**HB-550**  
Submitted on: 2/5/2021 12:56:34 PM  
Testimony for EEP on 2/9/2021 9:00:00 AM

<table>
<thead>
<tr>
<th>Submitted By</th>
<th>Organization</th>
<th>Testifier Position</th>
<th>Present at Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruta Jordans</td>
<td>Individual</td>
<td>Support</td>
<td>No</td>
</tr>
</tbody>
</table>

Comments:

This seems like a no-brainer. Of course we want to be on top of energy costs and usage and become more efficient!
RELATING TO ENERGY EFFICIENCY

Chair Lowen, Vice Chair Marten, and Members of the Committee, thank you for the opportunity to submit testimony on H.B. 550.

The Department of Accounting and General Services (DAGS) appreciates the intent of the bill to increase the energy efficiency of State buildings. DAGS offers the following comments for the committee’s consideration:

1) Section 1, paragraph (4) (page 3, line 9) – Suggest changing “…maximize energy generation and water efficiency, maximize energy and water efficiency, maximize energy generation potential…” to “maximize energy generation, water efficiency, energy efficiency, and energy generation potential…”

2) Section 2, paragraph (2) (page 4, line 5) – Should “provided that the simple payback period 6 shall not exceed the performance period of the 7 contract.” be its own paragraph? Does that statement apply to both (1) and (2)?
3) Section 2, section (c) (page 4, line 15) – Suggest changing “where the cost of the energy efficiency measure, including the savings it will realize, are estimated to be equal to or less than the base case over a period of twenty years.” to “where the cost of the energy efficiency measure will be equal to or less than the estimated savings over a period of twenty years or the life of the installed components, whichever is less.”

Thank you for the opportunity to submit testimony on this matter.
### Climate Protectors of Hawaii

**Submitted By:** Climate Protectors of Hawaii  
**Organization:** Climate Protectors of Hawaii  
**Testifier Position:** Support  
**Present at Hearing:** No

**Comments:**

Support
Ulupono Initiative supports HB 550, Relating to Energy Efficiency

Dear Chair Lowen 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 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; and better management of freshwater and waste.

Ulupono supports HB 550, which requires and establishes deadlines for state facilities, except smaller facilities and facilities at Aloha Stadium, to implement cost-effective energy efficiency measures; directs the Hawai‘i State Energy Office to collect utility bill and energy usage data for state-owned buildings and to make the data publicly available; provides that certain agencies that perform energy efficiency retrofitting may continue to receive appropriations for energy expenditures at an amount that accounts for any costs or debt service for the implementation and management of energy efficiency measures.; and, beginning 7/1/2021, requires, where feasible and cost-effective, the design of all new state building construction to maximize energy and water efficiency, maximize energy generation potential, and use building materials that reduce the carbon footprint of the project.

Ulupono supports energy efficiency measures to lower consumption across the State. As Hawai‘i’s energy issues become increasingly complex and challenging, we appreciate this committee’s efforts to look at policies that reduce the State’s overall energy demand, which in return should save the State, and taxpayers, money. Meeting the State’s 100% renewable goal by 2045 will require everyone’s commitment and it is important for the State government to lead the way.

Thank you for the opportunity to testify.

Respectfully,

Micah Munekata
Director of Government Affairs
Aloha Chair Lowen, Vice Chair Marten, and members of the Committee:

Blue Planet Foundation supports HB 550, an important energy efficiency measure that will reduce the taxpayer burden of state energy bills, create new jobs in clean energy, and decrease our carbon emissions. These are critical objectives—particularly given the dramatic economic challenges that Hawai‘i faces. What’s more, passing this measure will demonstrate that the State of Hawai‘i leads by example.

House Bill 550 is needed today

Energy efficiency is foundational to achieve Hawai‘i’s critical clean energy and climate objectives, such as the state’s 100% renewable energy requirement, carbon neutrality goal, and commitments to the Paris climate targets. House Bill 550 amplifies existing state efficiency efforts and brings renewed focus to the successful Energy Savings Performance Contract program. The measure also brings needed transparency on state building energy use to make visible even more savings opportunities. Finally, HB 550 ensures that new construction anticipates our future energy and climate goals by maximizing feasible and cost-effective energy efficiency and energy generation design features and using building materials that reduce the carbon footprint of the project.

While the state has made some strides toward energy efficiency, considerable opportunities remain to decarbonize state buildings and reduce energy costs for taxpayers. The facilities that the State of Hawai‘i owns and/or manages comprise one of the largest electricity users in the state. While the use of energy savings performance contracting—mainly during the period between 2009 and 2014—helped some agencies reduce their energy consumption, many agencies did not participate. Additionally, no new energy service contracts have been awarded by state agencies for nearly five years and, in some cases, some performance contracts were last awarded ten years ago. Since that time, technology has evolved significantly and is far more efficient, resulting in greater cost-saving benefits for the state.
HRS 196-19 states “Agencies shall retire inefficient equipment on an accelerated basis where replacement results in lower life-cycle costs.” Instead, the State continues to utilize old and inefficient equipment in many facilities that do not meet this requirement and waste taxpayer money. House Bill 550 would help to identify new energy savings opportunities and revitalize the successful performance contracting program.

**House Bill 550 Helps Address the State’s Employment, Economic, and Budget Challenges**

Energy efficiency is not only foundational to achieving our critical climate and clean energy goals, it boosts employment, economic activity, and tax revenue. State energy efficiency projects will keep hundreds of people employed at a time when the State is struggling to find new economic engines without tourism. As indicated in the “Hawai‘i Clean Energy Initiative 2008-2018” report, energy efficiency employed 5,100 people statewide.¹ A BW Research Partnership report on COVID-19’s economic crisis in August 2020 reported that Hawai‘i lost nearly 3,800 clean jobs, or 25.2% of the clean energy workforce, since before the pandemic spread—including 1,704 in the energy efficiency sector.² These are well-paying jobs that could be regained through the adoption of HB 550.

The reduction in state energy costs resulting from the energy efficiency projects can help reduce the projected budget shortfall. Critically, investment in energy efficiency projects through innovative performance contracting do not require any state or capital improvement project funds and instead can be funded through the energy savings. Further, energy efficiency projects will generate tax revenues for the state through the construction projects subject to the state’s general excise tax.

**Conclusion**

House Bill 550 is a keystone energy efficiency measure that will reduce the taxpayer burden of state energy bills, create new jobs in clean energy, and decrease our carbon emissions. At its core, however, HB 550 is about more than just operating efficient buildings. This measure is a promise that the state will lead by example and serve as a model for residents and the private sector for our clean energy transformation. The new requirements in HB 550 will inspire and demonstrate to everyone—consumers, building owners and managers, contractors—on how we use energy, make changes, and construct our buildings today for generations of tomorrow. House Bill 550 shows how the State of Hawai‘i is leading by example on how our energy culture is changing.

Thank you for the opportunity to provide testimony.

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¹ See [https://www.nrel.gov/docs/fy18osti/70709.pdf](https://www.nrel.gov/docs/fy18osti/70709.pdf)
Before the House Committee on Energy & Environmental Protection  
Tuesday, February 9, 2021, 9:00am

Testimony in Support of HB550: Relating to Energy Efficiency

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

Thank you for the opportunity to testify in support of House Bill 550.

Hawaiʻi Energy works to empower island families and businesses on behalf of the Hawaiʻi Public Utilities Commission (PUC) to make smart energy choices to reduce energy consumption, save money, and pursue a 100% clean energy future. Energy efficiency is the cheapest option to help us achieve our 100% clean energy goal by eliminating waste and being more efficient.

Hawaiʻi Energy applauds the emphasis on improving energy efficiency in State facilities. The State of Hawaiʻi has benefitted from a successful Energy Savings Performance Contract (ESPC) program that drove a significant level of energy savings projects between 2009 and 2015. Hawaiʻi Energy estimates that since 1996, Hawaiʻi government agencies have saved, on average, more than 5 million kilowatt hours a year, equating to over $24 million in savings, with the majority of this coming through ESPCs.

ESPC procurements have significantly dropped since 2015, due to a number of potential factors, including previously completed projects, the expiration of the approved ESCO vendor list, and other non-energy priorities among others. With advances in technologies that increase efficiency coupled with the number of buildings that are still largely inefficient, opportunity remains for further improvement. ESPCs have demonstrated the ability to help the State save money without any capital budget allocation, which is now more important than ever.

Tackling energy use at state facilities will take time, manpower, and, in some instances, funding. We need to support energy efficiency contractors who have been negatively impacted by COVID-19, including loss of business, project delays and staff reduction. Hawaiʻi Energy stands ready to assist agencies with educational and engineering resources, as well as financial incentives to help launch these projects.

As the State looks at ways to help businesses recover from COVID-19, efficiency projects at state facilities can help to expand the economy and create opportunities for economic growth in the energy industry.

We appreciate the efforts made by the State Legislature, the Hawaiʻi State Energy Office and other State agencies, and various stakeholders to improve on the 2020 version. Thank you for the opportunity to testify in support of HB550.

Sincerely,
Brian Kealoha
Executive Director
Hawaiʻi Energy
Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Tuesday, February 9, 2021
9:00 AM
State Capitol, Conference Room 325

Comments in consideration of
HB 550
RELATING TO ENERGY EFFICIENCY.

Chair Lowen, Vice Chair Marten, and Members of the Committee, the Hawaii State Energy Office (HSEO) offers comments on HB 550, which establishes deadlines for all state facilities 10,000 square feet and larger to implement cost-effective energy efficiency measures. In addition, HB 550 provides that certain agencies that perform energy efficiency retrofitting may continue to receive appropriations for energy expenditures at an amount that accounts for any costs or debt service for the implementation and management of energy efficiency measures.

HB 550 also authorizes HSEO to have access to and collect all utility bills and energy usage data for state-owned facilities and to make this data available to the public; and requires the design of all new state building construction to maximize energy and water efficiency, maximize energy generation potential, and use building materials that reduce the carbon footprint of the project.

The objectives of energy efficiency, cost control and lower energy bills for State agencies, and leading by example outlined in HB 550 are consistent with HSEO’s mission “to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient clean energy economy” per Section 196-71(a), HRS. It is also consistent with the Chief Energy Officer’s duties to “provide technical assistance to state
and county agencies to assess and implement projects and programs related to energy conservation and efficiency, renewable energy, clean transportation, energy resiliency, and related measures.”

HSEO agrees that energy efficiency is the most cost-effective way to reduce energy usage, and has worked over the years with a number of state agencies in Hawaii that have participated, or are currently participating in, facility benchmarking, energy audits, and energy savings performance contracts. HSEO has observed that there are always more, and sometimes new, energy savings and bill reduction opportunities.

HSEO also agrees that designing new state buildings to maximize energy and water efficiency, identifying energy generation potential, and using building materials that reduce the carbon footprint where feasible and cost-effective are in alignment with the State’s clean energy and decarbonization goals.

HSEO is working closely with Hawaii Energy and state agencies, such as the University of Hawaii and the Department of Education and others, to assess opportunities to reach a target goal of 25% by 2025 reduction from a 2005 baseline year. HSEO has consistently been measuring facility electricity reduction using 2005 as the baseline year. The commitment to the 25% reduction, and the use of 2005 as the baseline year, are consistent with the United Nations’ baseline year and the Paris Agreement, which Hawai‘i committed to support and to “be aligned with” in Part I of Act 32 of 2017.

HSEO’s analysis shows that since 2005, state agencies’ total electricity consumption has declined by 17 percent. HSEO believes that, with the recommended changes to the bill and the EESB Project, which is described in the attachment, that amount can increase to 25 percent by 2025. Please see the attached description of the “Energy Efficiency in State Buildings” (EESB) Project.

HSEO believes that by bringing together (1) the resources and knowledge of the State agencies that have successfully reduced their energy use, (2) the knowledge and rebates of Hawai‘i Energy, (3) input on tariffs and programs under development and available from the electric utilities; and (4) experts in efficiency and energy contracting; the EESB Project will be able to maximize the near-term savings and long term energy performance of State buildings.
However, since these efforts are supported by the current structure of Section 36-41(a), Hawaii Revised Statutes (HRS), HSEO recommends deleting that section of HB 550. In the period since the energy performance contracting program was introduced by HSEO in 1996, a number of energy savings performance contracting projects have been implemented by state and local government agencies in Hawaii. Thirteen of those projects, listed in the attachment, are estimated to save $1.1 billion in energy costs over the life of the contracts. The proposed changes to HRS 36-41(a) may significantly impact agencies’ ability to implement energy performance contracting and energy retrofits, as they often require the full savings to recoup the full project costs. Appropriations may be insufficient as they may not be enough to cover unexpected costs incurred that cannot be accounted for in the contract as a result of, for example, previously undiscovered building conditions.

Other changes are recommended to the bill, to support the increased level of coordination and effort in this important area.

Thank you for the opportunity to testify.
Energy Efficiency in State Buildings (EESB)
25% energy use reduction by 2025

Proactive management of energy costs by State agencies is expected to result in cost savings as well as improved facility operation. The Energy Efficiency in State Buildings project takes a comprehensive and coordinated approach to this objective.

**Goal:** Reduce state departmental energy use by 25% (from 2005 levels) by 2025.¹

Hawaii Revised Statutes, Section 196-30, requires that “each state department with responsibilities for the design and construction of public buildings and facilities” is to evaluate the energy efficiency of public buildings larger than 5,000 square feet or using more than 8,000 kilowatt-hours annually. The goal of 25% reduction by 2025 builds upon that requirement by setting a target amount and date.

**Coordination:**
Coordination will be provided by the Hawaii State Energy Office (HSEO) and Hawaii Energy.

**Status:**
A previous State (HSEO and partners) project benchmarked 416 public facilities, including more than 2,600 buildings covering more than 29 million square feet. By the end of 2019, the State agencies’ energy use was 17.5% less that it was in 2005, the baseline year. The figure below shows the percentage change from 2005 to 2019 and the relative magnitude of electricity purchases by agencies.

**Background:**

**Energy Performance Contracting in Hawai’i**

Agencies have been pursuing energy retrofits since 1996. State and local government agencies’ savings from the performance contracting program² (since its introduction by the State Energy Office in 1996) are expected to total an estimated $1.1 billion in energy costs over the life of the contracts, and a cumulative amount of electricity equal to the amount used by 396,586 homes in one year. The projects comprise over 112 million square feet in 295 existing buildings and facilities. Hawaii Revised Statutes, Section 196-30, also requires that every five years, major facilities be “retro-commissioned.”
Plan:

HSEO coordinates provision of technical assistance and training with Hawaii Energy to support State agencies in financing energy efficiency and cost reductions via operational changes, energy savings performance contracts, or other mechanisms.

Funding: Pursue-federal funding and use of existing HSEO consultants to support technical assistance and to finance and incentivize the proposed work with state agencies.

Year 1 (2021-2022)

Identify highest potential ("Tier 1") State facilities for immediate action using the results of the previous benchmarking study, working with agencies that are among the highest energy users and have not yet achieved the 25% energy savings goal.

Tier 1 agencies include: University of Hawaii, Department of Education, Department of Health, Department of Defense, Hawaii Public Library System, and Hawaii Health Systems Corporation. DAGS, as the building operations and manager for many state facilities, would also assist and participate in both Tiers 1 and 2. In partnership with HSEO and Hawaii Energy, this State agency cohort would identify, address, and implement energy retrofit and operational savings opportunities.

<table>
<thead>
<tr>
<th>Agency</th>
<th>FY05 kWh</th>
<th>FY19 kWh</th>
<th>Change FY05 - FY19 %</th>
<th>Maximum Annual Use with 25% Reduction kWh</th>
<th>Additional Reduction from 2019 Levels to Reach Goal kWh</th>
<th>Estimated Additional Savings $</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH</td>
<td>186,135,017</td>
<td>187,264,956</td>
<td>0.6</td>
<td>139,601,263</td>
<td>47,663,693</td>
<td>14,156,117</td>
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<tr>
<td>DOE</td>
<td>143,491,511</td>
<td>114,391,027</td>
<td>-20.3</td>
<td>107,618,633</td>
<td>6,772,394</td>
<td>2,011,401</td>
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<td>DOH</td>
<td>25,800,739</td>
<td>27,273,819</td>
<td>5.7</td>
<td>19,350,554</td>
<td>7,923,265</td>
<td>2,353,210</td>
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<tr>
<td>HSPLS</td>
<td>8,477,520</td>
<td>7,508,738</td>
<td>-11.4</td>
<td>6,358,140</td>
<td>1,150,598</td>
<td>341,728</td>
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<td>DOD</td>
<td>6,703,102</td>
<td>5,885,274</td>
<td>-12.2</td>
<td>5,027,327</td>
<td>857,947</td>
<td>254,810</td>
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</table>

Year 2 (2022-2023)

Identify "Tier 2" State facilities with energy efficiency retrofit potential. For both Tier 1 and Tier 2 sites, identify demand response or other potential tariff/aggregator participation options to reduce State agency energy (electricity and fuel) costs. Tier 2 agencies would include: DBEDT, DLNR, FTZ, HTA-CC and NELHA. HHFDC and DHHL would be the housing and other agencies included in Tier 2.
## Energy Performance Contracts in Hawaii as of October, 2020

<table>
<thead>
<tr>
<th>Agency</th>
<th>Year(s)</th>
<th>Contract Amount ($)</th>
<th>Est. Savings Over Life of Contract ($)</th>
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<tr>
<td>UH-Hilo</td>
<td>1996-2012</td>
<td>$6,402,695</td>
<td>$14,630,066</td>
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<tr>
<td>County of Hawaii</td>
<td>1997-2026</td>
<td>$2,215,546</td>
<td>$8,157,880</td>
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<td>County of Kauai</td>
<td>1998-2012</td>
<td>$525,965</td>
<td>$1,205,990</td>
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<tr>
<td>City &amp; County of Honolulu</td>
<td>2001-2025</td>
<td>$11,900,205</td>
<td>$36,066,761</td>
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<tr>
<td>Hawaii Health Systems</td>
<td>2002-2022</td>
<td>$21,936,997</td>
<td>$55,766,364</td>
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<tr>
<td>Judiciary</td>
<td>2003-2012</td>
<td>$1,474,406</td>
<td>$9,785,036</td>
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<td>DAGS Phase I</td>
<td>2009-2029</td>
<td>$36,873,266</td>
<td>$72,580,767</td>
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<tr>
<td>PSD</td>
<td>2010-2030</td>
<td>$25,511,264</td>
<td>$57,211,112</td>
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<td>UH Community Colleges</td>
<td>2012-2032</td>
<td>$34,207,392</td>
<td>$37,000,000</td>
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<tr>
<td>Kailua Wastewater</td>
<td>2013-2033</td>
<td>$6,054,178</td>
<td>$13,693,910</td>
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<tr>
<td>DAGS Phase II</td>
<td>2013-2033</td>
<td>$17,400,000</td>
<td>$28,000,000</td>
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<td>DOT</td>
<td>2013-2034</td>
<td>$309,506,592</td>
<td>$795,560,746</td>
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<td>Honolulu Board of Water Supply</td>
<td>2016-2036</td>
<td>$33,125,398</td>
<td>$56,846,668</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$507,133,904</strong></td>
<td><strong>$1,186,505,300</strong></td>
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</table>

### Notes:

1. The commitment to the 25% reduction, and the use of 2005 as the baseline year, are consistent with the United Nations’ baseline year and the Paris Agreement, which Hawai‘i committed to support and to “be aligned with” in Part I of Act 32 of 2017.

2. With an Energy Performance Contract, a State or County agency enters into an agreement with a private Energy Services Company (ESCO) to purchase and install an Energy Conservation Measure (possibly including photovoltaics). The agency uses a portion of the electricity bill savings from those energy conservation measures to, over time, reimburse the ESCO for the cost of the equipment and installation (and maintenance, if included in the agreement). This allows the private contractor to purchase and install equipment that reduces energy and water use in government-owned facilities, based on the future savings from the energy conservation measures, with no required up-front payment by the government agency. Under the agreement, the ESCO will guarantee the savings – and pay for any shortfall.
RELATING TO ENERGY EFFICIENCY.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAI'I:

SECTION 1. The legislature finds that energy efficiency is the most cost-effective way to reduce emissions associated with electricity generation and consumption. The legislature further finds that maximizing efficiency and thereby reducing demand for power generation is a necessary component of reaching the State's goal of one hundred per cent renewable energy by 2045. Energy used to power buildings accounts for more than fifty per cent of the electricity consumed in the State, yet the State has not undertaken improvements for increased efficiency in many of its own facilities, forgoing millions of dollars in potential savings.

The legislature further finds that the COVID-19 pandemic has devastated Hawaii's economy. With one of the State's primary areas of focus being economic recovery and resilience in the wake of COVID-19, the legislature recognizes the importance of elevating Hawaii's growing clean energy industry, which can diversify the economy, create new jobs, contribute to workforce development, and help the State to meet critical energy goals. With the budget deficit the State is currently facing, the legislature believes it is imperative for all state departments to control their energy usage and lower their utility bills. Energy efficiency is the first and most cost-
effective step in smart energy management and should be prioritized by every state agency. The State should also seize this opportunity to create new jobs in the energy sector at a time when they are badly needed.

It is important for the State to lead by example when it comes to energy efficiency, energy efficient new building construction, and maximizing savings of taxpayer dollars that would otherwise be spent on utility bills.

Act 122 of 2019 stated, “...The legislature further finds that efforts taken by universities, public schools, executive departments, and other government entities have already begun to save taxpayers money by reducing the government's electricity costs. However, those efforts lack statewide coordination, preventing economies of scale to maximize savings. While some departments have made substantial progress, others have yet to commence meaningful activities.”

Act 122 of 2019 further stated, regarding the Hawai'i state energy office, “Tasking a single agency to plan for energy savings measures across all public facilities and assist government entities already working to reduce energy costs is a necessary step to maximize taxpayer savings... The legislature's intent is to establish in statute an energy agency... that will assist both the public and private sectors in achieving the State's energy goals.” Consistent with this, the Hawai'i state energy office is working with State agencies to assess opportunities to reach a target goal of 25% by 2025 reduction
(from a 2005 baseline year) through the “Energy Efficiency in State Buildings” (EESB) Project.

The purpose of this Act is to:

(1) Require state facilities, with the exception of smaller facilities and facilities at Aloha Stadium, to implement cost-effective energy efficiency measures;

(2) Direct the Hawaii state energy office to collect all state-owned facilities' utility bill and energy usage data and make this data publicly available;

(3) Provide that certain agencies that perform energy efficiency retrofitting may continue to receive budget appropriations for energy expenditures at an amount that accounts for any costs or debt service for the implementation and management of energy efficiency measures; and

(4) Beginning July 1, 2021, require, where feasible and cost-effective, the design of all new state building construction to maximize energy generation, and water efficiency, maximize energy and water efficiency, maximize and energy generation potential, and to use building materials that reduce the carbon footprint of the project.

SECTION 2. Chapter 196, Hawaii Revised Statutes, is amended by adding two new sections to part II to be appropriately designated and to read as follows:

"§196- Energy efficiency implementation for state facilities. (a) State facilities shall implement cost-
effective energy efficiency measures or enter into performance contracts for the implementation of cost-effective energy efficiency measures as follows:

(1) Beginning on January 1, 2023, for all state facilities that have not implemented section 36-41 since 2010; and

(2) Beginning on January 1, 2025, for all other state facilities provided that the simple payback period shall not exceed the performance period of the contract.

(b) State facilities having an area under ten thousand square feet and facilities at Aloha Stadium shall be exempt from the requirements of subsection (a).

(c) For purposes of this section:

"Cost-effective energy efficiency measure" means any energy efficiency measure where the cost of the energy efficiency measure, including the savings it will realize, are estimated to be equal to or less than the base case over a period of twenty years or will be equal to or less than the estimated savings over a period of twenty years or the life of the installed components, whichever is less.

"Energy efficiency measure" means any energy services, projects, and equipment, including but not limited to building or facility energy conservation enhancing, demand management, or demand response retrofits, which can include energy saved offsite by water or other utility enhancing retrofits, to
improve the energy efficiency or reduce energy costs of the facility.

"Facility" shall have the same meaning as that term is defined in section 36-41(d).

§196- Utility bills and energy usage data; state-owned facilities. The Hawaii state energy office shall collect all utility bill and energy usage data for state-owned facilities monthly and shall make this information available in a publicly accessible format."

SECTION 3. Section 36-41, Hawaii Revised Statutes, is amended by amending subsection (a) to read as follows:

"(a) All agencies shall evaluate and identify for implementation energy efficiency retrofitting through performance contracting. Agencies that perform energy efficiency retrofitting may continue to receive budget appropriations for energy expenditures at an amount that [shall not fall below the pre-retrofitting energy budget but shall rise in proportion to any increase in the agency's overall budget for the duration of the performance contract or project payment term.] accounts for any costs, including for maintenance, contracts or debt service for the implementation and management, of energy efficiency measures."

SECTION 4. Section 107-27, Hawaii Revised Statutes, is amended to read as follows:

"§107-27 Design of state buildings. (a) No later than one year after the adoption of codes or standards pursuant to section 107-24(c), the design of all state building construction
shall be in compliance with the Hawaii state building codes, except state building construction shall be allowed to be exempted from:

(1) County codes that have not adopted the Hawaii state building codes;

(2) Any county code amendments that are inconsistent with the minimum performance objectives of the Hawaii state building codes or the objectives enumerated in this part; or

(3) Any county code amendments that are contrary to code amendments adopted by another county.

(b) Exemptions shall include county ordinances allowing the exercise of indigenous Hawaiian architecture adopted in accordance with section 46-1.55.

(c) The State shall consider hurricane resistant criteria when designing and constructing new public schools for the capability of providing shelter refuge.

(d) Beginning July 1, 2021, 2022, where feasible and cost-effective, the design of all new state building construction shall:

(1) Maximize energy and water efficiency measures;

(2) Maximize energy generation potential; and

(3) Use building materials that reduce the carbon footprint of the project."

SECTION 5. This Act does not affect rights and duties that matured, penalties that were incurred, and proceedings that were begun before its effective date.
SECTION 6. Statutory material to be repealed is bracketed and stricken. New statutory material is underscored.

SECTION 7. This Act shall take effect upon its approval.
Delivered via email: brody.mcmurtry@jci.com

Re: SPO VENDOR LIST for ESCOs

Dear Honorable Representatives,

Thank you for your leadership during these trying times. We understand you are evaluating ways to bolster our local economy and create jobs to help us recover from COVID-19 impacts. Based on our past experience with Hawaii state agencies, we believe there is significant opportunity under the Energy Service Contract Model ("ESCO") through Performance Based Contracts (Per HRS 36-41) to create:

1. $1,019,093,593 of new project work, with long-term maintenance included (up to 20 years)
2. $2,129,573,510 of guaranteed energy savings from the utility bill.
3. 2,308 long term jobs created.
4. Fully financed. $0 CIP funds required.

Over the next 24 months, the State may elect to re-direct $1 billion of funds that would leave the islands via purchase of oil to make electricity, and instead invest those funds locally to create over $2 billion of energy savings and create local jobs.

The above numbers are based on our conservative estimate for 28% savings on state agency’s utility bills, taking into account that some state agencies procured large scale efficiency measures in 2014. Our prior experience with the Department of Transportation has resulted in over 50% savings. Case Study attached.

Concerns about determining what items to install for Energy Efficiency

We understand there may be concern that “all” economically feasible items should be installed. How will a state agency determine this? Per the DAGS SPO Qualified ESCO Vendor List, an ESCO may provide a Level 1 Energy Audit (per ASHRAE standards). This outlines, at a high level, what is likely to be economically feasible.

The Hawaii Guide to Energy Performance Contracting

Next, after providing utility bills and site walks for a sample facility, the agency may solicit proposals in response to the State of Hawaii template for proposals. Guidance and templates are available via the Hawaii State Guide to Energy Performance Contracting published by the Hawaii State Energy Office. The agency selects an ESCO to provide Investment Grade Audit (IGA) for all desired facilities.

The Investment Grade Audit (IGA)

The IGA provides detailed analysis recommendations on what is economically feasible. Each agency may rely on the professional advice of their selected ESCO. The IGA document for DOT was over 1,000 pages with detailed data for the agency to determine what is reasonable for Energy Conservation Measures (ECMs) that are economically feasible. The statute inherently requires a maximum of a 20 year payback. Most items such as LED

---

i, ii, iii, iv, v
Lighting, high efficiency Air Conditioning, and Solar are a much shorter payback due to high energy prices in Hawaii. After receipt of the IGA, the agency may elect to move forward with a project that is fully financed by energy savings. Per HRS 36-41, the Contractor must contractually guarantee that savings are greater than payments in each year of the contract, for up to 20 years.

Enclosures

We have included the following information, in case it is helpful:

A. JCI financing model for State Agencies
B. Case Study for the DOT Performance Contract project.

We are grateful to work with Hawaii State agencies. In our experience, state agency facility personnel have excellent ideas for ways to save energy at their facility. The Hawaii Performance Contract statute provides the engineering, installation, long-term maintenance and –importantly—the funds needed to allow the agency to implement their plans and methods for saving energy. Please do not hesitate to reach out if I can be of assistance in any way.

Best Regards,

Brody McMurtry
Business Development Manager
Performance Infrastructure
Building Solutions
Johnson Controls
Phone: 808 342 8682

---

i Calculated via JCI ESCO Finance Model for State of Hawaii.
ii Ibid.
iii Calculated via NREL JEDI Jobs Creation Calculator using the solar selection for Int’l Model 3 available via https://www.nrel.gov/analysis/jedi/international.html last accessed September 8, 2020
iv Calculated via JCI ESCO Finance Model for State of Hawaii.
Delivered via email: brody.mcmurtry@jci.com

Re: SPO VENDOR LIST for ESCOs

Dear Honorable Representatives,

Thank you for your leadership during these trying times. We understand you are evaluating ways to bolster our local economy and create jobs to help us recover from COVID-19 impacts. Based on our past experience with Hawaii state agencies, we believe there is significant opportunity under the Energy Service Contract Model (“ESCO”) through Performance Based Contracts (Per HRS 36-41) to create:

1. $1,019,093,593 of new project work, with long-term maintenance included (up to 20 years)
2. $2,129,573,510 of guaranteed energy savings from the utility bill.
3. 2,308 long term jobs created.
4. Fully financed. $0 CIP funds required.

Over the next 24 months, the State may elect to re-direct $1 billion of funds that would leave the islands via purchase of oil to make electricity, and instead invest those funds locally to create over $2 billion of energy savings and create local jobs.

The above numbers are based on our conservative estimate for 28% savings on state agency’s utility bills, taking into account that some state agencies procured large scale efficiency measures in 2014. Our prior experience with the Department of Transportation has resulted in over 50% savings. Case Study attached.

Concerns about determining what items to install for Energy Efficiency

We understand there may be concern that “all” economically feasible items should be installed. How will a state agency determine this? Per the DAGS SPO Qualified ESCO Vendor List, an ESCO may provide a Level 1 Energy Audit (per ASHRAE standards). This outlines, at a high level, what is likely to be economically feasible.

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Best Regards,

---

Brody McMurtry
Business Development Manager  
Performance Infrastructure  
Building Solutions  
Johnson Controls  
Phone: 808 342 8682

---

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ii Ibid.  
iii Calculated via NREL JEDI Jobs Creation Calculator using the solar selection for Int’l Model 3 available via [https://www.nrel.gov/analysis/jedi/international.html](https://www.nrel.gov/analysis/jedi/international.html) last accessed September 8, 2020  
iv Calculated via JCI ESCO Finance Model for State of Hawaii.  
Preserving paradise: Unprecedented steps to improve Hawaii’s airports, harbors and highways

At 2,500 miles from the nearest landmass, the islands of Hawaii are the most remote in the world. Sun, wind and rain are in abundance here, creating a tropical paradise that lures visitors from every corner of the globe.

As tourism and the economy continue to grow in Hawaii, so does the demand for energy. Hawaii imports more than five billion dollars worth of oil every year, and today the state relies on fossil fuels for 90 percent of its energy.

The majority of Hawaii’s consumption of fossil fuels is tied to transportation—moving tourists, residents, goods and services around and between islands, and to the mainland. For that reason, airports, highways and harbors were a logical first focus when Governor David Ige created his Hawaii Sustainability Plan, with the goal to develop 100 percent renewable energy by 2045.

The goal is well on its way to being achievable. The Hawaii Department of Transportation (HDOT), which has jurisdiction over airports, highways and harbors, has partnered with Johnson Controls to initiate a ground-breaking set of projects to reduce energy consumption and create a more sustainable transportation infrastructure.

Hawaii DOT Project

At-a-Glance:

Scope: $245M in energy improvements to airports, harbors and highways—the largest single-state energy savings performance contract in the U.S.

Primary Goals: Reduce reliance on fossil fuels and cut energy costs; Hawaii’s energy costs are two to three times the national average.

Guaranteed Savings: $680M over the life of the contracts.
The Plan: Extraordinary Scope, Guaranteed Return on Investment

The multi-phase project is massive in scope: $245M in energy improvements, designed to deliver a total of $680 million in savings guaranteed by Johnson Controls. It’s the largest single-state energy savings performance contract in the U.S., and encompasses energy-saving improvements made to airports, harbors and highways.

Airports

The first phase of the project focused on 12 airports operated by the Airports Division of the Hawaii Department of Transportation. The two-year construction project, completed in 2016, involved:

- Replacing nearly 75,000 lighting fixtures with high-efficiency Light Emitting Diode (LED) and other energy-efficient lighting
- Upgrading HVAC systems to more efficiently keep spaces cool and comfortable
- Installing 9,100 solar photovoltaic panels to generate renewable energy
- Addressing deferred maintenance, including roof repairs and equipment replacement

**Bottom line:** The $158M investment in airport energy improvements is guaranteed to generate savings of more than $500 million over 20 years.

“When you have a comprehensive program that ties everything together, you can create synergies and greater savings,” said Engineering Program Manager Jeff Chang, P.E. “And now that the backbone is in place, every improvement we make moving forward can be tied into this whole system and optimized.”

The success of the initial project has already led to a second phase of energy improvements at airports across the state, and became the catalyst for two other energy savings performance contracts: Harbors and highways.

Harbors

Harbors play a vital role in the Hawaii economy. The state imports about 80 percent of what it consumes and 98 percent of those imports enter the state through a system of harbors that operate 24/7.

Economically, the harbors are self-sufficient; they rely on tariffs and fees. But in 2015, leaders knew there were opportunities to improve operational performance, and began working with Johnson Controls to develop an energy-saving plan.

The plan centered on the development of marine-grade LED lighting designed to:

- Increase energy efficiency
- Improve safety for workers on the docks
- Minimize the impact of brighter LED lights on endangered wildlife and migratory birds

“If we truly want to be a clean energy community, then we need to address the challenges of transportation head-on in terms of making a significant difference.”

– Governor David Ige
“Johnson Controls understood our needs and worked with the manufacturer to design a cargo yard light that met our standards,” said Harbors Administrator Davis Yogi. “We needed a contractor that was technically smart, environmentally conscientious, and had the tact and the awareness to work with various constituencies and stakeholders to pull this thing together.”

The Harbors Energy Savings Program also included mechanical, water and solar photovoltaic improvements.

**Bottom line:** With the $26 million investment, energy use across the harbors is expected to be reduced by 40 percent, generating cost savings of $44 million; $1.3 million in the first year and $2 million average annually over the life of the contract.

### Highways

The Hawaii Department of Transportation’s vision to reduce energy use and costs extended to roadways, as well.

Johnson Controls installed high-efficiency LED lighting in 20,000 light fixtures along 1,500 miles of state highways, and another 5,200 in interior and parking lot lights.

By making the switch, the project is expected to:

- Reduce energy usage and demand
- Contribute to roadway safety and visibility
- Meet Hawaii’s “Night Sky” legislative requirements

**Bottom line:** The $60 million energy savings contract will reduce annual energy use by an estimated 43.4 percent, generating $126 million in guaranteed energy costs savings over 18 years.

The energy improvement project is also expected to free highway department employees to focus on higher-impact projects.

“We used to have to change out the fixtures about every two and a half years. Now, with the new LEDs, the cycle will be changed to 10 years,” said Construction and Maintenance Engineer Jamie Ho. “So our team will be freed up to take care of things like deferred maintenance or respond to urgent needs, like righting a light pole, for example, that’s been downed in a traffic accident.”

---

**Performance Contracting Makes It Possible**

“’There’s no capital investment and no risk for the customer. The project is funded through savings guaranteed by Johnson Controls.’

— Michael Trovato, JCI Senior Account Executive
Setting the Standard for Excellence

In partnership with Johnson Controls, the Hawaii Department of Transportation is setting the standard for excellence in energy savings. Over the life of the performance contracts in place for the state’s airports, harbors and highways, HDOT will recognize:

• Dramatic cuts in energy use of up to 50 percent; enough to power the equivalent of 165,553 homes for a year

• Guaranteed savings of $680 million

The initiatives continue to generate industry accolades, as well. For five years in a row, the Energy Services Coalition named Hawaii ‘first in the nation’ for per-capita investment in energy performance contracting.

Beyond the Contract: Protecting the Investment Into the Future

To maintain the savings guaranteed under the performance contract, Johnson Controls also developed a customized maintenance program to ensure the equipment continues to function optimally over time. The Planned Service Agreement (PSA) addresses issues such as unforeseen equipment failures, budget constraints and the desire by HDOT to perform some maintenance tasks in house, and will help HDOT protect its investment well into the future.

Together, Hawaii’s airports, harbors and highways are transforming the way energy is used, reflecting an unprecedented commitment to reduce demand for fossil fuels and preserve its Pacific paradise for generations to come.
## State of Hawaii - TOTAL Utility spend

**Open Book Cost Method**

**Minimal M&V Service Provided**

**Total Utility Bill Spend (annual)**

**Total Project Size**

<table>
<thead>
<tr>
<th>Finance TERM ---</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest During Const. &gt;&gt;&gt;</td>
<td>3.50%</td>
</tr>
<tr>
<td>Interest RATE---</td>
<td>3.50%</td>
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<tr>
<td>Phases</td>
<td>1</td>
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<tr>
<td>Construction Months &gt;&gt;</td>
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<tr>
<td>Savings % from Total Utility Bill</td>
<td>28%</td>
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<tr>
<td>Estimated Saving &gt;&gt;&gt;</td>
<td>$59,815,288</td>
</tr>
<tr>
<td>Savings Escalation&gt;&gt;&gt;</td>
<td>4.81%</td>
</tr>
<tr>
<td>Yr 1 Peformance Exp&gt;&gt;&gt;</td>
<td>$13,141,582</td>
</tr>
<tr>
<td>Perf Perd Cost Escal&gt;&gt;&gt;</td>
<td>3.00%</td>
</tr>
</tbody>
</table>

### Estimated Savings

- **Guarantee**: $59,815,288.12
- **Escalation During Construction**: $65,707,908.09

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<tr>
<th>Payment Year</th>
<th>Dates</th>
<th>Guarantee</th>
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<td>$65,707,908.09</td>
</tr>
<tr>
<td>2</td>
<td>8/31/2024</td>
<td>$68,868,458.46</td>
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<tr>
<td>3</td>
<td>9/1/2025</td>
<td>$72,181,031.32</td>
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<tr>
<td>4</td>
<td>9/1/2026</td>
<td>$75,652,938.92</td>
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<tr>
<td>5</td>
<td>9/1/2027</td>
<td>$79,291,845.29</td>
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<tr>
<td>6</td>
<td>8/31/2028</td>
<td>$83,105,783.04</td>
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<td>7</td>
<td>9/1/2029</td>
<td>$87,103,171.21</td>
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<tr>
<td>8</td>
<td>9/1/2030</td>
<td>$91,292,833.74</td>
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<tr>
<td>9</td>
<td>9/1/2031</td>
<td>$95,684,019.05</td>
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<tr>
<td>10</td>
<td>8/31/2032</td>
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<td>9/1/2034</td>
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<td>13</td>
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<td>8/31/2036</td>
<td>$121,018,847.80</td>
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<td>9/1/2037</td>
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<td>9/1/2039</td>
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<td>8/31/2040</td>
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<td>19</td>
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<td>$153,061,730.35</td>
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<tr>
<td>20</td>
<td>8/31/2042</td>
<td>$160,423,999.58</td>
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</table>

**Total Guaranteed Savings**: $2,129,573,510.82

**Escalation**
Total Warranty Service

<< Performance Period Costs

Sources:

Figure 4: Percent Change (over FY05) of E

<table>
<thead>
<tr>
<th>Price of Oil ($/bbl)</th>
<th>FY05-06</th>
<th>FY05-07</th>
<th>FY11-12</th>
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<td></td>
<td>31.8%</td>
<td>30.0%</td>
<td>99.0%</td>
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<table>
<thead>
<tr>
<th>Total State Avg Retail Price (All Sectors; $/KWH)</th>
<th>FY05-06</th>
<th>FY05-07</th>
<th>FY11-12</th>
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<tbody>
<tr>
<td></td>
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<td>22.1%</td>
<td>50.1%</td>
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<table>
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<th>Total SOH Building Electricity Cost ($)</th>
<th>FY05-06</th>
<th>FY05-07</th>
<th>FY11-12</th>
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<th>KWH</th>
<th>FY05-06</th>
<th>FY05-07</th>
<th>FY11-12</th>
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<td></td>
<td>2.2%</td>
<td>4.9%</td>
<td>3.3%</td>
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Sources: NYMEX WTI Future Price; EIA-826; Utility (HECO, MECO, HE
$213,626,029

$1,019,093,593.22

<table>
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<tr>
<th>Back Loaded</th>
<th>Interest amount during construction</th>
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<td>$72,584,941.18</td>
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<td>$52,566,325.47</td>
<td>Present Value of Backloaded Payments</td>
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<table>
<thead>
<tr>
<th>9/1/2021</th>
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<table>
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<tr>
<th>Performance Period Service (Maintenance)</th>
<th>Available for Debt Service</th>
<th>Net Savings</th>
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<td>$ 13,141,581.62</td>
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<td>$ 22,372,663.02</td>
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$ 330,075,376.52 $ 1,799,498,114.31
Electricity Price, Cost, and Consumption

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<tr>
<th>Year</th>
<th>FY05-09</th>
<th>FY05-10</th>
<th>FY05-11</th>
<th>FY05-12</th>
<th>FY05-13</th>
<th>FY05-14</th>
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<tr>
<td>0.1%</td>
<td>43.0%</td>
<td>54.2%</td>
<td>83.1%</td>
<td>94.9%</td>
<td>89.1%</td>
<td>107.9%</td>
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<tr>
<td>0.5%</td>
<td>54.5%</td>
<td>41.8%</td>
<td>65.5%</td>
<td>104.6%</td>
<td>102.5%</td>
<td>101.8%</td>
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<tr>
<td>0.4%</td>
<td>57.3%</td>
<td>38.2%</td>
<td>62.0%</td>
<td>101.3%</td>
<td>99.5%</td>
<td>103.4%</td>
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<tr>
<td>3%</td>
<td>-2.6%</td>
<td>-5.3%</td>
<td>-4.8%</td>
<td>-5.6%</td>
<td>-4.9%</td>
<td>-2.5%</td>
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(Data from ELCO, & KIUC) Billing data
Energy Service Payment Option For ECMs

<table>
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<tr>
<th>Year</th>
<th>Energy Savings</th>
<th>Project Payments</th>
<th>Minimum Service Costs</th>
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<tbody>
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<td>2019</td>
<td>$20,000,000.00</td>
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<td>2020</td>
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<td>$40,000,000.00</td>
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<tr>
<td>2031</td>
<td>$240,000,000.00</td>
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<tr>
<td>2032</td>
<td>$260,000,000.00</td>
<td></td>
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</tbody>
</table>
Date: 02/09/2021  
Time: 09:00 AM  
Location: Via Videoconference  
Committee: House Energy & Environmental Protection

Department: Education

Person Testifying: Dr. Christina M. Kishimoto, Superintendent of Education

Title of Bill: HB 0550 RELATING TO ENERGY EFFICIENCY.

Purpose of Bill: Requires and establishes deadlines for state facilities, except smaller facilities and facilities at Aloha Stadium, to implement cost-effective energy efficiency measures. Directs the Hawaii state energy office to collect utility bill and energy usage data for state-owned buildings and to make the data publicly available. Provides that certain agencies that perform energy efficiency retrofitting may continue to receive appropriations for energy expenditures at an amount that accounts for any costs or debt service for the implementation and management of energy efficiency measures. Beginning 7/1/2021, requires, where feasible and cost-effective, the design of all new state building construction to maximize energy and water efficiency, maximize energy generation potential, and use building materials that reduce the carbon footprint of the project.

Department’s Position: The Hawaii State Department of Education (Department) offers comments on HB 0550. Unless funding is provided to assess and implement cost-effective energy efficiency initiatives, this bill would be problematic for the Department. These measures require a significant up-front capital investment, which is not provided by this bill. Reliance on third parties to finance these measures has resulted in unfavorable long-term contracts for agencies. Most of the cost savings of these contracts go to third parties with marginal savings to state agencies.

The Green Energy Market Securitization (GEMS) Loan Program is a superior program
to implement energy efficiency for state agencies that allows the agencies to recapture most of the energy savings. With the GEMS Loan Program, the agencies must justify the return on the up-front capital investment for cost-effective energy efficiency measures that are financed by a low interest rate. As a result, the state agency, and not the third parties, receives most of the energy efficiency savings.

Thank you for the opportunity to testify on this measure.

The Hawai‘i State Department of Education is committed to delivering on our promises to students, providing an equitable, excellent, and innovative learning environment in every school to engage and elevate our communities. This is achieved through targeted work around three impact strategies: school design, student voice, and teacher collaboration. Detailed information is available at www.hawaiipublicschools.org.
COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Nicole E. Lowen, Chair
Rep. Lisa Marten, Vice Chair

HEARING DATE: Tuesday, February 9, 2021
TIME: 9:00 a.m.
PLACE: VIA VIDEO CONFERENCE
        Conference Room 325

HB550
IN SUPPORT

This testimony is being submitted on behalf of the membership of the International Brotherhood of Electrical Workers Local 1260. IBEW Local 1260 represents more than 3500 members throughout the Pacific, across the Hawaiian Islands, Guam and Wake Island. We appreciate the opportunity to testify in strong support of H.B. 550.

Our organization believes that in order to combat climate change we must transition to a green renewable energy platform. Our society has become so interconnected with energy at times we take it for granted. As technology evolves, our reliance on energy will continue to increase. To cover what we currently consume is going to be a challenge without accounting for the increase in demand. This is why energy efficiencies must go hand-in-hand with the renewable transformation. We cannot just look at increasing production without confronting the waste. As we encourage the residents of Hawaii to follow suit, we must lead by example by looking at the improvements, and new standards for our State facilities.

This is why we support H.B. 550, and we sincerely thank the Committee on Energy & Environment Protection for their time, consideration, and dedication to the future of the Hawaiian Islands, and our role in climate change.

Leroy Chincio
Business Manager and Financial Secretary
International Brotherhood of Electrical Workers
Local 1260
700 Bishop Street #1600
Honolulu, HI 96813
**HB-550**  
Submitted on: 2/9/2021 7:37:11 AM  
Testimony for EEP on 2/9/2021 9:00:00 AM

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HB-550
Submitted on: 2/9/2021 7:37:26 AM
Testimony for EEP on 2/9/2021 9:00:00 AM

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HB-550
Submitted on: 2/9/2021 8:45:14 AM
Testimony for EEP on 2/9/2021 9:00:00 AM

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