JOSH GREEN, M.D.
GOVERNOR OF HAWAI'I
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAI'I

KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

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

# Testimony in SUPPORT of HB0192-HD1
# RELATING TO ENERGY EFFICIENCY

REPRESENTATIVE MARK NAKASHIMA, CHAIR
HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
Hearing Date: 2/22/2023 Room Number: 329

**Fiscal Implications:** This measure will impact the priorities identified in the Governor's Executive Budget Request for the Department of Health's (Department) appropriations and personnel priorities.

**Department Testimony:** The Department supports this measure that seeks to ban mercury containing lamps. Implementing this measure will improve energy efficiency and decrease the overall burden of mercury contamination in Hawaii's environment.

Mercury is a widespread environmental pollutant that has severe negative impacts on the developing brain of children and can cause other adverse health effects in humans and animals. Fluorescent lamps are a significant source of mercury in Hawaii and eliminating them and their associated mercury will contribute to a cleaner and healthier Hawaii.

The elimination of mercury containing lamps will also have a positive impact on our state's solid waste disposal systems.

Multiple other states including Vermont and California have recently implemented similar bans on Mercury containing fluorescent lamps and the Department supports this effort to decrease prospective chemical contamination in Hawaii.

**Offered Amendments:** None

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
**HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE**

Wednesday, February 22, 2023
2:00 PM
State Capitol, Conference Room 329 and Videoconference

In SUPPORT of
**HB 192, HD1**

**RELATING TO ENERGY EFFICIENCY.**

Chair Nakashima, Vice Chair Sayama, and Members of the Committee, the Hawai‘i State Energy Office (HSEO) supports the adoption of HB 192, HD1, which prohibits the sale of common fluorescent lamps while exempting certain specialty lamps.

HSEO’s testimony is guided by its mission to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy.

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 $CO_2$ 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.

ASAP | APPLIANCE STANDARDS AWARENESS PROJECT

**Hawai'i State Energy Office**
**Attachment to Testimony**

# 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.

**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.**

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

**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.

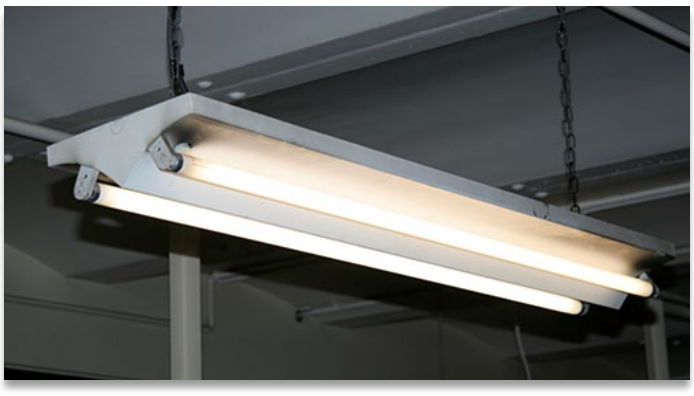
## HAWAII LAWMAKERS CAN PHASE OUT FLUORESCENTS

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.**



**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

February 21, 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

SanHi
GOVERNMENT STRATEGIES
A LIMITED LIABILITY LAW PARTNERSHIP

DATE: February 20, 2023

TO: Representative Mark Nakashima
Chair, Committee on Consumer Protection & Commerce

FROM: Tiffany Yajima

RE: **H.B. 192, HD1 – Relating to Energy Efficiency.**
**Hearing Date: Wednesday, February 22, 2023 at 2:00 p.m.**
**Conference Room: 329**

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Dear Chair Nakashima, Vice Chair Sayama, and Members of the Committee on Consumer Protection & Commerce:

On behalf of the Alliance for Automotive Innovation ("Auto Innovators") we submit these **comments** on H.B. 192, H.D.1 and ask for an amendment to exempt fluorescent lamps utilized as replacement bulbs for previously manufactured vehicles.

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 for new vehicles, but older model vehicles still utilize small fluorescent lamps to light-up display units such as navigation systems and entertainment systems. These auto parts are no longer used in new vehicles but are needed 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. No other alternative exists to replace these bulbs.

Therefore, we respectfully ask the committee to include exemption language under section 2 of the bill as follows:

> §196- Exemptions. This part shall not apply to a lamp:
>
> (7) Used to replace a lamp in previously manufactured motor vehicles.

Thank you for the opportunity to submit **comments** on this bill.

First Hawaiian Center T 808-539-0400
999 Bishop Street, Suite 1400 F 808-533-4945
Honolulu, HI 96813 governmentaffairs@awlaw.com

**HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE**
February 22, 2023, 2:00 PM
Room 329

**TESTIMONY IN SUPPORT OF HB 192 HD1**

Aloha Chair Nakashima, Vice Chair Sayama, and Committee members:

Blue Planet Foundation **supports HB 192**, which establishes a "clean lighting standard" by phasing out the sale of new fluorescent bulbs in Hawai'i. By phasing out fluorescent bulbs in favor of 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

Hawai'i continues to have the highest electricity rates and most expensive electric bills in the nation.[1] 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.[2] 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.[3] 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

[1]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)

[2] 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.)

[3] "2023 State Clean Lighting Savings Estimates for: Hawaii" *Appliance Standards Awareness Project.* (https://appliance-standards.org/state-savings-clean-lighting)

**info@blueplanetfoundation.org**
126 Queen Street, Suite 204 • Honolulu, Hawai'i 96813 • 808-954-6161 • blueplanetfoundation.org

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.**[4] 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

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*."[5] 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.[6] 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

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

[4] Ibid.

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

[6] "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.[7] 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

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.

[7] “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)

Hawai'i Energy

45 North King Street, Suite 500 • Honolulu, Hawai'i 96817 • HawaiiEnergy.com • P: (808) 839-8880 • F: (808) 441-6068

Before the House Committee on Consumer Protection & Commerce
Wednesday, February 22, 2023 at 2:00 p.m.

Testimony in Support of HB192 HD1: Relating to Energy Efficiency

Chair Nakashima, Vice Chair Sayama, and Members of the Committee:

Thank you for the opportunity to testify in support and provide comments on House Bill 192 HD1.

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 HD1 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 HD1.

Sincerely,
Caroline Carl
Executive Director
Hawai'i Energy

February 20, 2023

Chairman Nakashima
Vice-Chair Sayama
Representative Amato
Representative Belatti
Representative Asuega Gates
Representative Hashem
Representative Hussey-Burdick
Representative Lowen
Representative Onishi
Representative Tam
Representative Pierick

**RE: HB 192 – Relating to Energy Efficiency ("Clean Lighting")**

Dear Members of the House Committee on Consumer Protection & Commerce:

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. [1] 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.[2] We would be happy to provide additional information about this analysis or answer any questions.

**HB 192 WOULD SAVE RESIDENTS AND BUSINESSES MONEY, HAVE VERY FAST PAYBACKS**
HB 192 would transition off the sales of common fluorescent light bulbs, allowing LEDs to take their place. 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.[3] 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 for any building.

[1] For the 2022 ASAP/ACEEE report and state savings analysis visit https://appliance-standards.org/clean-lighting
[2] See https://appliance-standards.org/sites/default/files/Hawaii.pdf

ASAP | APPLIANCE STANDARDS AWARENESS PROJECT

**HB 192 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.

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. SB 690 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.

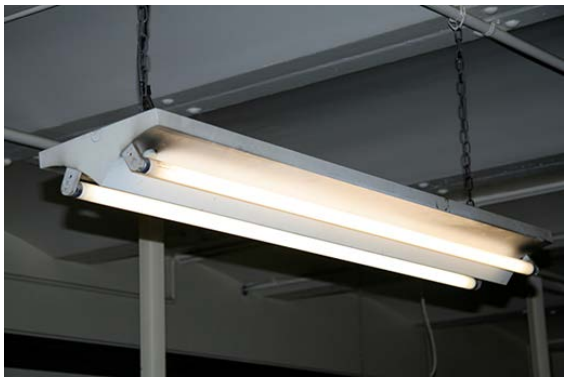

**Figure 1**. General-purpose, white light fluorescent light bulbs.

**HB 192 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.

Thank you,

Brian Fadie

Brian Fadie, State Policy Manager
Appliance Standards Awareness Project

ASAP | 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) | $CO_2$ 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) | $CO_2$ 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 |

Email: communications@ulupono.com

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
Wednesday, February 22, 2023 — 2:00 p.m.

**Ulupono Initiative supports HB 192 HD1, Relating Energy Efficiency.**

Dear Chair Nakashima 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 HD1,** 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.[1] 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.[2]

As Hawai'i's electricity costs are expected to rise in the near-term,[3] 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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[1] https://www.aceee.org/research-report/b2202
[2] https://appliance-standards.org/state-savings-clean-lighting
[3] *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-1**
Submitted on: 2/18/2023 9:15:39 AM
Testimony for CPC on 2/22/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Douglas Perrine | Individual | Support | Written Testimony Only |

Comments:

Fluorescent lamps threaten our health and environment with their mercury content, which is likely to enter the environment at the end of service. They offer no advantages over LED lights, and should be banned as a matter of public safety.

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
Hearing on Feb. 22, 2023 at 2:00 pm

SUPPORTING HB 192 HD 1

My name is John Kawamoto, and I support HB 192 HD 1.

Fluorescent lighting was once the preferred option for many uses because of its greater efficiency when compared with incandescent light bulbs. However, LEDs have cut energy use in half and last about twice as long as fluorescents. Furthermore, LEDs don't contain mercury, a toxic element, which fluorescents contain. LEDs are readily available, so there's no reason to continue to allow fluorescents.

**HB-192-HD-1**
Submitted on: 2/18/2023 7:42:30 PM
Testimony for CPC on 2/22/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Noel Morin | Individual | Support | Written Testimony Only |

Comments:

Dear Chair Nakashima, Vice Chair Sayama, and Committee members,

**I STRONGLY SUPPORT HB192 HD1.**

We have clean, affordable, and more efficient alternatives to fluorescent bulbs - LEDs in all shapes, sizes, and colors.

Deprecating fluorescent bulbs will mitigate avoidable mercury pollution and health hazards, save energy and money, contribute to emission reductions, and avoid exposure to hazardous UV rays (especially with poorly made compact fluorescent bulbs).

Please pass HB192 HD1.

Sincerely,

Noel Morin Climate, Sustainability, and Resilience Advocate

Hilo

**HB-192-HD-1**
Submitted on: 2/20/2023 3:00:16 PM
Testimony for CPC on 2/22/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Sherry Pollack | Individual | Support | Written Testimony Only |

Comments:

I support HB192 HD1 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 HD1 would be a win:win.

Mahalo for the opportunity to testify.

**HB-192-HD-1**
Submitted on: 2/20/2023 6:22:11 PM
Testimony for CPC on 2/22/2023 2:00:00 PM

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

Comments:

In support of HD1. Thank you.