



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 Commerce and Consumer Protection
and
Senate Committee on Ways and Means
Thursday, March 4, 2021
9:30 a.m.
Via Videoconference & Conference Room 211**

**On the following measure:
S.B. 931, S.D. 1, RELATING TO RENEWABLE ENERGY**

WRITTEN TESTIMONY ONLY

Chairs Baker and Dela Cruz and Members of the Committees:

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 appreciates the intent of and 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, except for routine maintenance or minor repairs up to \$2,500,000 per existing facility to maintain reliability, after December 31, 2035; and (2) the use of fossil fuels for electricity generation or grid-tied battery energy storage after December 31, 2045.

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 also appreciates section 3's amendments to Hawaii Revised Statutes (HRS) section 269-6, as existing language can be interpreted to require the 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 offers the following comments:

- The prohibition's beginning date of December 31, 2035, on page 2, line 17, may have unintended consequences related to reliability and resiliency issues. Electricity generation facilities require overhauls that often exceed \$2,500,000 and occur on cycles that are shorter than ten years. If the utility is unable to recover the cost of the overhaul as of 2036 and decides not to properly maintain the unit, customers could experience unreliable and interrupted service. The addition of the exemption for maintenance and repairs less than \$2,500,000 on page 3, lines 8 through 10, would not address major overhauls.
- Subsection (c), on page 3 lines 14 through 17, creates a cost recovery exception under Hawaii Revised Statutes (HRS) section 269-6(d)(3), where the Public Utilities Commission (Commission) can approve the utility cost recovery of a generating or storage unit that uses fossil fuels, at any time, as long as the utility also requests the establishment of a stranded cost recovery mechanism that encourages the accelerated retirement of the fossil fuel generation plant. The Department is concerned this exemption will allow the Commission to consider fossil-fueled solutions in 2040, for example, as long as accelerated cost recovery occurs within five years to allow for early retirement. Renewable portfolio standards, once corrected to eliminate the sales-versus-generation loophole, will set clear guidelines for the Commission to ensure the elimination of fossil fuel reliance by 2045.
- The Department suggests deleting "battery" from "fossil fuel electricity generation and fossil fuel-powered battery energy storage" on page 4, lines 4

and 5, and from “renewable energy generation and renewable energy-powered battery energy storage” on page 4, lines 14 and 15. 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 COMMITTEES ON
COMMERCE AND CONSUMER PROTECTION
AND
WAYS AND MEANS

March 4, 2021
9:30 a.m.

Chair Baker, Chair Dela Cruz, and Members of the Committees:

MEASURE: S.B. No. 931 SD1

TITLE: RELATING TO RENEWABLE ENERGY.

DESCRIPTION: Prohibits, after December 31, 2035, 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, except for routine maintenance or minor repairs up to \$2,500,000 per existing facility in order to maintain reliability. Prohibits after December 31, 2045, the use of fossil fuels for electricity generation or grid-tied battery energy storage. (SD1)

POSITION:

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

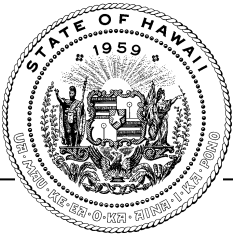
COMMENTS:

The Commission is supportive of this measure’s intent to ensure that the state’s electricity system is powered by renewable energy, as is consistent with the state’s clean energy goals.

The Hawaiian Electric Companies’ (“Companies”) most recent power supply improvement plan (PSIP) update projects that the 100% renewable portfolio standard (RPS) will be reached in 2040. The Commission is currently overseeing the creation and implementation of an Integrated Grid Planning (IGP) Report, which proposes to merge

three historically separate planning processes (generation, transmission, and distribution), while integrating competitive procurement into a comprehensive grid planning approach. The IGP Report succeeds the PSIP, which was designed to identify and meet each island's unique grid needs. Through its IGP efforts, the Commission and the electric utilities will attain a more holistic understanding of each island's grid and the steps required to meet existing and future needs.

Thank you for the opportunity to testify on this measure.



HAWAII STATE ENERGY OFFICE STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

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Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
**SENATE COMMITTEES ON
COMMERCE AND CONSUMER PROTECTION
AND
WAYS AND MEANS**

Thursday, March 4, 2021
9:30 AM
State Capitol, Conference Room 211 & Videoconference

Comments in consideration of
**SB 931, SD1
RELATING TO RENEWABLE ENERGY.**

Chairs Baker and Dela Cruz, Vice Chairs Chang and Keith-Agaran, and Members of the Committees, the Hawaii State Energy Office (HSEO) offers comments on SB 931, SD1, which prohibits utility recovery of major expenses relating to fossil fuel after 2035 and states that “electricity generation facilities” shall cease the use of fossil fuels for electricity generation and storage after 2045.

Discussions of how, and when, the complete replacement of fossil fuels in the electricity (and other) sectors can take place is occurring in many venues, including in the Integrated Grid Planning docket before the Public Utilities Commission. The results of these efforts will be beneficial to establishing retirement dates for various power plants. The potential re-purposing of existing equipment such as engine generators to other uses, such as synchronous condensers to provide inertia on the system, may be considered, as the benefits, roles, and changing forms of energy generation and storage are 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

Hawaii State Energy Office Testimony
SB931, SD1 - Relating to Renewable Energy - Comment
March 4, 2021

of the coal plant on Oahu in 2022, Kahului Power Plant in 2024, and other units as new renewable generators come on-line.

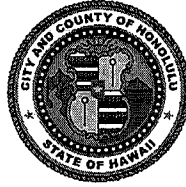
HSEO's comments are guided by its mission to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy.

Thank you for the opportunity to testify.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

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RICK BLANGIARDI
MAYOR



ALEX KOZLOV, P.E.
DIRECTOR

HAKU MILLES, P.E.
DEPUTY DIRECTOR

March 2, 2021

The Honorable Rosalyn H. Baker, Chair
The Honorable Stanley Chang, Vice-Chair
and Members of the Committee on Commerce and Consumer Protection

The Honorable Donovan M. Dela Cruz, Chair
The Honorable Gilbert S.C. Keith-Agaran, Vice-Chair
and Members of the Committee on Ways and Means
The Senate
State Capitol, Room 211
415 South Beretania Street
Honolulu, Hawaii 96813

Dear Chairs Baker and Dela Cruz, Vice-Chairs Chang and Keith-Agaran, and Members:

SUBJECT: Senate Bill No. 931 SD1
Relating to Renewable Energy

The Department of Design and Construction (DDC) respectfully supports the intent of Senate Bill No. 931 SD1. However, DDC requests the bill be amended to exempt emergency generators from the proposed prohibition against the use of fossil fuels for electricity generation.

The purpose of emergency generators is to provide electrical power to critical facilities when the primary power supply is not available. The City and County of Honolulu has fossil-fuel powered emergency generators installed at many essential facilities, including fire stations, police stations, ambulance stations, and many other critical facilities that provide services essential to the health and safety of the public. These emergency generators must be able to provide electricity to the facilities they are designed for in the event of a disaster, such as a hurricane. There is currently no plan to replace the City's many emergency generators with renewable energy sources, as the technology to provide the level of reliability needed in the event of a disaster is not well established.

Based on the above consideration, DDC respectfully requests Senate Bill No. 931 SD1 be amended to exempt emergency generators from the proposed prohibition against the use of fossil fuels for electricity generation.

The Honorable Rosalyn H. Baker, Chair
and Members of the Committee on Commerce and Consumer Protection
The Honorable Donovan M. Dela Cruz, Chair
and Members of the Committee on Ways and Means
March 2, 2021
Page 2

Thank you for the opportunity to express our request for amendment of
Senate Bill No. 931 SD1.

Sincerely,

A handwritten signature in black ink, appearing to read 'A Kozlov', with a long horizontal flourish extending to the right.

Alex Kozlov, P.E.
Director



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www.lwv-hawaii.com | 808.531.7448 | voters@lwv-hawaii.com

COMMITTEE ON COMMERCE AND CONSUMER PROTECTION
AND
COMMITTEE ON WAYS AND MEANS
THURSDAY, 3/4/21, 9:30 AM, Room No. 211

SB931 SD1 RELATING TO RENEWABLE ENERGY
Beppie Shapiro, Legislative Committee, League of Women Voters of Hawaii

Chairs Baker and Dela Cruz, Vice-Chairs Chang and Keith-Agaran, and Committee Members:

The League of Women Voters of Hawaii supports this bill which sets reasonable timelines for sunseting major improvements to fossil fuel energy generation/storage facilities, and for the use of fossil fuels for electricity generation or grid-tied battery energy storage.

The League of Women Voters, a nonpartisan grassroots activist organization, believes that climate change is a serious threat facing our nation and our planet. The League believes that an interrelated approach to combating climate change—including through energy conservation, air pollution controls, building resilience, and promotion of renewable resources — is necessary to protect public health and defend the overall integrity of the global ecosystem.

We in Hawaii, members of the Hawaii League of Women Voters and other residents, have observed with shock and distress the impacts of sea level rise, and the scientific forecasts of the impact of sea level rise in the near future. Beaches we grew up with are impacted at increasing rates, with trees which used to be securely inland now falling over and dying as the ocean exposes their roots to sea water.

The threat of accelerating extinctions of our iconic endemic bird species, due to the warming of their habitat elevations and consequent exposure to disease, is already alarming.

Knowing that these effects and more are going to worsen around us as the climate responds to increasing levels of carbon in our atmosphere, we are motivated to reduce these effects as much as possible. That means first and foremost reducing the burning of fossil fuels.

SB931 SD1 takes absolutely critical steps in this direction, consistent with State goals for phasing out the use of fossil fuels in favor of renewable energy sources. We sincerely and respectfully urge your committees to pass this bill unamended.

Thank you for the opportunity to submit testimony.

SB-931-SD-1

Submitted on: 3/2/2021 3:41:04 PM

Testimony for CPN on 3/4/2021 9:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Ted Bohlen	Testifying for Climate Protectors Hawaii	Support	No

Comments:

To: The Honorable Rosalyn Baker, Chair, the Honorable Stanley Chang, Vice Chair, and members of the Senate Committee on Commerce and Consumer Protection, and

The Honorable Donovan Delacruz, Chair, the Honorable Gilbert Keith-Agaran, Vice Chair, and members of the Senate Committee on Ways and Means

From: Climate Protectors Hawaii

Hearing Date: Thursday, March 4, 2021, 9:30 am, Room 211 and by videoconference

Re: **STRONG SUPPORT of SB931 SD1 RELATING TO RENEWABLE ENERGY**

Aloha Chair Baker, Vice Chair Chang and members of the Committee on Commerce and Consumer Protection, and Chair Delacruz and Vice Chair Keith-Agaran and members of the Committee on Ways and Means.

The Climate Protectors Hawaii **strongly supports** SB931 SD1.

The Climate Protectors Hawaii is a group 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 carbon negative as soon as possible. **2045 WILL BE TOO LATE! Recent worldwide data on melting ice and climate feedback loops suggest that we must act in this decade or face a climate calamity, with much of makai Honolulu under water with sea level rise before 2100, if not already destroyed by intense storms!**

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. Natural gas in particular is basically methane, a potent greenhouse gas 20-30 times more destructive to the climate than carbon dioxide, and the bill properly prohibits natural gas electricity generation.

SB931 SD1 would take a major step in reducing these harmful emissions by prohibiting the Public Utilities Commission from approving or extending, after December 31, 2035, any new extensions, improvements, overhauling or refurbishing of any fossil fuel electricity generation in Hawaii or fossil fuel powered grid-tied battery energy storage system resource, except for routine maintenance or minor repairs up to \$2,500,000 per existing facility to ensure reliability. The bill would also prohibit after December 31, 2045, the use of fossil fuels for generating electricity or powering grid-tied battery energy storage. The word "battery" should be stricken, as there are other types of storage.

These 2035 and 2045 "not later than" dates should not distract from the real date for ending fossil fuel generation-AS SOON AS FEASIBLE! The Climate Protectors Hawaii urges the Legislature to adopt the earliest feasible date, not later than 2030 if feasible. Again, 2045 will be too late!

It is time to act by approving HB931 SD1!

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

Climate Protectors Coalition (by Ted Bohlen)



Environmental Caucus of The Democratic Party of Hawai'i

Thursday, March 4, 2021, 9:30 am

Senate Committees on **Commerce and Consumer Protection** and **Ways and Means**
Senate Bill 931 – RELATING TO RENEWABLE ENERGY: Phasing out fossil fuel electricity generation

Testifying in Strong Support, with Amendment

Me ke Aloha Chairs Rosalyn Baker and Donovan Dela Cruz, Vice Chairs Stanley Chang and Gilbert Keith-Agaran, and 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 SB 931. Our committee supports an amendment made in the earlier subject matter committee, to exempt emergency generators from its provisions.

Our single concern is that the target date for completing the phase-out is 2045, at which point this will all be moot: The latest (6th) UN/IPCC Synthesis Report (February 26, 2021) prepared for the November Paris Accord meetings in Glasgow once again note that climate change is happening faster than earlier estimates predicted, and also note that the implementation of Paris pledges have accomplished merely 1% of the proposed 45% reductions fossil fuel emissions. These reports are recommending that our plans must be well underway by 2030 to escape the worst case scenarios.

The bill admittedly presents a serious challenge, given the difficulty of changing from sunk investments into somewhat uncharted territory. However, Kauai is on its way to becoming 80% fossil –fuel free in a few years, thanks to forward thinking and aggressive action. 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. We are already into the climate change tipping points, accelerating unseen forces and producing a staggering level of extinctions, increasingly devastating and costly storms, droughts, wildfires, floods, and pandemics yet to come.

SB 931 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. The Legislature is moving well on the mitigative and adaptive measures to boost local food production in the likely event of interrupted supply chains which provide Hawaii with most of everything we consume. 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.

SB 931 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 SB 931, 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.



Testimony Before the Senate Committees on Commerce and Consumer Protection and Ways and Means

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

Thursday, March 4, 2021; 9:30 am
Conference Room #211

Senate Bill No. 931 SD1 - Relating to Renewable Energy

To the Honorable Senators. Rosalyn H. Baker and Donovan M. Dela Cruz, Chairs, Senators Stanley Change and Gilbert S.C. Keith-Agaran, Vice Chairs and Members of the Committees:

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 of 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. HB111 has been modified in a way that addresses these concerns.

Finally, 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 as written and encourages amendments similar to those incorporated into HB111 HD2.

Thank you for your consideration.



Back row from left: Jeff Garcia, Brooks Braun; Front row from left: Julius 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.



**Hawaiian
Electric**

**TESTIMONY BEFORE THE SENATE COMMITTEES ON
COMMERCE AND CONSUMER PROTECTION AND
WAYS AND MEANS**

S.B. 931 S.D. 1

Relating to Renewable Energy

Thursday, March 4, 2021
09:30 am, Agenda Item #7
State Capitol, Conference Room 211

Marc Asano
Director, Integrated Grid Planning
Hawaiian Electric

Chairs Baker and Dela Cruz, Vice Chairs Chang and Keith-Agaran, and Members of the Committees:

My name is Marc Asano and I am testifying on behalf of Hawaiian Electric Company **in opposition to S.B. 931 S.D. 1**, Relating to Renewable Energy.

S.B. 931 S.D. 1 proposes to (1) prohibit 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 December 31, 2035; and (2) prohibit, the use of fossil fuels for electricity generation or grid-tied battery energy storage by December 31, 2045.

Hawaiian Electric is committed to breaking the State's dependence on fossil fuels; however, it should be done in a cost-effective, reliable, and resilient manner. As you know this past year the Company exceeded our goal of 30% and achieved nearly 35% renewable energy. The State's 100% Renewable portfolio standards (100% RPS Mandate) pursuant to H.R.S. §269-92 already requires the Company to virtually eliminate fossil fuel usage by 2045. While we oppose this bill, if your Committees are

considering its passage, please ensure proper alignment between S.B. 931 S.D. 1 and the State's 100% RPS Mandate. S.B. 931 S.D. 1 should include events or circumstances that are outside the electric utility's control as described in §269-92(d), to ensure the resilience of the electric system such that the utility is able to supply power during emergency situations, and where fossil fuel generation may be the only type of generation that the utility has access to during these events. Further the Company should be allowed to supply the community with fossil fuel power if that is the last option available, particularly in an emergency situation when access to renewable energy resources are limited or unavailable. The Company may also be unable to acquire renewable energy because of community, land use or other policy circumstances that may inhibit its development. To that end, the Company requests the following amendments:

- To ensure alignment between the H.R.S. §269-92 (RPS Mandate), Section 2, part (a) of this bill should be revised to December 31, 2045. Between 2035 and 2045 critical generators may be in need of emergency repairs to continue operation where the cost of such repairs may be greater than \$2.5M (i.e., a turbine blade cracks or a generator part breaks) and failure to repair such generators will leave the system short of capacity leading to rolling blackouts.
- To meet the intent of this bill, Section 2, part (b) should clarify electricity generation facilities "including merchant or co-generation facilities, owned or operated by the electric utility, independent power producers, government and non-government agencies, and any persons or entities, shall cease the use of all fossil fuels for the generation or storage of electricity." This will ensure all entities

that own or operate generation facilities contribute to reducing the State's dependence on fossil fuel.

- In order to ensure consistency with H.R.S. §269-92 (d), a new section (d) should be inserted into this bill to similarly allow for exemptions due to circumstances outside the utility's control:

1) For events or circumstances that are outside of an electric utility company's reasonable control, and may include, to the extent the event or circumstance could not be reasonably foreseen and ameliorated:

- a) Weather-related damage;
 - b) Natural disasters;
 - c) Mechanical or resource failure;
 - d) Failure of renewable electrical energy producers to meet contractual obligations to the electric utility company;
 - e) Labor strikes or lockouts;
 - f) Actions of governmental authorities that adversely affect the generation, transmission, or distribution of renewable electrical energy under contract to an electric utility company;
 - g) Inability to acquire sufficient renewable electrical energy to meet the renewable portfolio standard goals beyond 2030 in a manner that is beneficial to Hawaii's economy in relation to comparable fossil fuel resources;
 - h) Substantial limitations, restrictions, or prohibitions on utility renewable electrical energy projects; and
 - i) Other events and circumstances of a similar nature.
- Finally, any grid-tied storage that is currently under contract when this bill goes into effect should be allowed to continue to be charged by renewables or fossil fuel generation until December 31, 2045.

Accordingly, the Hawaiian Electric opposes S.B. 931 S.D. 1. Thank you for this opportunity to testify.

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Email: info@gcahawaii.org
Website: www.gcahawaii.org



GCA of Hawaii

GENERAL CONTRACTORS ASSOCIATION OF HAWAII

Quality People. Quality Projects.

Uploaded via Capitol Website

March 3, 2021

TO: HONORABLE ROSAYLN BAKER, CHAIR, HONORABLE DONOVAN DELA CRUZ, CHAIR, HONORABLE STANLEY CHANG, VICE CHAIR, HONORABLE GILBERT S.C. KEITH-AGARAN, VICE CHAIR, COMMITTEES ON COMMERCE AND CONSUMER PROTECTION AND WAYS AND MEANS

SUBJECT: **PROVIDING COMMENTS ON S.B. 931 S.D.1, RELATING TO RENEWABLE ENERGY.** Prohibits, after December 31, 2035, 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, except for routine maintenance or minor repairs up to \$2,500,000 per existing facility in order to maintain reliability. Prohibits after December 31, 2045, the use of fossil fuels for electricity generation or grid-tied battery energy storage.

HEARING

DATE: Thursday, March 4, 2021
TIME: 9:30 a.m.
PLACE: Capitol Room 211

Dear Chairs Baker and Dela Cruz, Vice Chairs Chang and Keith-Agaran and Members of the Committee,

The General Contractors Association of Hawaii (GCA) is an organization comprised of approximately five hundred (500) general contractors, subcontractors, and construction related firms. The GCA was established in 1932 and is the largest construction association in the State of Hawaii. Our mission is to elevate Hawaii's construction industry and strengthen the foundation of our community.

While we support the State's policy of 100% renewable energy by 2045, we cannot support this bill as it would jeopardize the reliability and resiliency of the State's electrical grids. We must work towards our 100% clean energy goal in a thoughtful, measured way.

Our members' livelihood, like everyone else in Hawai'i, depends on having reliable energy delivered whenever it is needed, and a resilient grid is required to deliver that energy. By allowing minimal maintenance of fossil fueled generators, as this bill proposes to do, we are putting our economy and population at risk. As we saw with recent events, such as Hurricane Maria in Puerto Rico and recent ice storm in Texas, it just takes one natural disaster to take down the electrical grid. As an island state, Hawai'i must have backup solutions available to keep the lights on and those backup solutions must be maintained in order to be operational. For these reasons, we **oppose SB 931, SD1**. Thank you for your consideration.



To: The Senate Committee on Commerce and Consumer Protection
and
The Senate Committee on Ways and Means
From: Sherry Pollack, Co-Founder, 350Hawaii.org
Date: Thursday, March 4, 2021, 9:30am

Comments for SB931 SD1

Aloha Chairs Baker and Dela Cruz, Vice Chairs Chang and Keith-Agaran, and members of the CPN and WAM committees;

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 offers the following comments on this bill.

We are in strong support of **SB931** that proposed a deadline for the use of fossil fuels by electric utilities. However, we have serious concerns and are in **strong opposition** to the date which was inserted for prohibition, December 31, 2045 in the current version of this measure.

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. This bill *could take* a major step in reducing these harmful emissions, but a target date of 2045 is woefully too late. Moreover, 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 Climate Crisis is here now. Scientists have made clear that we must swiftly phase out fossil fuel use or face untold suffering. We no longer have the luxury to wait to take the necessary actions to drastically reduce our greenhouse gas emissions. **Fossil fuel use needs to be phased out and replaced by nonclimate-harming alternatives by 2030.**

We ask the Committee to amend **SB931 SD1** to change the 2045 date to 2030, consistent with what the scientific consensus says is necessary to avoid climate chaos. We recommend that the bill be amended to better keep within our carbon budget and align with the UN IPCC goals of carbon emissions reductions so that Hawaii will do its share to limit the increase of global temperatures from rising greater than 1.5 degrees Celsius. To better achieve this, we recommend this measure require the Energy Office convene a working group to develop a plan with metrics and benchmarks with annual evaluations on the progress of achieving these goals, with the plan submitted to the legislature in 2022.

Please pass this bill amended to 2030!

Mahalo for the opportunity to testify.

Sherry Pollack
Co-Founder, 350Hawaii.org



**Testimony to the Committees on
Commerce and Consumer Protection and
Ways and Means**

Thursday, March 4, 2021

9:30 AM

VIA Video Conference

Conference Room 211, Hawaii State Capitol

SB 931 SD1

Chair Baker, Chair Dela Cruz, Vice Chair Chang, Vice Chair Keith-Agaran,
and members of the committees,

Hawaii Clean Power Alliance (HCPA) supports SB 931 SD 1, which prohibits, after December 31, 2035, 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, except for routine maintenance or minor repairs up to \$2,500,000 per existing facility in order to maintain reliability. Prohibits after December 31, 2045, the use of fossil fuels for electricity generation or grid—tied battery energy storage.

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 reinforces the intent of the state’s 2045 policy – eliminating fossil fuel powered electricity generation and storage, which will help steadily increase renewable generation, providing the electric utility with enough time to transition to 24X7 reliable renewable generation while not negatively impacting its current achievement of RPS.

With the 2045 goal of 100% RPS just over two decades away, we should avoid allowing further investment into fossil fuel generation because it is no longer aligned with the need to steadily accelerate our renewable energy future. We cannot wait until just prior to 2045 to retire fossil generation all at once, as doing so would unnecessarily prolong and encourage the continued use of legacy fossil fuel generation. Rather, legacy fossil fuel generation should gradually be retired in lock step with new additions of sufficient renewable generation so that ratepayers do not have to pay for both assets. Reliability of the grid does not have to be compromised because the utility can properly plan to retire obsolete and old generation and develop new, more reliable renewable generation.

Additionally, those fossil generation assets do not necessarily need to be scrapped if converted to use renewable fuel sources. Indeed, renewable fuels can replace fossil fuels in retrofitted legacy generators.



Prohibiting the use of fossil fuels to fill storage that is not connected to a renewable source will ensure the reduction of fossil fuels and carbon emissions in alignment with state goals.

We ask the committee to pass this bill.

Thank you for the opportunity to testify.

Sincerely,

A handwritten signature in black ink, appearing to read "Fred Redell". The signature is fluid and cursive, with a long horizontal stroke at the end.

Frederick Redell, PE

Executive Director

(949) 701-8249

www.hawaiicleanpoweralliance.org

LATE

FAITH ACTION FOR COMMUNITY EQUITY
ENVIRONMENTAL JUSTICE TASK FORCE

Senate Committee on Ways and Means and Committee on Commerce and Consumer
Protection

March 4, 2021 at 9:30 am

Via Videoconference and Conference Room 211

SUPPORTING SB 931, SD1

The Environmental Justice Task Force of Faith Action for Community Equity supports SB 931, SD1, which will reduce our dependence on imported fossil fuels for generating electricity.

We are concerned, however, that this measure could prevent the implementation of any general purpose utility scale battery storage system on the grid. Utility scale grid connected battery storage systems can quickly reduce the amount of fossil fuels we use for electric power generation, reduce electricity prices, and increase the reliability of delivering electric power to consumers.

Please amend this bill to ensure that any general purpose grid connected battery storage system would be allowed.

Climate change is accelerating, and in the several years before the Covid-19 pandemic, Hawaii's consumption of fossil fuels had not declined. Hawaii must do much more to do its part to control climate change.

This bill will reduce the consumption of fossil fuels and is consistent with the State's 2045 net zero emissions goal. This bill should be one of multiple bills passed by the Legislature to enable Hawaii to do its part to control climate change.

Please also consider amending to set a target date to reduce or end electricity generation via biomass combustion as this also contributes to the degradation of our environment.

Thank you for hearing and supporting SB 931, SD1. The Environmental Justice Task Force of Faith Action for Community Equity supports SB 931, SD1.

Leonard K.P. Leong
Vice President

LATE

Sample testimony on SB 931, SD1, Relating to Renewable Energy

Decision Making before Senate Committee on Commerce and Consumer Protection &
Senate Committee on Ways and Means



Chair Baker, Chair Dela Cruz, Vice Chang, Vice Chair Keith Agaran and Members of
the Committee,

Royal Contracting Co., Ltd opposes SB. 931, SD1, Relating to Renewable Energy.

While we support the State's policy of 100% renewable energy by 2045, we cannot support this bill as it would jeopardize the reliability and resiliency of the State's electrical grids. We must work towards our 100% clean energy goal in a thoughtful, measured way.

Our members' livelihood, like everyone else in Hawai'i, depends on having reliable energy delivered whenever it is needed, and a resilient grid is required to deliver that energy. By allowing minimal maintenance of fossil fueled generators, as this bill proposes to do, we are putting our economy and population at risk. As we saw with recent events, such as Hurricane Maria in Puerto Rico and recent ice storm in Texas, it just takes one natural disaster to take down the electrical grid. As an island state, Hawai'i must have backup solutions available to keep the lights on and those backup solutions must be maintained in order to be operational.

For these reasons, we oppose SB 931, SD1. Thank you for your consideration.

Sincerely,


Leonard K.P. Leong
President

SB-931-SD-1

Submitted on: 3/2/2021 12:33:25 PM

Testimony for CPN on 3/4/2021 9:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
William Bekemeier	Individual	Support	No

Comments:

We are in a Climate Crisis. Hawaii can and must set the example for other states to do its part to reverse climate degradation.

This bill will reduce the consumption of fossil fuels and upholds Hawaii's 2045 net zero emissions goal. This bill is just one of several bills that should be enacted to avert a climate disaster.

SB-931-SD-1

Submitted on: 3/2/2021 5:09:22 PM

Testimony for CPN on 3/4/2021 9:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Andrea Quinn	Individual	Support	No

Comments:

Dear Honorable Committee Members,

Please support SB931.

Thank you,

Andrea Quinn

SB-931-SD-1

Submitted on: 3/2/2021 5:29:21 PM

Testimony for CPN on 3/4/2021 9:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Ruta Jordans	Individual	Support	No

Comments:

Please support, reduce and eliminate fossil fuel use on Hawaii.

SB-931-SD-1

Submitted on: 3/3/2021 2:27:43 AM

Testimony for CPN on 3/4/2021 9:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Evelyn Aczon Hao	Individual	Support	No

Comments:

I support this bill, SB 931 SD1, which will reduce our dependence on imported fossil fuels for generating electricity.

However, I would ask that it be amended to not prevent the use of any general purpose utility scale battery storage system on the grid so that there is more reliability in getting electricity to consumers and still lower the use of fossil fuel.

With this bill, our consumption of fossil fuels will be lessened tremendously and help to reach the State's 2045 zero emission goal.

Thank you for your consideration.

Evelyn Hao



LATE

March 4, 2021

Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice-Chair
Senate Committee on Commerce and Consumer Protection

Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice-Chair
Senate Committee on Ways and Means

Opposition to SB 931, SD1, RELATING TO RENEWABLE ENERGY. Prohibits, after December 31, 2035, 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, except for routine maintenance or minor repairs up to \$2,500,000 per existing facility in order to maintain reliability. Prohibits after December 31, 2045, the use of fossil fuels for electricity generation or grid-tied battery energy storage. [SD1])

CPN/WAM Decision Making: Thursday, March 4, 2021, 9:30 a.m., in Conference Room 211 & Videoconference

The Land Use Research Foundation of Hawaii (LURF) is a private, non-profit research and trade association whose members include major Hawaii landowners, developers, and utility companies. One of LURF's missions is to advocate for reasonable, rational, and equitable land use planning, legislation and regulations that encourage well-planned economic growth and development, while safeguarding Hawaii's significant natural and cultural resources and public health and safety.

LURF appreciates the opportunity to provide testimony in **opposition to SB 931, SD1.**

SB 931, SD1. This measure prohibits, after December 31, 2035, 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, except for routine maintenance or minor repairs up to \$2,500,000 per existing facility to maintain reliability; and prohibits after December 31, 2045, the use of fossil fuels for electricity generation or grid-tied battery energy storage.

LURF's Position. LURF members are leaders in clean, green, and renewable energy research, development, production, transmission, storage, and implementation of projects in Hawaii. Our LURF members have produced and used clean, green, and renewable energy resources for over 100 years, including the use of hydropower, biomass, the sun, wind, and biogas; were the first homebuilders to voluntarily install solar water heaters for homes (before the solar mandate law); have developed award-winning clean, green, renewable energy, and LEED projects, and continue to work on and implement cost-effective initiatives to reach Hawaii's renewable energy, climate change and sustainability goals.

LURF supports the State's goal to be free of the dependence on fossil fuels, by 2045 and we understand that SB 931, SD1 may be a well-meaning attempt to support this goal, however, we believe that this effort should be done in a cost-effective and reliable manner. We also believe that SB 931, SD1, will have the following unintended consequences that could do more harm to Hawaii's consumers:

- **Reliability for consumers.** Prohibition of major generating unit overhauls and maintenance would further degrade the reliability of the aging generating fleet of electrical services to consumers.
- **Energy security and reliability in times of poor weather, natural disasters, or other unforeseen events.** 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.
- **Cost-effective bridge for clean, green, and renewable gas technology advancements relating to biofuels, biogas, or hydrogen to help the State reach 100% renewable energy by 2045.** Clean, green, and renewable energy technology relating to renewable gas resources such as biofuels, biogas, and hydrogen will be advancing in the next 24 years. We need to keep the existing facilities open and operable, to be flexible enough to update those facilities to move to green, clean and renewable gas resources in the future.
- **The existing RPS statute already requires the electric utilities to substantially reduce and totally phase out the use of fossil fuels by 2045.** This measure is premature, because over the next 24 years, technology advancements will allow the State to reach its 2045 renewable energy goals more cost effectively. Prohibiting overhaul and maintenance of current facilities will limit the flexibility of the electric facilities to gradually convert to more renewable energy resources and alternative renewable energy fuels in the future.
- **Hawaiian Electric is already ahead of schedule in reducing fossil fuel usage.** This bill is also unnecessary, because through its recent energy initiatives and agreements, we understand that Hawaiian Electric will be able to significantly reduce fossil fuel usage in the next 2-4 years, reaching renewable energy percentages well ahead of the current RPS statute.

- **Public Utilities Commission (PUC) has also approved significant financial incentives to accelerate the phasing-out of the use of fossil fuels.** Finally, this bill may be premature, because LURF also understands that the PUC's recent performance-based regulation decision and order provides significant financial incentives for the electric utilities to accelerate the drawdown of fossil fuel use at a faster pace than the current RPS mandate.

For the reasons stated above, LURF is in opposition to SB 931, SD2, and respectfully urges that your committees defer and hold this bill in your committees.