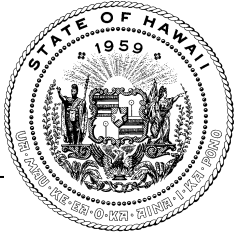


STATE OF HAWAII  
DEPARTMENT OF HEALTH  
KA 'OIHANA OLAKINO  
P. O. BOX 3378  
HONOLULU, HI 96801-3378

**Testimony in SUPPORT of HB0192-HD2  
RELATING TO ENERGY EFFICIENCY**

SENATOR LYNN DECOITE, CHAIR  
SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT & TOURISM  
Hearing Date: 3/14/2023 Room Number: 229

- 1 **Fiscal Implications:** This measure will impact the priorities identified in the Governor's
- 2 Executive Budget Request for the Department of Health's (Department) appropriations and
- 3 personnel priorities.
- 4 **Department Testimony:** The Department supports this measure that seeks to ban mercury
- 5 containing lamps. Implementing this measure will improve energy efficiency and decrease the
- 6 overall burden of mercury contamination in Hawaii's environment.
- 7 Mercury is a widespread environmental pollutant that has severe negative impacts on the
- 8 developing brain of children and can cause other adverse health effects in humans and animals.
- 9 Fluorescent lamps are a significant source of mercury in Hawaii and eliminating them and their
- 10 associated mercury will contribute to a cleaner and healthier Hawaii.
- 11 The elimination of mercury containing lamps will also have a positive impact on our state's solid
- 12 waste disposal systems.
- 13 Multiple other states including Vermont and California have recently implemented similar bans
- 14 on Mercury containing fluorescent lamps and the Department supports this effort to decrease
- 15 prospective chemical contamination in Hawaii.
- 16 **Offered Amendments:** None
- 17
- 18 Thank you for the opportunity to testify on this measure.



# HAWAII STATE ENERGY OFFICE STATE OF HAWAII

JOSH GREEN, M.D.  
GOVERNOR

MARK B. GLICK  
CHIEF ENERGY OFFICER

235 South Beretania Street, 5th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-3807  
Web: energy.hawaii.gov

Testimony of  
**MARK B. GLICK, Chief Energy Officer**

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

Tuesday, March 14, 2023  
1:30 PM  
State Capitol, Conference Room 229 & Videoconference

In SUPPORT of  
**HB 192, HD2**

**RELATING TO ENERGY EFFICIENCY.**

Chair DeCoite, Vice Chair Wakai, and Members of the Committee, the Hawai'i State Energy Office (HSEO) supports the adoption of HB 192, HD2, which prohibits the sale of common fluorescent lamps while exempting certain specialty lamps. The companion bill was heard by your Committee and passed as SB 690, SD1. This HD2 version includes an exemption for vehicle lights. HSEO supports the language in HB 192, HD2.

The attached summary sheet from the Appliance Standards Awareness Project summarizes estimated benefits of adopting this bill. In addition to avoiding the dumping of inefficient lamps in Hawai'i from other locations that have banned these products, the bill is projected to reduce Hawai'i consumers' electricity bills by \$37 million annually by 2030, eliminate the production of 756,000 tons of CO<sub>2</sub> by 2050, and avoid the production of 36 pounds of mercury (sufficient to contaminate 1.8 billion gallons of drinking water).

Thank you for the opportunity to testify on this bill.

# Hawaii Can Protect Health and Lower Energy Bills by Phasing Out Fluorescent Light Bulbs

FACT SHEET | JANUARY 2023

*Fluorescent lights are a common sight in offices, garages, and basements—but they contain toxic mercury and use far more energy than newer alternatives. By phasing out fluorescents in favor of efficient LED bulbs, Hawaii can avert a needless health risk, save families and business money on utility bills, and curb greenhouse gas emissions.*

Fluorescent lighting was once the preferred option for many uses, but not anymore. LED light bulbs—readily available as replacements for fluorescents in all needed shapes and sizes—do not contain any of the toxic mercury that fluorescent bulbs do. They also cut energy use in half compared to fluorescents, last about twice as long, and typically cost far less to purchase and operate over their lifetime. So why are fluorescents still on store shelves?

In 2022, Vermont and California became the first states to phase out the sale of most fluorescent bulbs. As other states move to eliminate fluorescents, Hawaii risks becoming a dumping ground for inefficient, mercury-containing bulbs that suppliers cannot sell elsewhere. Hawaii lawmakers should take prompt action to phase out sales of the most common fluorescent bulbs by 2025.

## REDUCE THE THREAT OF MERCURY EXPOSURE

All fluorescent bulbs contain mercury, a potent neurotoxin that [threatens human health](#) and the environment. The World Health Organization counts mercury among the top 10 most dangerous chemicals impacting public health.

When fluorescent bulbs are accidentally broken—whether in homes, businesses, or the waste management system—they present a health hazard to those nearby. And when fluorescent bulbs are not disposed of properly—as happens with an estimated 75% of bulbs—mercury can leach from landfills and eventually contaminate waterways and the fish and shellfish within them.

LEDs, which are mercury-free, are a much safer option. Technological advancements in recent years have made them readily available and cost effective.



By transitioning from the most common fluorescent bulbs to LEDs, Hawaii could avoid

**36 pounds**

of mercury waste, enough to contaminate 1.8 billion gallons of water.



By 2030, Hawaii households and businesses would save more than **\$37 million annually** on their utility bills.

## SAVE MONEY ON ELECTRIC BILLS

Fluorescent bulbs are [no longer the most affordable lighting option](#). Because they are more energy efficient than fluorescents, LEDs cost less to operate, more than paying back their slightly higher upfront costs—which continue to drop each year—through lower electric bills. A typical school could see more than \$5,000 in annual utility bill savings if all its fluorescent bulbs were replaced with LEDs.

LEDs also last about twice as long as fluorescents, so they need to be replaced less often. And because LEDs do not contain mercury, a hazardous waste, they can be disposed of more easily and cheaply than fluorescents when the time comes.

## AVERT NEEDLESS GREENHOUSE GAS EMISSIONS

LEDs use approximately half the electricity as fluorescent bulbs to produce the same amount of light. As a result, accelerating the transition to LEDs can reduce planet-warming emissions from power plants and help prevent the worst effects of climate change.

## HAWAII LAWMAKERS CAN PHASE OUT FLUORESCENTS

24 states around the country already regulate mercury-containing products, including fluorescent light bulbs, because of their toxic nature. Lawmakers could continue this effort and protect Hawaii from mercury pollution by ensuring a transition from fluorescents to LEDs.



By 2050, Hawaii could avoid the release of **756,000 metric tons** of carbon dioxide per year, the equivalent of **162,000 gasoline-powered passenger vehicles driven for one year.**





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

**Co-Chairs:**  
Chair, DLNR  
Director, OPSD

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

**Testimony of  
Leah Laramée  
Coordinator, Hawai'i Climate Change Mitigation and Adaptation Commission**

**Before the Senate Committee on  
COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM**

**Tuesday, March 14, 2023  
1:30 PM  
State Capitol, Via Videoconference, Conference Room 229**

**In support of  
House Bill 192 House Draft 2  
RELATING TO RELATING TO ENERGY EFFICIENCY**

House Bill 192 House Draft 2 prohibits the sale of certain fluorescent lamps as a new manufactured product, with certain exemptions. **The Hawai'i Climate Change Mitigation and Adaptation Commission (Commission) supports this measure.**

The State of Hawai'i's commitment to uphold the Paris Climate Accord and progressively move towards zero emissions clean economy by 2045 requires that we actively invest in reducing our emissions and mitigate greenhouse gases. Fluorescent tube light bulbs use far more energy than LEDs which are now available in all needed shapes and sizes and cost less to own and operate.

Transitioning all new fluorescent bulbs to LEDs in Hawai'i would lead to annual electricity bill savings of \$37 million and would cut annual carbon dioxide emissions annually 65 metric tons of carbon emissions by 2030. The American Council for an Energy-Efficient Economy (ACEEE), the Appliance Standards Awareness Project (ASAP), CLASP, and the Clean Lighting Coalition recommend that state, federal, and international policymakers should now phase out fluorescent bulbs to reduce mercury in homes and the environment while cutting greenhouse gas emissions.

For businesses where most linear fluorescent bulbs are used additional upfront costs for the most common LED bulbs in the United States are paid back in less than two months. For households, the payback period for the most common LED bulbs is about a year. On a cumulative basis, a phaseout would cut carbon dioxide emissions by more than 200 million metric tons through 2050.

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

**Mitchell D. Roth**  
Mayor

**Lee Lord**  
Managing Director



**Ramzi I. Mansour**  
Director

**Brenda Iokepa-Moses**  
Deputy Director

# County of Hawai'i

## DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

345 Kekūanāo'a Street, Suite 41 · Hilo, Hawai'i 96720 · cohdem@hawaiicounty.gov

Ph: (808) 961-8083 · Fax: (808) 961-8086

March 13, 2023

### COMMITTEE ON CONSUMER PROTECTION AND COMMERCE

Rep. Mark Nakashima, Chair  
Rep. Jackson Sayama, Vice Chair  
Hawai'i State Capitol  
Honolulu, HI 96813

**Re: Testimony in Support of House Bill (HB) 192 HD 1 Relating to Energy Efficiency, which prohibits the sale of certain fluorescent lamps as a new manufactured product, with certain exemptions.**

Dear Chair Nakashima, Vice Chair Sayama and Committee Members,

The County of Hawai'i Department of Environmental Management is pleased to submit testimony in **strong support of House Bill 192 HD 1**, which will phase out the sale of many mercury-containing light bulbs in Hawai'i.

The County of Hawai'i agrees that LED lighting is far more energy efficient, less toxic and has a lower lifecycle cost than obsolete fluorescent lighting. The County of Hawai'i sponsors costly regular household hazardous waste collection events to encourage proper disposal of toxic products like fluorescent lamps to protect our residents' health, the environment and water resources.

The County believes this law will reduce energy consumption, reduce the incidence of toxic mercury releases and with the longer lifespan of replacement LED lighting will also reduce waste generation.

Thank you for your consideration.

Best Regards,

Ramzi I. Mansour  
DIRECTOR

cc: Mayor Mitchell Roth  
Mike Rivera, Hawai'i County Solid Waste Division Chief  
Craig Kawaguchi, Hawai'i County Recycling Coordinator





**TESTIMONY OF TINA YAMAKI, PRESIDENT  
RETAIL MERCHANTS OF HAWAII**

**March 14, 2023**

**Re: HB 192 HD2 RELATING TO ENERGY EFFICIENCY.**

Good afternoon, Chair DeCoite and members of the Senate Committee on Energy, Economic Development, and Tourism. I am Tina Yamaki, President of the Retail Merchants of Hawaii and I appreciate this opportunity to testify.

The Retail Merchants of Hawaii was founded in 1901, RMH is a statewide, not for profit trade organization committed to the growth and development of the retail industry in Hawaii. Our membership includes small mom & pop stores, large box stores, resellers, luxury retail, department stores, shopping malls, local, national, and international retailers, chains and everyone in between.

We are respectfully opposed to this matter the way HB 192 HD2 is currently written. This measure prohibits the sale of certain fluorescent lamps as a new manufactured product, with certain exemptions, and is effective 6/30/3000.

We are aware that this bill does contain a defective date, however we are concerned that the retailers will not be given enough time to deplete their inventory in time to meet the effective date. **Not all stores are able to send their fluorescent merchandise outside of Hawaii to a sister store. This would have a negative impact on our local retail stores as this would mean that the goods would either have to be sold at loss or trashed.** Stores had to endure astronomical increases in shipping costs and in the price of goods from manufacturers and wholesalers. And last year with the unexpected increase in employee wages at the end of the year when the minimum wage was raised. Many retailers are still struggling to pay back the debt incurred during the pandemic. **Businesses cannot afford any more hardship as we are seeing more and more retailers closing their doors forever.** And as a result, many of our friends, family and neighbors no longer have jobs and are contributing to Hawaii's unemployment.

We also want to point out that **Hawaii really does not have readily available recycling facilities for fluorescent items, unlike the mainland.** Many older homes in Hawaii still contain fluorescent light fixtures in their bathroom, garage, laundry room to name a few. With the raising prices due to inflation, many people are still living paycheck to paycheck and may not have the means to hire an electrician to change out their lighting fixtures.

Many of our retailers have been changing out their fluorescent lighting systems when they do renovations. Many smaller businesses many not have the money to hire an electrician and change out their stores lighting system. And while some stores may have had a successful holiday season, many are still having to pay back large loans and debt due to the pandemic.

We ask that you hold this measure.

Mahalo again for this opportunity to testify.



## SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

March 14, 2023, 1:30 PM

Room 229

### TESTIMONY IN SUPPORT OF HB 192 HD2

Aloha Chair DeCoite, Vice Chair Wakai, and Committee members:

Blue Planet Foundation **supports HB 192 SD2**, which establishes a “clean lighting standard” by phasing out the sale of new fluorescent bulbs in Hawai‘i. By transitioning from fluorescent bulbs to more efficient LED bulbs, Hawai‘i residents and businesses will conserve energy, save millions on utility bills, and reduce carbon emissions and mercury exposure.

#### Helping local families and businesses save on electric bills

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Hawai‘i continues to have the highest electricity rates and most expensive electric bills in the nation.<sup>1</sup> Energy efficiency measures are a simple, accessible, yet effective tool to reduce the high-cost of electricity for local residents and businesses. Light-Emitting Diodes (LED) lamps are much more efficient than fluorescent bulbs by using half the amount of electricity to produce the same or better amount of light.<sup>2</sup> LEDs also last two to three times longer than fluorescent bulbs, resulting in life-cycle cost savings for both residential customers and the commercial sector. Estimates show that if Hawai‘i passed this bill with an effective date of 2025, **by 2030, Hawai‘i households and businesses would be saving \$37 million annually on their utility bills.** Through 2050, we would cumulatively save \$446 million on electricity bills.<sup>3</sup> By supporting HB 192, Hawai‘i lawmakers would provide millions in utility bill savings for taxpayers to help address the state’s high electricity costs and rising cost of living.

#### Helping reduce carbon emissions and meet our climate goals

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<sup>1</sup>Compton, Sophia. “Hawaii has the highest electric bills nationwide in 2022, report finds.” *Pacific Business News*. January 6, 2023. (<https://www.bizjournals.com/pacific/news/2023/01/06/hawaii-had-highest-electric-bills-nationwide.html>)

<sup>2</sup> Amann, J. T., B. Fadie, J. Mauer, K. Swaroop, and C. Tolentino. “Farewell to Fluorescent Lighting: How a Phaseout Can Cut Mercury Pollution, Protect the Climate, and Save Money.” Washington, DC: American Council for an Energy-Efficient Economy. 2022. ([www.aceee.org/research-report/b2202](http://www.aceee.org/research-report/b2202).)

<sup>3</sup> “2023 State Clean Lighting Savings Estimates for: Hawaii” *Appliance Standards Awareness Project*. (<https://appliance-standards.org/state-savings-clean-lighting>)



Climate change will have devastating, long-term consequences on Hawai'i's environment, economy, and quality of life. For these reasons and others, the State of Hawai'i has committed to a decisive transition away from fossil fuels. The legislature has passed aggressive carbon reduction goals, including a mandate to achieve 100% renewable electricity by 2045 (Act 97 of 2015), and a goal to be carbon-negative by 2045 (Act 15 of 2018), with an interim goal to achieve a 50% reduction from 2005 levels by 2030 (Act 238 of 2022).

Embracing energy efficiency measures is an important part of addressing climate change and reducing carbon emissions. By eliminating the sale of fluorescent bulbs over time, Hawai'i could prevent 65 metric tons of carbon emissions from entering the atmosphere, each and every year. **Through 2050, this would result in eliminating 756,000 metric tons of greenhouse gases in our state.**<sup>4</sup> Adopting a "clean lighting standard" would significantly aid our collective efforts to achieve a carbon-negative, clean energy future.

## Reducing a needless risk from mercury exposure and pollution

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Fluorescent bulbs contain mercury, a toxic chemical that is dangerous to both human health and the environment. Mercury is considered by the World Health Organization as one of the top 10 chemicals of major public health concern for its potential harmful effects on the nervous, digestive, and immune systems. The World Health Organization states, "*There are several ways to prevent adverse health effects of mercury, including promoting clean energy...and phasing out non-essential mercury-containing products.*"<sup>5</sup> By phasing out fluorescent bulbs over the next few years and transitioning to mercury-free LED bulbs, Hawai'i can avoid a needless health risk.

In addition to the human health impacts, mercury exposure is dangerous to our natural environment. Roughly 75% of fluorescent bulbs are not disposed of properly, which can lead to mercury leaching into landfills, contaminating waterways, and bioaccumulating in shellfish.<sup>6</sup> By continuing to bring new mercury-containing bulbs in the state, we are continuing the potential for toxic exposure and increasing the volume of bulbs that will need safe disposal.

## States are already leading the way on clean lighting

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States across the country are adopting "clean lighting standards" to support energy efficiency, reduce mercury pollution, and address climate change. In 2022, both Vermont and California passed state laws to phase out the sale of new fluorescent bulbs. Vermont became the first state to phase out compact fluorescent lamps in 2023 and will phase-out the sale of 4-foot linear fluorescent lights, the most common type on the market, in 2024. California's law goes further

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<sup>4</sup> Ibid.

<sup>5</sup> "Mercury and Health." *World Health Organization*. March 2017. (<https://www.who.int/news-room/fact-sheets/detail/mercury-and-health>)

<sup>6</sup> "Clean Lighting". *Appliance Standards Awareness Project*. February 2023. (<https://appliance-standards.org/clean-lighting>).

by including lamps up to 8 feet in its phase-out.<sup>7</sup> As more states adopt similar legislation and lead the way to an energy efficient economy, the states without a clean lighting policy risk becoming a dumping ground for inefficient, mercury-containing bulbs that suppliers cannot sell elsewhere. Hawai'i should continue to lead the country in pursuit of a 100% clean energy future by phasing out fluorescent bulbs in the next few years.

## Conclusion

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As Hawai'i progresses toward achieving its 100% renewable energy and decarbonization goals, energy efficiency remains the most cost-effective way to reduce emissions from the electricity sector, while providing financial benefits to Hawai'i residents and businesses during the transition. The cheapest and cleanest energy is the energy that we don't use, and passing HB 192 to establish a "clean lighting standard" has many benefits for our state, taxpayers, and the environment.

Thank you for the opportunity to provide testimony.

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<sup>7</sup> "California Passes Clean Lighting Legislation Banning Fluorescent Lamps." *Electrical Construction & Maintenance*. September 2022. (<https://www.ecmweb.com/lighting-control/article/21251579/california-passes-clean-lighting-legislation-banning-fluorescent-lamps>)



Before the Senate Committee on Energy, Economic Development, and Tourism  
Tuesday, March 14, 2023 at 1:30 p.m.

Testimony in Support of HB192 HD2: Relating to Energy Efficiency

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

Thank you for the opportunity to testify in support and provide comments on House Bill 192 HD2.

Hawai'i Energy works to empower island families and businesses on behalf of the Hawai'i Public Utilities Commission (PUC) to make smart energy choices to reduce energy consumption, save money, and pursue a 100% clean energy future. Energy efficiency – the energy we do not use – is the cheapest option to help us achieve our 100% clean energy goal by eliminating waste and being more efficient.

Hawai'i Energy applauds the legislature's efforts to support the continued impact of energy efficiency on Hawai'i's residents and businesses as an integral component of the State's Clean Energy Initiative, which calls for Hawai'i to achieve 100% clean energy by 2045.

The bill would prohibit the sale and distribution of most mercury-containing lighting in Hawai'i, meaning a mandated phaseout of, primarily, the linear fluorescent – mercury containing – lighting still favored by many in Hawai'i. It would put the state on a path following in the footsteps of what California and Vermont enacted last year, which will allow Hawai'i to benefit from the market power that California in particular exerts on manufacturers and the appliances they produce and ensure consistency for manufacturers.

Hawai'i Energy is proud to offer a robust array of programs available to both residents and businesses designed to provide low-to-no cost lighting retrofits to replace existing lighting, including mercury-containing fluorescents, with energy-efficient light-emitting diodes (LEDs). Our [Energy Smart 4 Homes \(ES4H\)](#) program provides that opportunity for free to residential properties, and our [Energy Advantage](#) program allows small businesses and restaurants to implement lighting retrofits at greatly reduced costs.

According to the Appliance Standards Awareness Project, phasing out the majority of mercury-containing lighting would in 2030 produce \$37 million in electricity bill savings for Hawai'i, save 129 GWh, cut CO2 emissions by 65 metric tons and eliminate more than three pounds of mercury in lamps shipped to our islands. House Bill 192 HD2 is a win for Hawai'i ratepayers, and it is a win for the environment as well.

Thank you for the opportunity to testify in support of House Bill 192 HD2.

Sincerely,  
Caroline Carl  
Executive Director  
Hawai'i Energy

March 13, 2023

Chairwoman DeCoite  
Vice-Chair Wakai

**RE: HB 192\_HD2 – Relating to Energy Efficiency (“Clean Lighting”)**

Dear Members of the Senate Committee on Energy, Economic Development, and Tourism:

Please accept this testimony on behalf of the Appliance Standards Awareness Project (ASAP). We are a project of the American Council for an Energy Efficient Economy (ACEEE) dedicated to advancing cost-effective appliance and lighting standards at both the national and state level.

In 2022, ASAP and ACEEE published a joint report - *Farewell to Fluorescents: How a Phaseout Can Cut Mercury Pollution, Protect the Climate, and Save Money* – detailing research findings that Light Emitting Diodes (LEDs) are ready to widely replace fluorescent light bulbs.<sup>1</sup> We also published analysis showing savings states could see from transitioning common fluorescent light bulbs to LEDs, which can be found online and at the end of these comments.<sup>2</sup> We would be happy to provide additional information about this analysis or answer any questions.

**HB 192\_HD2 WOULD SAVE RESIDENTS AND BUSINESSES MONEY, HAVE VERY FAST PAYBACKS**

HB 192 would transition sales of common fluorescent light bulbs to LEDs. Because LEDs are twice as energy efficient as fluorescents, they generate significant electricity bill savings. ASAP estimates by 2030 Hawaii would see \$39 million in annual, statewide electricity bill savings due to transitioning from fluorescents to LEDs.<sup>3</sup> By 2050 this would result in cumulative savings of \$446 million statewide on electricity bills.

Additionally, the majority of fluorescent light bulb sales today are for commercial buildings. ASAP estimates for the most common fluorescent light bulb type, the 4-foot T8, the commercial sector would see a payback period of less than one month. Each 4-foot T8 LED would then go on to save \$65 per bulb over its lifetime, resulting in significant electricity bill savings.

**HB 192\_HD2 WOULD AVOID TOXIC MERCURY POLLUTION, SAVE ENERGY, AND AVOID GREENHOUSE GASES**

All fluorescent light bulbs contain mercury, a potent neurotoxin that threatens human health and the environment. When fluorescent bulbs are accidentally broken—whether in homes, businesses, or the waste management system—they present a health hazard to those nearby. LEDs do not contain mercury, therefore transitioning away from fluorescents would avoid a source of mercury pollution coming into Hawaii. ASAP estimates by 2050 Hawaii would cumulatively avoid 36 pounds of mercury waste, enough to contaminate 1.8 billion gallons of water.

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<sup>1</sup> For the 2022 ASAP/ACEEE report and state savings analysis visit <https://appliance-standards.org/clean-lighting>

<sup>2</sup> See <https://appliance-standards.org/sites/default/files/Hawaii.pdf>

Furthermore, LEDs increased energy efficiency means the state would see reduced energy consumption and thereby also avoid greenhouse gas emissions. ASAP estimates in 2030 Hawaii would see annual savings of 129 gigawatt hours of electricity. From this, by 2050 Hawaii could cumulatively avoid the release of 756,000 metric tons of carbon dioxide per year, the equivalent of 162,000 gasoline-powered passenger vehicles driven for one year.

**LEDs ARE READY TO REPLACE COMMON  
FLUORESCENT LIGHT BULBS**

LEDs have advanced tremendously over the last 10 years. Our lighting market research found that today LEDs are widely available and cost effective as replacements for general-purpose, white light fluorescent light bulbs across the different sizes and shapes. General-purpose, white light bulbs are most commonly found in office building settings or in certain residential situations like a kitchen or basement (see Figure 1). LEDs were found to produce the same or better light quality, last 2-3 times longer, have positive economic outcomes for consumers, and not contain mercury compared to their general-purpose fluorescent counterpart. HD 192\_HD2 only proposes to transition out these types of fluorescents and would not cover specialty fluorescents, such as ultraviolet (UV) fluorescents used for suntanning booths or other specialty purposes.



**Figure 1.** General-purpose, white light fluorescent light bulbs.

**HB 192\_HD2 IS A COST-EFFECTIVE WAY TO ACHIEVE STATE GOALS**

Transitioning from fluorescent light bulbs to LEDs is a low-cost way for Hawaii to cut energy waste, reduce electricity bills, and reduce greenhouse gases – helping the state meet its clean energy, energy efficiency, and affordability goals.

We would be happy to provide further information, answer questions, or provide technical assistance.

Sincerely,

Brian Fadie, State Policy Manager  
Appliance Standards Awareness Project

**Appliance Standards Awareness Project  
2023 State Clean Lighting**

**Savings estimates for: Hawaii**

State	Potential annual reductions in 2030			Potential annual electricity savings in 2030 (GWh)	Potential annual electricity bill savings in 2030 (million 2020\$)
	Mercury in lamps shipped (lbs)	Power plant mercury emissions (lbs)	CO <sub>2</sub> emissions (thous. MT)		
Hawaii	3.1	0.08	65	129	37

Assuming a compliance date of 2025.

State	Potential cumulative reductions through 2050			Cumulative electricity bill savings through 2050 (million 2020\$)	Total benefit-cost ratio
	Mercury in lamps shipped (lbs)	Power plant mercury emissions (lbs)	CO <sub>2</sub> emissions (thous. MT)		
Hawaii	36	0.9	756	446	35.5

Assuming a compliance date of 2025. The total benefit-cost ratio is calculated as the present value of the total utility bill savings from products sold through 2050 for the recommended standard divided by the present value of the total additional costs.

**Fluorescent vs. LED: Economic analysis for most-shipped lamps (commercial sector)**

Fluorescent lamp type	LED incremental cost (2020\$)	First-year electricity bill savings from LED (2020\$)	Life-cycle cost savings from LED (2020\$)	Payback period (years)
4-foot T12 – 40 W	2.59	23.33	109	0.1
4-foot T12 – 34 W	3.67	16.75	90	0.2
4-foot T8	0.54	11.34	65	0.01
4-foot T5	2.29	15.02	95	0.1
4-foot T5 high output	4.61	29.84	187	0.1
Pin-based CFL	3.02	18.65	51	0.1





**SanHi**

GOVERNMENT STRATEGIES

A LIMITED LIABILITY LAW PARTNERSHIP

DATE: March 13, 2023

TO: Senator Lynn DeCoite  
Chair, Committee on Energy, Economic Development and Tourism

FROM: Tiffany Yajima/Jena Matila

RE: **H.B. 192, H.D. 2 – Relating to Energy Efficiency.**  
**Hearing Date: Tuesday, March 14, 2023 at 1:30 p.m.**  
**Conference Room: 229**

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Dear Chair DeCoite, Vice Chair Wakai, and Members of the Committee on Energy, Economic Development and Tourism:

On behalf of the Alliance for Automotive Innovation (“Auto Innovators”) we submit these **comments** on H.B. 192, H.D. 2, which prohibits the sale of certain fluorescent lamps as a new manufactured product subject to exemptions.

From the manufacturers producing most vehicles sold in the U.S. to autonomous vehicle innovators to equipment suppliers, battery producers and semiconductor makers – the Alliance for Automotive Innovation represents the full auto industry, a sector supporting 10 million American jobs and five percent of the economy. The association is committed to a cleaner, safer and smarter personal transportation future.

Automakers have phased out fluorescent lamps in new vehicles, but older model vehicles still utilize small fluorescent lamps for display units in navigation systems and entertainment systems. As no other alternative to these bulbs exists, the bill in its current form will allow for continued use of these lamps for vehicle repairs. Sales of these bulbs are infrequent and are expected to diminish over time as late model vehicles are taken off the roads.

Auto Innovators support the amendments made in the H.D. 2 version of this bill and ask the committee to pass this measure with the exemption for lamps installed as original equipment in motor vehicles intact.

Thank you for the opportunity to submit these comments in support of H.B. 192, H.D.2.



Email: [communications@ulupono.com](mailto:communications@ulupono.com)

SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, & TOURISM  
Tuesday, March 14, 2023 — 1:30 p.m.

**Ulupono Initiative supports HB 192 HD2, Relating Energy Efficiency.**

Dear Chair DeCoite and Members of the Committee:

My name is Micah Munekata, and I am the Director of Government Affairs at Ulupono Initiative. We are a Hawai'i-focused impact investment firm that strives to improve the quality of life throughout the islands by helping our communities become more resilient and self-sufficient through locally produced food, renewable energy and clean transportation choices, and better management of freshwater resources.

**Ulupono supports HB 192 HD2**, which prohibits the sale of certain fluorescent lamps as a new manufactured product, with certain exemptions.

Ulupono is supportive of energy efficiency measures to lower electricity consumption across the state and also recognizes the negative health risks associated with mercury. This bill seeks to address both issues by phasing out the use of fluorescent lights to reduce mercury in our environment and encourage use of more energy-efficient options currently available on the market. Fluorescent lights utilize far more energy than alternatives. For example, LED bulbs use half the electricity and last twice as long as fluorescent lights. While there may be a slight incremental cost up front, LED lights have a payback period ranging from 1 to 2.5 months, depending on the bulb.<sup>1</sup> According to the Appliance Standards Awareness Project, this transition will save an estimated 129,000 MWh per year in 2030, equivalent to a 64MW solar farm. This will help avoid the consumption of roughly 223,000 barrels of oil per year while reducing cumulative energy bills my more than \$35 million per year.<sup>2</sup>

As Hawai'i's electricity costs are expected to rise in the near-term,<sup>3</sup> we must consider our energy future to support affordable and resilient options for our local communities in the long run.

Thank you for the opportunity to testify.

Respectfully,

Micah Munekata  
Director of Government Affairs

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<sup>1</sup> <https://www.aceee.org/research-report/b2202>

<sup>2</sup> <https://appliance-standards.org/state-savings-clean-lighting>

<sup>3</sup> See Hawaiian Electric Newsroom, "Driven up by Russian invasion, oil prices will push electric bills higher in coming months," March 10, 2022. <https://www.hawaiianelectric.com/driven-up-by-russian-invasion-oil-prices-will-push-electric-bills-higher-in-coming-months>

**HB-192-HD-2**

Submitted on: 3/13/2023 9:39:02 AM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Ted Bohlen	Testifying for Climate Protectors Hawaii	Support	Written Testimony Only

Comments:

Fluorescent lamps use more energy than the technology that is replacing them--light-emitting diodes (LED). LED lights are up to 80 percent more efficient than fluorescent bulbs. In addition, fluorescent bulbs contain mercury, a toxic pollutant that harms human health.

The Climate Protectors Hawaii **STRONGLY SUPPORTS** this measure to reduce greenhouse gas emissions.

**HB-192-HD-2**

Submitted on: 3/11/2023 12:41:45 PM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Brodie Lockard	Individual	Support	Written Testimony Only

Comments:

I support HB 192.

**HB-192-HD-2**

Submitted on: 3/11/2023 3:25:39 PM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
B.A. McClintock	Individual	Support	Written Testimony Only

Comments:

I am testifying in support of House Bill 192, a critical energy efficiency bill that transitions Hawai‘i from fluorescent light bulbs to more efficient LEDs — cutting energy waste, reducing electricity bills for local families and businesses, and helping our state reach its goal for 100% clean energy by 2045.

Fluorescent bulbs use double the amount of electricity and last half as long when compared to LED bulbs, and they also contain mercury, a dangerous chemical that is harmful to both human health and the environment. By phasing out fluorescent bulbs over the next few years, Hawai‘i lawmakers can avert a needless health risk, make electricity bills more affordable, and curb greenhouse gas emissions. If HB 192 passes, Hawai‘i could reduce electricity bills by \$37 million and prevent 65 metric tons of greenhouse gas emissions, each and every year.

This bill is a win-win because it is good for both the climate and for the pocketbooks of Hawai‘i’s residents and businesses. For these reasons, please support HB 192.

Thank you for the opportunity to provide testimony.

**HB-192-HD-2**

Submitted on: 3/13/2023 8:24:12 AM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Noel Morin	Individual	Support	Written Testimony Only

Comments:

Dear Chair DeCoite, Vice Chair Wakai, and committee members,

I'm in support of **HB192 HD2**.

Thank you,  
Noel Morin  
Climate, Sustainability, and Resilience Advocate  
Hilo, Hawaii



**HB-192-HD-2**

Submitted on: 3/13/2023 8:47:13 AM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Leigh Anne Mayberry	Individual	Support	Written Testimony Only

Comments:

Aloha Chair DeCoite, Vice Chair Wakai, and members of the Committee,

I am testifying in support of House Bill 192, a critical energy efficiency bill that transitions Hawai‘i from fluorescent light bulbs to more efficient LEDs — cutting energy waste, reducing electricity bills for local families and businesses, and helping our state reach its goal for 100% clean energy by 2045.

Not only do fluorescent bulbs waste energy, they are also a health concern to residents and families. With safer and more energy and cost efficient options available, such as LEDs, this measure seems to benefit all.

Fluorescent bulbs use double the amount of electricity and last half as long when compared to LED bulbs, and they also contain mercury, a dangerous chemical that is harmful to both human health and the environment. By phasing out fluorescent bulbs over the next few years, Hawai‘i lawmakers can avert a needless health risk, make electricity bills more affordable, and curb greenhouse gas emissions. If HB 192 passes, Hawai‘i could reduce electricity bills by \$37 million and prevent 65 metric tons of greenhouse gas emissions, each and every year.

This bill is a win-win because it is good for both the climate and for the pocketbooks of Hawai‘i’s residents and businesses. For these reasons, please support HB 192.

Thank you for the opportunity to provide testimony.

Leigh Anne Mayberry, Honolulu, HI, 96815

**HB-192-HD-2**

Submitted on: 3/13/2023 9:07:52 AM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Matthew Geyer	Individual	Support	Written Testimony Only

Comments:

Please pass HB192 to phase out fluorescent bulbs in Hawaii. There are more efficient, less toxic, inexpensive alternatives, that don't come with the toxic disposal issues that fluorescents do. Thank you for hearing this important measure.

**HB-192-HD-2**

Submitted on: 3/13/2023 9:11:37 AM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Virginia Tincher	Individual	Support	Written Testimony Only

Comments:

Members of the EET Committee,

I support HB192 HD2 and urge you to pass this bill.

Every action we can take to improve energy efficiency is important.

At each step along the pathway to more efficient lighting I have taken advantage of the new products. Regulations help producers and sellers as they know everyone will be following the same rules. It speeds adoption and quickly increases volumes and lowers prices as happened with LED lights.

Mahalo for the this opportunity to testify.

Virginia Tincher, Oahu

**HB-192-HD-2**

Submitted on: 3/13/2023 9:29:33 AM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Sherry Pollack	Individual	Support	Written Testimony Only

Comments:

I support HB 192 HD2 and the phasing out of the sale of mercury containing bulbs in Hawaii. This will prevent toxic pollutants from being brought into the State's ecosystem, reduce energy use, and save consumer dollars.

Mercury is a toxic pollutant. Mercury can be very harmful to the brain and even small amounts can damage a brain that is just starting to form or grow. Two-thirds of the mercury pollution in the environment comes from industrial pollution. This pollution accumulates in fish. People are primarily exposed to mercury from eating fish, especially large predator fish like ahi, one of the most popular fish eaten in Hawaii.

Steps need to be taken to reduce mercury pollution, and as a result, our exposure to this toxin. Phasing out the sale of mercury containing bulbs is an important step that will help this effort. There are mercury-free alternatives that exist, including LEDs. In addition to being mercury-free, LEDs are more energy efficient and are cheaper. Passing HB192 HD2 would be a win:win.

Mahalo for the opportunity to testify.

**HB-192-HD-2**

Submitted on: 3/13/2023 12:13:37 PM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Barbara Best	Individual	Support	Written Testimony Only

Comments:

I love flourescent lights but we all must make sacrifices for the good of the environment!

**LATE**

**HB-192-HD-2**

Submitted on: 3/14/2023 6:16:53 AM

Testimony for EET on 3/14/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Caroline Azelski	Individual	Support	Written Testimony Only

Comments:

In support of HD2. Thank you.