensure that other forms of storage technology are also subject to the proposed statutory language.

Thank you for the opportunity to testify on this bill.

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

TO THE
SENATE COMMITTEE ON
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

February 5, 2021
3:00 p.m.

Chair Wakai and Members of the Committee:

MEASURE: S.B. No. 930
TITLE: RELATING TO RENEWABLE ENERGY.

DESCRIPTION: Facilitates the timely interconnection and transmission lines for renewable energy projects.

POSITION:

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

COMMENTS:

The Commission is committed to improving the interconnection process in order to avoid delays and bring about new renewable energy generation in the most efficient manner possible.

The Commission has closely monitored interconnection timelines and his prioritized this matter in its decision-making in several interrelated dockets, including its proceedings in performance-based regulation (PBR), distributed energy resources (DER), and community-based renewable energy (CBRE).

Through its efforts in the DER docket (Docket No. 2019-0323), the Commission has worked with stakeholders to reform the utilities' interconnection process for small-scale systems, reducing interconnection timelines by up to 50%. In its recent PBR order (Docket No. 2018-0088), issued on December 23, 2020, the Commission also established a

performance incentive mechanism that will use both penalties and incentives to encourage the timely interconnection of DER resources by electric utilities.

The Commission is also reviewing interconnection issues in its CBRE docket (2015-0389), as well as in the context of large-scale projects, given the Hawaiian Electric Companies' proposal to delay several Phase 1 PPA projects. The Commission intends to take action to reform the utilities' interconnection process, and is currently considering additional incentives and penalties to improve the utilities' performance in this area.

Finally, the Commission notes that this measure would require, rather than authorize, the Commission to impose a surcharge on all customers and other users of the electric system, in order to contract with a third-party "Hawaii electricity reliability administrator." The Commission currently possesses the authority to impose such a surcharge, but has refrained from doing so, in order to avoid increasing customers' electricity bills. However, should this measure move forward, Commission will establish an appropriate surcharge on customer bills to fund the reliability administrator.

Thank you for the opportunity to testify on this measure.

TESTIMONY BEFORE THE SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

S.B. 931
Relating to Renewable Energy

Tuesday, February 5, 2021
03:00 pm, Agenda Item #3
State Capitol, Conference Room 224

Marc Asano
Director, Transmission and Distribution Planning
Hawaiian Electric

Chair Wakai, Vice Chair Misalucha, and Members of the Committee:

My name is Marc Asano and I am testifying on behalf of Hawaiian Electric Company **in opposition to S.B. 931,** Relating to Renewable Energy.

S.B. 931 bans the use of fossil fuels for electric generation production and disallows the Public Utilities Commission from approving or extending any electric generating facility that proposes to use fossil fuel or fossil fuel to charge battery energy storage systems, and any material improvements, overhauling, or refurbishment that extends the life of fossil fuel powered generation.

Hawaiian Electric opposes this bill as it would significantly jeopardize the Company's ability to continue to provide reliable electricity to customers, would impair the State's economic activity, and may raise electric bills to customers during a time when the businesses and residents of Hawai'i recover from the COVID-19 pandemic.

In an independent survey conducted by Ward Research in 2017 as part of the Company's grid modernization efforts, 11 different focus groups across the Company's service territories responded that the Company should first prioritize reliable delivery of

electricity followed by affordable rates, and thirdly, renewable clean energy. In that same survey stakeholders expressed the belief that future reliability is the main concern for grid modernization. They believe that the purpose of Hawaiian Electric is to deliver power and have it available when it is needed. When asked, stakeholders and business owners were unwilling to accept a slightly less reliable grid to reduce costs and almost all of the stakeholders said that they would not trade reliability for lower costs. Importantly, the loss of power affects businesses customer service which hurts their ability to operate their business. They were unwilling to sacrifice reliability for short term savings. The Company conducted public engagement open houses in 2020, and customers attending those meetings reaffirmed that energy reliability was most important to them, followed by increasing the use of renewable energy.

Banning the use of Hawaiian Electric's existing conventional generation fleet and power purchased through independent power producers eliminates the Company's ability to supply power to customers when poor solar and wind conditions persist. This will result in prolonged outages and rolling blackouts. KIUC experienced similar situations in 2019 and 2020, when problems with fossil generation and transmission equipment resulted in customer outages. Poor sun conditions at the same time did not allow battery energy storage systems to be charged and ready to deliver electricity during the critical high demand periods in the evening. If KIUC were not able to make repairs to their fossil plants, the multi-day outages would have been extended.

Alternatively, the use of conventional generators could still be utilized; however, banning the use of fossil fuel would require significant upgrades and investment to existing units to facilitate the use of alternative fuels prior to the 100% RPS mandate in

2045, which in itself would raise electric rates to customers compared to cheaper fossil fuels.

Disallowing major generating unit overhauls and maintenance would further degrade the reliability of the aging generating fleet in the Hawaiian Electric service territories.

The existing RPS statute already requires the Company to substantially reduce and totally phase out the use of fossil fuels by 2045. Over the next 24 years, technology advancements may allow the State to reach its 2045 renewable energy goals more cost effectively than converting to alternative fuels today or in the near-term. Additionally, the recent performance based regulation decision and order issued by the Public Utilities Commission provides significant financial incentives for the Company to accelerate the drawdown of fossil fuel use at a faster pace than the current RPS mandate.

To be clear, Hawaiian Electric supports breaking the State's dependence on fossil fuels; however, it should be done in a cost-effective and reliable manner. Through its recent energy procurements, the Company will bring online approximately 666 MW of renewable energy that will significantly reduce fossil fuel usage in the next 2-4 years, reaching renewable energy percentages well ahead of the current RPS statute.

Maintaining the continued use of the State's conventional generation fleet will assure energy security in times of poor weather, natural disasters, or other unforeseen events, and serves as a cost-effective bridge as technology advancements help the State reach 100% renewable energy by 2045.

Accordingly, the Hawaiian Electric opposes S.B. 931. Thank you for this opportunity to testify.

Kaua`i Island Utility Cooperative
Your Touchstone Energy® Cooperative

Testimony Before the Senate Committee on Energy, Economic Development & Tourism

By David Bissell
President and Chief Executive Officer
Kauai Island Utility Cooperative
4463 Pahee Street, Suite 1, Lihue, Hawaii, 96766-2000

Friday, February 5, 2021; 3:00 pm
Conference Room #224

Senate Bill No. 931 - Relating to Renewable Energy

To the Honorable Senator Glenn Wakai, Chair, Senator Bennette E. Misalucha, Vice Chair, and Members of the Committee:

Kauai Island Utility Cooperative (KIUC) is a not-for-profit utility providing electrical service to more than 33,000 commercial and residential members. Over the past 10 years, KIUC has made great strides in achieving the state mandate of 100% renewable generation by the year 2045. In 2020, KIUC's energy mix included more than 60% renewable generation, leading the state. Also in 2020, KIUC operated the Kauai electric grid at 100% renewable generation on 280 separate days for a total of 1,497 hours.

KIUC was only able to achieve 100% renewable generation and maintain system reliability because it operated one if its fossil generators in synchronous condenser mode. This allows use of the fossil generator without any fuel being burned, to provide system inertia, voltage support, and fault current. More information on the synchronous condenser can be found in the attached article.

While KIUC is moving aggressively toward meeting the 100% renewable mandate, it is critical that all of our current generation sources remain available in order to insure delivery of reliable electricity for our members. In the coming decades, many of these units could also be converted to act as synchronous condensers and/or be modified to burn renewable fuels such as biodiesel or hydrogen. In order to keep these options, the fossil generators will need to be able to be maintained and modified.

This bill seems somewhat redundant with the state mandate of 100% renewable generation by 2045, and for the reasons mentioned above, KIUC is concerned about the potential negative unintended ramifications of this bill. **For those reasons, KIUC does not support this bill.**

Thank you for your consideration.

Back row from left: Jeff Garcia, Brooks Braun; Front row from left: Julias Balisacan, Dynamite Lee, Roger Balaan, Wilber Villanueva

Staying in Sync

By Jan TenBruggencate

One challenge of running an electrical grid on increasing amounts of solar power is the grid can get increasingly fragile.

The grid protects itself by shutting down if there is a significant fault on the system, such as from an albizia tree taking down a transmission line. These instances are rare, but they do happen. How KIUC engineers help prevent that shutdown is a groundbreaking story in renewable energy.

The traditional answer has been to keep a big rotating engine running—a fuel-eating turbine or a big generator tied to a diesel engine. That running engine adds inertia to the grid.

When the grid takes a hit, instead of voltage and frequency collapsing, the inertia of the generator's tons of spinning metal keeps it running. The generator pumps out something called VARs—voltage-ampere reactive—and stabilizes the grid, keeping the lights on.

But the problem with using fossil fuel-powered inertia is it doesn't get us to a 100% renewable grid. We're still burning some diesel.

Before 2019, KIUC engineers generally were running our biggest generation unit to provide that needed inertia. This is a 27-megawatt GE LM2500 gas turbine at Kapaia Power Station. It is effectively a giant jet engine bolted to a generator. Its inertia is provided by 24,000 pounds of spinning metal.

But even running it at a very low speed, it takes a lot of fuel. What if there was a way to spin it without running the jet engine? It took consultation with manufacturer GE

A synchronous condenser, also sometimes called a synchronous capacitor or synchronous compensator, is not a new concept. Elsewhere, they have been used to support voltage on long transmission lines and in places where large loads can suddenly depress voltage. They have the ability to add current as voltage drops.

and $700,000 in upgrades, but KIUC's crews configured the Kapaia plant to run as a synchronous condenser. That means it spins and provides inertia but doesn't use any liquid fuel. Instead, it runs off the renewable energy from KIUC's solar fields, hydroelectric plants and Green Energy's biomass plant.

With the Kapaia plant running as a synchronous condenser, it was theoretically possible to run our island's electrical grid without any fossil fuels. Early in 2019, KIUC touched 100% renewable islandwide for a few seconds. Days later, we ran that way for a few minutes. Then it was 25 minutes on February 25, 2019, as engineers fine-tuned the system.

In late November, they began running the island without any fossil fuels for a few hours at a time. On December 10, the island ran on 100% renewables for a new record of five hours. Purists might argue there were still carbon emissions, since the Green Energy plant was burning wood.

Then on December 18, the grid was able to run 100% with the Green Energy plant offline, operating only on solar and hydroelectric power. That meant the island was being powered entirely on solar and water but nothing burning—not diesel, not naphtha, not wood chips.

It is difficult to overstate what a leap forward this is for renewables. Running a stable, resilient grid entirely on intermittent generation sources is a huge advance.

There is a lot more to be done. Synchronous condensers are one solution, but may not be the best solution, and may not be the only solution long-term.

We still need to solve the major problem of long-term storage of electrical energy. Batteries are good and cost effective for overnight use, but when the sun is blanked out by storm clouds for days at a time, we do not yet have an alternative to our tanks of stored liquid fossil fuels, diesel and naphtha.

KIUC's engineering staff is knocking down one challenge after another. In 2019, we passed the benchmark of providing 50% of our electricity from renewables. By the end of this year, we should pass 60%.

We are still not sure exactly what a long-term 100% renewable grid looks like, but we're starting to get hints. And the synchronous condenser is one piece of that picture. ✪

Brooks points at the light that shows that the synchronous condenser is on.

IBEW1260
'A'OHE HANA NUI KE ALU 'IA

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Senator Glenn Wakai, Chair

Senator Bennette E. Misalucha, Vice Chair

HEARING DATE: Friday, February 5, 2021

TIME: 3:00p.m.

PLACE: VIA VIDEO CONFERENCE
Conference Room 224

SB931

IN OPPOSITION

This testimony is being submitted on behalf of the membership of the International Brotherhood of Electrical Workers Local 1260. IBEW Local 1260 represents more than 3500 members throughout the Pacific, across the Hawaiian Islands, Guam and Wake Island. One of our largest jurisdictions includes utility workers from Hawaiian Electric, Maui Electric, Hawaii Electric Light and Kauai Island Utility Cooperative, as well as several signatories that contract with these utilities to maintain our independent grids across the islands.

Unfortunately, our organization must stand in opposition of HB111 in its current form.
Our opposition is related to the purposed amendment to Chapter 269 of the Hawaii Revised Statutes by adding a new section "Elimination of fossil fuels for electricity production". This section sets Hawaii on a course that could put each of our already fragile island grids at increased risks.

An important aspect to consider is the possible effects to our critical infrastructure which includes our hospitals, emergency government functions, and military bases. Current grid reliability requirements establish a minimum amount of fuel on each island to maintain electrical production and mitigate the risks during emergency situations. Unless a new renewable energy production infrastructure can replace that emergency reserve, independent facilities will need to increase their own back-up generation. This would mean the utilization of more independent fossil fuel reserves, which are dirtier and less efficient than power-plant generation.

Additionally, by establishing a sunset date for all electric generating facilities utilizing fossil fuels, with no provision as to if renewable generating facilities can handle maintaining reliable, steady state electrical production is inherently dangerous. Our society relies on electricity not just as an optional comfort, but as a staple no different then the water that comes out of our tap. Consequently, the full transition from fossil fuels to renewable electrical production must be accomplished in such a manner that will guarantee that the residents, businesses, and visitors of Hawaii will still have stable, reliable grids which will not only maintain their current standard of living, but also enhancements in the future.

Our organization wants to be clear; we are 100% behind a green renewable energy platform. We not only want to be part of this transformation, but we want to take a leading role in making this conversion take place. IBEW Local 1260 consists of highly trained and skilled members who are eager to take on the challenges of our electric grids and their impact to climate change. Our members want to be on the front lines moving forward with the creation, instillation, and maintenance of new smart grids able to handle the challenges based solely on renewables. It is our belief that a 100% renewable energy platform requires a comprehensive plan, utilizing current technologies, those in development, and ones that are only conceptual right now. However, this cannot be accomplished with just the simple idea of throwing more renewables on the grid and just arbitrarily sunsetting our base load stable generation. We need an end-to-end holistic plan that will not leave our independent grids vulnerable across the islands.

We sincerely thank the Committee on Energy & Environment Protection for their time, consideration, and dedication to the future of the Hawaiian Islands and our role in climate change.

Leroy Chincio
Business Manager and Financial Secretary
International Brotherhood of Electrical Workers
Local 1260
700 Bishop Street #1600
Honolulu, HI 96813

TESTIMONY REGARDING SB 931
To be considered by the Senate Committee on Energy, Economic Development and Tourism
February 5, 2021 at 3:00 PM

Aloha Chair Wakai, Vice Chair Misalucha and Members of the Committee:

Thank you for the opportunity to provide testimony on SB 931, which would prohibit electricity generation facilities from using fossil fuels for generating or storing electricity and, among other things, prohibit the Public Utilities Commission from approving electricity generation facilities from storing electricity into a public utility grid-tied battery energy storage system. We support the direction of this bill since it aligned with Tesla's mission but request the following amendment to Section 2 of the bill.

A section (d) be inserted to read:

(d) Notwithstanding (a), (b), or (c), fossil fuel may be used to charge a battery energy storage system resource for the purposes of grid stability or reliability only when it is not the primary generation source.

This amendment is necessary because:

- Unfortunately, 100% renewable electricity grids facilitated by battery storage as required by the bill will be challenging in the near-term. While costs have decreased significantly over the years they, battery supplies are still constrained, and clean energy supply chains need to ramp up to ensure that that sufficient storage can be cost-effectively deployed in all cases.

- This implicates storage used in microgrids, where a de minimus amount of fossil generation is necessary in most use cases. While is it unclear whether the author intends to regulate microgrids in SB 931, we respectfully request the bill be amended in section 269(b) (lines 8-10 on pg. 3) to allow some fossil generation to charge a battery storage system for the purposes of microgrid stability and reliability only when it is not the primary generation source.

- Grid-tied battery storage is a flexible resource that can, for example, smooth out the intermittency of renewables, discharge during peak electricity demand, postpone costly grid infrastructure upgrades, provide voltage support and capacity, and offer grid services to utilities. However, storage is, by definition, not an electricity generator so it effectively serves at the "behest" of the generation resources on the grid, charging and discharging based on the grid's resource mix. As the grid gets cleaner so does the above services provided by energy storage systems.

- An important example of these services is the upcoming KES battery storage project (on Oahu) which will allow HECO to shut down the AES Hawaii Power Plant, fired by coal, and replace it with renewable generation. The project will maintain grid stability, absorb excess renewable generation and discharge it during peak periods of demand. Importantly, the project will also have the capability of quickly charging in advance of a storm or catastrophic event and discharging this electricity should a generation resource go off-line. Depending on

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- its effective date, SB 931 could unnecessarily encumber projects such as the KES battery storage project.

Thank you for opportunity to propose our friendly amendment to the bill.

Testimony to the Committee on Energy, Economic Development, & Tourism

Tuesday, February 5, 2021
3:00 PM
VIA Video Conference
Conference Room 224, Hawaii State Capitol
SB 931

Chair Wakai, Vice Chair Misalucha, and members of the committee,

Hawaii Clean Power Alliance (HCPA) **supports** SB 931, which prohibits (after a date to be decided) the approval or extension of (1) any electricity generation facility that applies or proposes to use fossil fuels to generate electricity or store electricity into a public utility grid-tied battery energy storage system resource and (2) any material improvements, overhauling, or refurbishing of any existing electricity generation facilities that extend the life of fossil fuel-powered electricity generation facilities or storage facilities that use fossil-fuel powered electricity.

The Hawaii Clean Power Alliance is a nonprofit alliance organized to advance and sustain the development of clean energy in Hawaii. Our goal is to support the state's policy goal of 100 percent renewable energy by 2045. We advocate for utility-scale renewable energy, which is critical to meeting the state's clean energy and carbon reduction goals.

We offer these comments in support of SB 931.

This bill addresses issues not considered in energy focused statutes. There has been much debate over the last few years since the passage of the 100% RPS goal for the state. This bill appears to attempt to close loopholes in RPS measurement by reinforcing the intent of the state's policy – eliminating fossil fuels for electricity generation and steadily increasing renewable generation, while not negatively impacting an electric utility's current achievement of RPS. This bill provides a runway of time to plan and transition to renewable powered energy with strategic intent by disallowing new generation unless it supports renewable fuels and any material improvements must also support renewables, without financially harming the electric utility. This bill reinforces the original intent that 100% renewable electric energy by a certain date really means no fossil-fueled generation by that date.

With the 2045 goal of 100% RPS just over two decades away, we should avoid allowing further investment into fossil generation as doing so is no longer aligned with the need to steadily accelerate our renewable energy future. We also cannot wait until just prior to 2045 to retire most fossil generation all at once as doing so would unnecessarily prolong and encourage the continued use of legacy fossil generation. Rather, legacy fossil generation should gradually be retired in lock step with new additions of sufficient renewable generation such that ratepayers can reduce payments towards fossil generation at the earliest and realize carbon emissions reduction at the earliest.

Additionally, those fossil generation assets do not necessarily need to be scrapped if converted to use renewable fuel sources and are cost effective. Indeed, renewable fuels may potentially replace fossil fuels in legacy generators with appropriate investments. Now is the time to plan and implement this transition rather than waiting until just prior to 2045.

In addition, utility-scale storage was not yet commonly available in the market during the passage of previous renewable energy focused statutes. With improvements in technology and lower pricing making utility-scale y storage a viable option for the state, our laws need to address potential misalignment in achieving the state's 2045 renewable energy goals. Just as the federal income tax credit (ITC) is not allowed for stand-alone battery storage filled with fossil fuel energy, the legislature is wise to prohibit the use of fossil fuels to fill stand-alone battery storage, even if such storage was procured through a renewable energy competitive bid. Prohibiting the use of fossil fuels to fill stand-alone battery storage will encourage the reduction of fossil fuels and carbon emissions in alignment with state goals.

Allowing storage to be powered by fossil fuels, negating many benefits that would be available through renewable battery storage, is a step backwards and promotes more fossil fuel use at an even higher cost than the coal plant that is scheduled to be retired in September 2022. HCPA believes strongly that today's grid and storage investments should move us collectively towards the interim RPS targets and 2045 goal. The original statute's intent was to gradually eliminate fossil fuels plain and simple. It never contemplated that batteries would be filled with fossil fuels. With this bill, the state will close the loophole that potentially allows filling energy storage with fossil fuel electricity with a blind eye that this is not renewable energy. Filling a grid-connected battery storage system with fossil fuel electricity only adds inefficiency (power losses) and increases costs to ratepayers, as well as increases carbon emissions. This cuts against the state's goal of reducing fossil fuel generation and should not be allowed.

We ask the committee to pass this bill.

Thank you for the opportunity to testify.

Sincerely,

Frederick Redell, PE
Executive Director
(949) 701-8249
www.hawaiicleanpoweralliance.org

To: The Senate Committee on Energy, Economic Development and Tourism
From: Sherry Pollack, Co-Founder, 350Hawaii.org
Date: Friday, February 5, 2021, 3pm

In support of SB931

Aloha Chair Wakai, Vice Chair Misalucha, and Committee members,

I am Co-Founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. On behalf of our 6,000 members and supporters, 350Hawaii.org **supports the intent of SB931.**

The planet faces an existential climate crisis and we must act now! As an island state, Hawaii is ground zero for climate devastation, from more intense storms, to food insecurity, to rising seas and shoreline destruction. Scientists have made clear that we are part of the last generation that can stop or at least mitigate the devastating impacts of climate change. If we are to solve the climate crisis, it will require **all of us** working together. Hawaii can and should be a leader in showing the world the way forward towards a safe and sustainable climate and future. The sooner we inspire others to take action and lead by example, the better off the future will be for our children.

Emissions from fossil fuel power plants are a leading cause of global warming. The Legislature in recent years has taken several prudent steps toward a safe and sustainable climate and future. Last year, the Legislature wisely eliminated future coal plant operation in Hawaii in Act 23, Session Laws of Hawaii 2020. But eliminating coal-fired generation is not enough; oil and natural gas plants are also very large sources of carbon emissions, collectively larger than the coal plants in Hawaii. SB931 would take a major step in reducing these harmful emissions by ordering the Public Utilities Commission: 1) not to approve or extend any operation of such plants for electricity generation or battery storage connected to the electric grid; and 2) to prohibit any new extensions, improvements, overhauling or refurbishing of fossil fuel plants in Hawaii. However, for Hawaii to truly commit to a path of eliminating the use of all types of fossil fuels, **gas utilities must be included in the scope of this bill**, not just electric utilities.

The bill does not specify a date for the start of these prohibitions. 350Hawaii urges the Legislature to follow the science and set a target goal of 2030 **at the latest**. The Climate Crisis is here now. We no longer have the luxury to wait to take the necessary actions to drastically reduce our greenhouse gas emissions. Any target date set later than 2030 is woefully too late, as our house that is now on fire will have already completely burned to the ground.

In closing, I wish to share the words of a young climate activist who was nominated for the Nobel Peace Prize, Greta Thunberg.

“Adults keep saying we owe it to the young people, to give them hope, but I don’t want your hope. I don’t want you to be hopeful. I want you to panic. I want you to feel the fear I feel every day. I want you to act. I want you to act as you would in a crisis. I want you to act as if the house is on fire, because it is.”

It is time to act by approving SB931, and with a target date that reflects the best science!

Mahalo for the opportunity to testify on this very important legislation.

Sherry Pollack
Co-Founder, 350Hawaii.org

SB-931
Submitted on: 2/4/2021 2:44:24 PM
Testimony for EET on 2/5/2021 3:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Climate Protectors Coalition	Testifying for Climate Protectors Coalition	Support	No

Comments:

To: The Senate Committee on Energy, Economic Development, and Tourism (EET)

From: Climate Protectors Coalition

Hearing Date: Friday, February 5, 2021, 3:00 pm, by videoconference

In support of SB931 RELATING TO RENEWABLE ENERGY

Aloha Chair Wakai, Vice Chair Misalucha and members of the Committee on Energy, Economic Development, and Tourism.

The Climate Protectors Coalition **strongly supports** SB931**.**

The Climate Protectors Coalition is a group inspired by the Mauna Kea Protectors but focused on reversing the climate crisis. As a tropical island State, Hawaii will be among the first places harmed by the global climate crisis, with more intense storms, loss of protective coral reefs, food insecurity, and rising sea levels destroying our shorelines.

We must do all we can to reduce our carbon footprint and become at least carbon neutral as soon as possible. **2045 WILL BE TOO LATE!** The planet faces an existential climate crisis and we must act now! Scientists have made clear that we are part of the last generation that can stop or at least mitigate the devastating impacts of climate change. If we are to solve the climate crisis, it will require **all of us** working together. Hawaii can and should be a leader in showing the world the way forward towards a safe and sustainable climate and future. The sooner we inspire others to take action and lead by example, the better off the future will be for our children.

Emissions from fossil fuel power plants are a leading cause of global warming. The Legislature in recent years has taken several prudent steps toward a safe and sustainable climate and future. Last year, the Legislature wisely eliminated future coal plant operation in Hawaii in Act 23, Session Laws of Hawaii 2020. But eliminating coal-fired generation is not enough; oil and natural gas plants are also very large sources of carbon emissions, collectively larger than the coal plants in Hawaii. SB931 would take a major step in reducing these harmful emissions by ordering the Public Utilities

Commission: 1) not to approve or extend any operation of such plants for electricity generation or battery storage connected to the electric grid; and 2) to prohibit any new extensions, improvements, overhauling or refurbishing of fossil fuel plants in Hawaii.

The bill does not specify a date for the start of these prohibitions. the Climate Protectors Coalition urges the Legislature to adopt the earliest feasible date, not later than 2030 if possible. Again, **2045 will be too late!**

It is time to act by approving HB931!

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

Climate Protectors Coalition (by Ted Bohlen)

Chair Glenn Wakai
Vice Chair Bennette Misalucha

Senate Committee on Energy, Economic Development & Tourism

Friday, February 5, 2021
3:00PM

TESTIMONY IN SUPPORT OF SB931 RELATING TO RENEWABLE ENERGY

Aloha Chair Wakai, Vice Chair Misalucha, Members of the Senate Committee on Energy, Economic Development & Tourism,

My name is Jun Shin, I am a Junior at the University of Hawai‘i at Mānoa and currently serve as an at-large board member for the Young Progressives Demanding Action. I am testifying today as an individual in **SUPPORT** of **SB931**, Relating to Renewable Energy. This measure would prohibit after an unnamed amount of time, any new extension, improvements, overhauling, or refurbishing of any fossil fuel electricity generation or fossil-fuel powered electricity use for grid-tied battery energy storage. Then after an unnamed amount of time, it will prohibit the use of fossil fuels for electricity generation or grid-tied battery energy storage.

By removing fossil fuels from our energy source, we will be doing our part to prevent harmful greenhouse gas emissions. We will also have the opportunity to move beyond our current constraints to put more resources into creating a greener, more sustainable society. A society where we can transition to green union jobs that workers can live on in clean energy and reforestation, give further support to low carbon jobs like teaching and caregiving, and explore ideas like community control of energy sources.

The bill does not specify a date for the start of these prohibitions. I think that is the most critical factor in determining whether this bill will be effective or not. To make this a strong win for the planet, please adopt the earliest date that you possibly can. We are in a crisis that demands decisive action from our lawmakers. I ask that you vote to pass this bill out of your committee so that my generation, Gen Z, and future generations on this planet can have a fighting chance.

I **SUPPORT SB931**. Please pass this bill out of your committee.

Mahalo for the opportunity to testify,

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SB-931
Submitted on: 2/4/2021 12:41:33 AM
Testimony for EET on 2/5/2021 3:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Janet Pappas	Individual	Support	No

Comments:

Dear Legislators,

If Hawaii is going to meet its goal of 100% renewable energy by 2045 (hopefully much earlier), we must transition from fossil fuel use in Hawaii ASAP. Bill SB931 moves us in the right direction by disallowing fossil fuel use for electricity generation and storage after a given date. For best results for ratepayers, and because scientists warn us that time is of the essence, I suggest 50% conversion by 2025 and 100% by Jan. 1, 2030.

Hawaii has many incentives to convert as soon as it is feasible. Using renewable energy will: 1) reduce our dependence on imported and price-volatile fossil fuels (now costing us nearly 5 billion/yr) which will help strengthen and stabilize Hawaii's economy 2) bring clean energy jobs to Hawaii, and 3) reduce carbon emissions that will help protect Hawaii and the world from a climate and environmental catastrophe.

As with the pandemic, the critical partners need to work together--in this case, the government agencies and energy utilities--and act quickly and steadily to ensure a livable planet for future generations. Please pass SB931 this session with the earliest possible transition dates eliminating fossil fuel use for both electricity generation and battery energy storage.

Thank you for the opportunity to testify.

Sincerely,

Jan Pappas

Aiea, Hawaii

SB-931
Submitted on: 2/4/2021 2:47:41 PM
Testimony for EET on 2/5/2021 3:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Tawn Keeney	Individual	Support	No

Comments:

Testimony: Senate Bill 931 pertaining to Renewable Energy

As my testimony I wish to comment on testimony which was offered to the companion Bill HB111 which passed the House EEP Committee on Tuesday. I presume that the same testimony will be before todays Senate hearing.
James Griffin PhD, Chair Public Utilities Commission
"The Hawaiian Electric Companies' most recent Power Supply Improvement Plan (PSIP)
update projects that the 100% Renewable Portfolio Standard (RPS) will be reached in 2040." Comment: This statement lays the groundwork for the rest of my comments on the various
testimonies. Though I am not an energy expert I believe any reader would discern that, with business as usual, the date of 2040 is within reach as achieving transformation of electrical generation to 100% renewable sources of energy. It is not stated that it 'could be reached', it is stated that 'it will be reached'. What is needed at this point is legislation which mobilizes us toward treating Climate Change as an emergency - a crisis. We need a bill pushing us to renewable transition by 2030.

Scott Glenn, Chief Energy Officer
"This straightforward and profound bill...."
Comment: Scott is telling us that this could be a profound bill. And I believe that I read into this that he would very much wish it to be a profound bill. However, it will not be a profound bill if it produces no change in the status quo, if it is merely a reflection and restatement of the objectives that are already built into the current policy and dates of the RPS. The House EEP Committee placed a date of 2045 on this bill. This is a failure. Of course, this Senate committee cannot, by itself, legislate the date that this major component of the Green Revolution will be complete. However, if this committee places a date of 2045, the conversation is over, Legislature will simply solidify the already inadequate and arbitrarily selected goal of 2045. However, the opportunity which Scott sees, and calls 'profound' is that a new date could be posited by your committee, and the conversation which is critically needed, can continue. Legislature and this Bill could become the medium for thorough, thoughtful, informed and timely

discussion of what the correct date to complete our Green Transformation should be. Please insert the date 2030.

Dean Nishina, Executive Director, Department of Commerce and Consumer Affairs, Division of Consumer Advocacy

"Given the Renewable Portfolio Standard that requires 100% renewable energy by 2045 the Department appreciates the Bill's intent to have statutory language that comports with the renewable Portfolio Standards. The Department has concerns, however, that the unspecified dates may not properly align with the RPS. This inconsistency could cause unintended consequences, such as a degradation of the reliability of Hawaii's electric grids."

Comment: As testified above by Dr. Griffin, already the RPS goals will be reached by 2040. And that is without injecting a sense of urgency that could come by setting an even earlier date for the achievement of 100% electricity generation by renewables. The comments by the representative from Tesla in their testimony give me confidence that the necessary reliability and stability for designating an even earlier date could be achieved, particularly if it is designated that the 100% generation goal date would apply to the primary generation source and would allow for unforeseen or emergency circumstances to allow hydrocarbon utilization to power battery supply.

Henry Curtis, Life of the Land

"Fossil fuel needs to be phased out by 2030. Needed state legislation should apply to all
fossil fuel producers and consumers."

Comment: Remember Greta Thunberg's address to the United Nations General Assembly. "I don't want your hopefulness. I want you to panic! I want you to act like your house is on fire. Because it is."

Marc Asano, Director, Transmission and Distribution Planning, Hawaiian Electric Company

"To be clear, Hawaiian Electric supports breaking the state's dependence on Fossil fuels,
however, it should be done in a cost-effective and reliable manner."

Comment: I am somewhat dismayed that this testimony emphasizes the conclusions that
first priority should be grid reliability, second cost and only then renewable transition. Haven't we matured to the point that we realize that our environment, which sustains all that we do, is first priority - always. Don't we yet recognize that climate change is an emergency, that we are in a crisis. For 40 or 50 years we have known about this but our societies have put other things first.

Tawn Keeney MD (This is my testimony to EEP)

“Though I participate with 350Hawaii’s steering committee and am a member of the State
Democratic Party climate committee of the environmental caucus, I am writing and submitting this as an individual because group consciousness must transcend emotional appeal in favor of the rational, perhaps measured, response demanded by consensus.

What I would ask of you when you are called on to assign a terminal date to the protean transition away from burning hydrocarbons for energy, to harvesting the abundant energy sources surrounding us, which is consistent with survival of our civilization and species, is the following: Understanding - Courage - Strength - Determination. But it is remembered that understanding is nothing without the latter attributes. We have had understanding of the danger of continuing the use of hydrocarbons to power our civilization for at least 40 years and still the byproducts of these fuels are increasing in our atmosphere yearly. It is courage, strength and determination which continue to be lacking.

The climate scientists and climate leaders are saying, “This is coming much faster than we thought possible.” But then, they were saying that 10 years ago also. We recognize that the natural desire to make an ‘evolution’ without hardship, without giving up many of our luxuries is what has brought us dangerously close to irreversible ecocide, which will only begin with societal collapse. The talk of human extinction is no longer coming from the shadows. Just a few years ago we were fearful for our grandchildren. Now we are fearful for our children. You who are younger than I, as a septagenerian, will see the transition from a society with aspiration toward fulfillment of our limitless potential, to a society with the aspiration of survival.

We have all seen the logarithmic curve of the concentration of CO2 in our atmosphere. We have seen the reports that 9 out of the last 10 years were the warmest years ever recorded for our planet. Now, in the last two years our summers are incessant with reports of unprecedented fires. Twice in the past year we have had reports of temperatures above 100 degrees above the arctic circle. Ferocious storms, like never before, are battering our ramparts. The oceans seem to be dying and our oceans provide the foundations for our terrestrial life. The scientists tell us we are in the process of the fifth great extinction. We are warned of immanent positive feedback loops precipitating a greenhouse gas storm.

So we know all this - understanding is nothing. Our greenhouse gas emissions keep going up. Courage, strength and determination will soon yield to desperation. Please remember that as you are called on to submit a date when our transformation is to be completed.
For me and the leadership at 350Hawaii, that date should be 2030.”

Tawn Keeney MD

LATE

Environmental Caucus of The Democratic Party of Hawai‘i

Friday, February 2, 2021, 8:30 am
Senate Bill 931 – Relating to Renewable Energy
Testifying in Strong Support

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

The Environmental Caucus, through its Energy and Climate Action Committee, supports an aggressive transition from fossil fuels to renewables, and for this reason, strongly supports SB931. The bill admittedly presents a serious challenge, given the difficulty of changing from sunk investments into somewhat uncharted territory. However, forward-thinking experts have confidence that the way forward simply requires a boldness in embracing the changes we know are ultimately necessary with the same energy as defeating a visible enemy. The problem for many is that climate change is not so visible. Foresight is not a strong human trait, and in times of dire need, this conflict is quite pronounced. The handwriting is on the wall however. We are already into the tipping points, accelerating the unseen forces and producing the bare facts in front of our eyes: a staggering level of extinctions, increasingly devastating and costly storms, droughts, wildfires, floods, and pandemics yet to come.

It is widely understood that fossil fuel emissions are the chief culprit in this growing nightmare, and we can thank forward-thinking decision-makers for committing to goals of eliminating these emissions and substituting renewable non-fossil fuels in the shortest possible time. SB931 would take a major step in reducing these harmful emissions by ordering the Public Utilities Commission: 1) not to approve or extend any operation of such plants for electricity generation or battery storage connected to the electric grid; and 2) to prohibit any new extensions, improvements, overhauling or refurbishing of fossil fuel plants in Hawaii.

SB931 takes a difficult but necessary step in forcing Hawaii to get serious about meeting its goals. The Environmental Caucus of the Democratic Party appreciates the difficulty of energy industries to meet these goals, and even more deeply appreciates the imperative to do so. We salute the authors of this legislation and the sponsors pursuing its passage for having the courage to accept a frightening situation head-on.

Our wisest minds understand that intelligent and decisive action can still slow global warming, enable us to cope with a deteriorating standard of living and weather the worst of catastrophic effects. While it is too late to avoid worse cases, creative and innovative solutions can still prevent the worst. Many of us feel it is incumbent upon those of us who accept reality to not forfeit the next generation’s opportunities and flexibility to preserve themselves – we need to get started or get out of the way.

SB931 bites the bullet, and initiates plans that must be fully deployed this decade of the 2020s if we are not to lose control of our fate. We are two years into this situation, and Hawaii is still generating approximately 93% of its total energy needs with fossil fuels. Even when discounting our responsibility for jet fuel that serves our primary economic base – by far the largest single portion of Hawaii’s total

fossil fuel consumption -- Hawaii is still dependent on fossil fuels for generating 85% of its electricity. (These figures thanks to the State Energy Office, from 2018)

The bill does not specify a date for the start of these prohibitions, but clearly there is a desperate need to accelerate the investments in renewable fuels, which are widely reported to generate more well-paying jobs than those displaced. While government bonds are a costly way to generate these investments, far inferior to the functioning of a State bank, Hawaii is lacking the more productive and cheaper alternative. With State revenues down, private funds will be critically needed to step up to the challenge of saving our future.

The Environmental Caucus, with some 5,000 members, stands in whole-hearted support of SB931, and urges all parties to converge on any troublesome details with the mission to resolve them with all deliberate speed. Mahalo for the opportunity to address this issue.

/s/ Charley Ice and Edward Bohlen, Co-Chairs, Energy-Climate Action Committee, Environmental Caucus of the Democratic Party of Hawaii.

LATE

SB-931
Submitted on: 2/5/2021 11:33:52 AM
Testimony for EET on 2/5/2021 3:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Matthew Geyer	Individual	Support	No

Comments:

It's not clear whether or not this legislation bans all types of grid-tied battery storage or not, so please be careful, as grid-tied energy storage will be an essential part of going 100% renewable.

Please continue to do all you can to preserve our environment for future generations.