

TESTIMONY OF RANDY IWASE  
CHAIR, PUBLIC UTILITIES COMMISSION  
STATE OF HAWAII  
TO THE  
HOUSE COMMITTEE ON  
ENERGY AND ENVIRONMENTAL PROTECTION

February 7, 2017  
9:30 am

**MEASURE:** H.B. No. 957  
**TITLE:** RELATING TO HEAT ABATEMENT

Chair Lee and Members of the Committee:

**DESCRIPTION:**

This measure would authorize the Department of Education (“DOE”) and the Department of Budget and Finance (“B&F”) to borrow moneys from the Hawaii Green Infrastructure Loan Program for heat abatement measures at public schools. This measure would also appropriate general funds to make an initial repayment to the Hawaii Green Infrastructure Special Fund.

**POSITION:**

The Commission offers the following comments for the Committee’s consideration.

**COMMENTS:**

The Commission takes no position with respect to the proposal to authorize DOE and B&F to borrow moneys from the Hawaii Green Infrastructure Loan Program for heat abatement measures at public schools.

However, the Commission has concerns that Section 6 of this act only proposes to provide a general fund appropriation for the initial loan repayments (FY 2016-2018) of moneys borrowed from the Hawaii Green Infrastructure Loan program. If funds are not also provided for loan repayments beyond this initial period, there could be unintended consequences, including increased surcharges and limited ability to achieve the statutorily required energy efficiency portfolio standards, pursuant to Section 269-96.

Thank you for the opportunity to testify on this measure.



DAVID Y. IGE  
GOVERNOR

GWEN S. YAMAMOTO LAU  
EXECUTIVE DIRECTOR

## HAWAII GREEN INFRASTRUCTURE AUTHORITY

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### TESTIMONY OF GWEN YAMAMOTO LAU EXECUTIVE DIRECTOR, HAWAII GREEN INFRASTRUCTURE AUTHORITY

BEFORE THE HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

TUESDAY, FEBRUARY 7, 2017

9:30 A.M.

STATE CAPITOL, CONFERENCE ROOM 325

### HOUSE BILL NO. 957 RELATING TO HEAT ABATEMENT

Chair Lee, Vice Chair Lowen and Members of the Energy and Environmental Protection Committee:

Thank you for the opportunity to testify on House Bill 957, relating to heat abatement. This bill proposes to authorize the Department of Education ("DOE") and Department of Budget and Finance ("B&F") to borrow moneys from the Hawaii green infrastructure loan program for heat abatement measures at public schools. The Hawaii Green Infrastructure Authority ("Authority") **strongly supports** the intent of this bill, and would like to inform the Committee that the Authority has already commenced work on a similar initiative to reduce energy consumption in eligible DOE public schools.

In alignment with Hawaii's clean energy goals and this proposed bill, the Authority is working with the DOE and B&F to help facilitate its net-zero (with respect to energy use by 2035) requirement. The Authority agrees that providing funds for energy efficiency upgrades at eligible public schools throughout the state remains a high priority and further agrees on the importance of expeditious implementation of this initiative.

As such, on January 31, 2017, the Authority submitted a request to the Hawaii Public Utilities Commission ("Commission") for approval to finance commercial energy efficiency ("EE") infrastructure as part of the DOE's Ka Hei energy and sustainability program ("Ka Hei"<sup>1</sup>).

Of the 25 State agencies participating in a DBEDT report to the Legislature, Lead by Example State of Hawaii Agencies' Energy Initiatives FY 2013-2014, the DOE is the second largest consumer of electricity, consuming over 135 million kWh per year from FY2005 through

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<sup>1</sup> Ka Hei is a comprehensive program, launched in 2014, involving all 256 public schools in the State of Hawaii. The program's goals include but are not limited to achieving an estimated \$24 million in operating expense savings over five years and reducing energy consumption by 25 percent over five years. See Ka Hei, Hawaii State Department of Education, <http://www.hawaiipublicschools.org/ConnectWithUs/Organization/SchoolFacilities/Pages/Ka-Hei.aspx>; Ka Hei FAQs, Hawaii State Department of Education, <http://www.hawaiipublicschools.org/ConnectWithUs/Organization/SchoolFacilities/Pages/Ka-Hei-FAQs.aspx>.

FY2014 at an average cost of \$38 million per year.<sup>2</sup> The Ka Hei program has identified almost \$60.0 million in EE retrofit opportunities for the DOE. While the Authority is not contemplating financing 100% of the DOE EE projects, due to its mandate for 51% of the funds to benefit the underserved<sup>3</sup>, implementing high-impact commercial EE measures that result in a 25% reduction of electricity consumed by the DOE could significantly and positively contribute to the achievement of Hawaii's Energy Efficiency Portfolio Standard ("EEPS") requirements<sup>4</sup> and would also decrease the amount of generation required to achieve the State's Renewable Portfolio Standard ("RPS") target of 100% by 2045.<sup>5</sup>

Based on the scope of this initiative, GEMS financing will result in significant benefits to some 241 campuses located on the islands of Oahu, Maui, Molokai, Lanai and Hawaii, while accelerating the achievement of the state's EEPS goals. Additionally, reductions in energy expenses for these schools increase the availability of State funds for other investments in education or related programs anticipated to net between \$4.6 million to \$5.2 million, annually. Finally, reducing energy consumption and lowering the kW load may enable classrooms earmarked for the "Cool the Schools" initiative to install air conditioners without requiring expensive and time consuming electrical upgrades in order to provide a better learning environment for the students in a timelier manner.

Upon Commission and Board approval, the Authority anticipates closing the DOE loan in mid-March with work commencing shortly thereafter in April 2017.

As previously indicated, the Authority strongly supports the intent of this bill, so much so, that it has been working in concert with the DOE, B&F and Hawaii Energy and has already submitted a request to the Commission to approve EE retrofits for the DOE.

Thank you for this opportunity to testify.

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<sup>2</sup> DBEDT, Lead by Example State of Hawaii Agencies' Energy Initiatives FY 2013-2014, at 21, January 2015, available at, <http://files.hawaii.gov/dbedt/annuals/2014/2014-seo-lbe.pdf>.

<sup>3</sup> "Underserved" for the GEMS program is defined as renters, low and moderate income households and nonprofits.

<sup>4</sup> See HRS § 269-96.

<sup>5</sup> See HRS § 269-92.



**STATE OF HAWAII**  
**DEPARTMENT OF EDUCATION**  
P.O. BOX 2360  
HONOLULU, HAWAII 96804

**Date:** 02/07/2017

**Time:** 09:30 AM

**Location:** 325

**Committee:** House Energy & Environmental  
Protection

**Department:** Education

**Person Testifying:** Kathryn S. Matayoshi, Superintendent of Education

**Title of Bill:** HB 0957 RELATING TO HEAT ABATEMENT.

**Purpose of Bill:** Authorizes the DOE and B&F to borrow moneys from the Hawaii green infrastructure loan program for heat abatement measures at public schools. Appropriates general funds to make an initial repayment to the Hawaii green infrastructure special fund.

**Department's Position:**

The Department of Education (DOE) supports HB 0957. Heat abatement, efficient lighting, and energy efficiency remains a top priority for all Hawaii Public Schools. Additional funding would allow the DOE to modify more classrooms to become energy efficient and bring temperatures to appropriate levels to create a quality learning environment. The Department defers to the Administration on the source of funding.

Thank you for the opportunity to provide testimony on HB 0957.



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## TESTIMONY FOR HOUSE BILL 957, RELATING TO HEAT ABATEMENT

House Committee on Energy and Environmental Protection

Hon. Chris Lee, Chair

Hon. Nicole E. Lowen, Vice Chair

Tuesday, February 7, 2017, 9:30 AM

State Capitol, Conference Room 325

Honorable Chair Lee and committee members:

I am Kris Coffield, representing IMU Alliance, a nonpartisan political advocacy organization that boasts over 350 members. On behalf of our members, we offer this testimony **in strong support of** House Bill 957, relating to heat abatement.

If school is cool, then our classrooms should be, too. Yet, last year, classroom temperatures regularly exceeded 90 degrees, reaching as high as 108 degrees in one Kalaheo High School classroom. Studies show that the achievement gap between cooled and non-cooled classroom environments can reach 17 percent on standardized tests. While local schools' outdated electrical infrastructure often cannot support traditional air conditioning technology, experiments in renewable energy cooling systems have lowered departmental projections for comprehensive cooling. We continue to believe that using available energy efficient technology—including on-grid, off-grid, microgrid, and photovoltaic technology—*should* reduce the cost of classroom cooling to \$20,000, or a total of \$140 million for the approximately 7,000 classrooms currently in need.

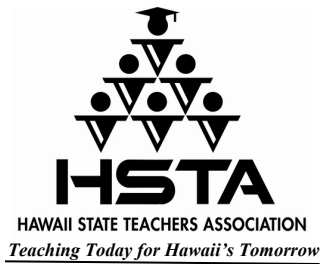
Therefore, we strongly support passage of this measure, which allows the Hawai'i State Department of Education and Department of Budget and Finance to borrow funds from the Hawai'i green infrastructure loan program to expand energy-efficient heat abatement in public schools. During the 2016 legislative session, lawmakers appropriated \$100 million for heat abatement, heeding Gov. David Ige's call to cool 1,000 classrooms by the end of the 2016-2017 school year. Available estimates of \$20,000 per classroom indicated, at the time, that \$100 million would cover heat abatement for thousands of classrooms beyond the governor's call. Unfortunately, contractor bids have been higher than expected. During the initial round of bidding, the "highest low bid," meaning the highest bid on a project that was also lower than all bids on the same project, was \$135,000. Other bids were even higher. Contech Engineering

submitted a bid of \$360,770, for example, to install solar-powered air conditioning in one portable at Ewa Beach Elementary, a project for which the lowest initial bid was \$102,000.

DOE officials subsequently rejected all exorbitant bids and expanded their pool of pre-qualified applicants. Since that time, the average cost of heat abatement projects has declined, with projects now running \$60,000 to \$70,000 per classroom. Contractors cite labor shortages and the cost of upgrading energy efficiency infrastructure as reasons for the extra expense, noting that policymakers also required the DOE, last year, to set a goal of becoming net-zero with regard to energy use by 2035. Again, we believe that these costs are excessive. That said, the process of awarding contracts for heat abatement work during a booming construction market, along with the need to maximize renewable energy reliance throughout the state, clearly demonstrate the need for an additional, dedicated, and recurrent funding mechanism for the DOE's heat abatement program. Allowing green funds to be used for classroom cooling not only provides comfort to thousands of children at risk of heat exhaustion, but ensures that future cooling upgrades will comport with the state's goal of reducing carbon emissions.

Mahalo for the opportunity to testify **in support** of this bill.

Sincerely,  
Kris Coffield  
*Executive Director*  
IMUAlliance



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Justin Hughey  
Vice President  
Amy Perruso  
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Wilbert Holck  
Executive Director

TESTIMONY BEFORE THE HOUSE COMMITTEE ON  
ENERGY AND ENVIRONMENTAL PROTECTION

RE: HB 957 - RELATING TO HEAT ABATEMENT.

TUESDAY, FEBRUARY 7, 2017

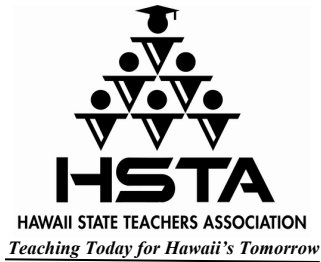
COREY ROSENLEE, PRESIDENT  
HAWAII STATE TEACHERS ASSOCIATION

Chair Lee and Members of the Committee:

The Hawaii State Teachers Association **strongly supports HB 957**, relating to heat abatement.

It's hot in Hawai'i. According to the National Weather Service, our state set over 50 high temperature records in the summer of 2015, with the heat and humidity lingering well into the start of fall. In our schools, children and teachers alike became ill from the blistering conditions. Kalaheo High School science teacher Micah Pregitzer recorded temperatures as high as 108 degrees inside his classroom last August, telling reporters, "You're dripping in sweat when you're just sitting there grading papers by yourself with no students in the room. You get the room packed with 36, 38, sometimes 40 students, and it just boosts that temperature up even higher."

A recent study conducted by University of California at Los Angeles researchers showed that the percentile gap between students learning in air conditioned and non-air-conditioned environments can reach as much as 17 percent on achievement tests, clearly evincing the impact of a comfortable classroom environment on student success. In a longitudinal analysis contained in "Effects of the Physical Environment on Student Learning," moreover, Glen I. Earthman of Virginia Polytechnic Institute and State University found that students between 4<sup>th</sup> and 9<sup>th</sup> grade at demographically similar schools showed increased gains in reading vocabulary, total math, problem solving, math procedures, pre-writing, and editing at schools with air conditioning, as compared with peers from non-cooled schools.



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**Wilbert Holck**  
Executive Director

Earthman demonstrated that the longer and more consistently students are exposed to classroom cooling, the better and more stable their performance gains tend to be. Conversely, students exposed to thermal conditioning for only short or intermittent periods of time achieved less than their peers. These findings are supported by U.S. Department of Education sponsored research, which claims that proper cooling systems lead to better attitudes toward learning, fewer disciplinary problems, and sustained achievement.

Last year, lawmakers answered Gov. David Ige's call to cool 1,000 classrooms by appropriating \$100 million for heat abatement. At the same time, policymakers required the Hawaii State Department of Education to set a goal of achieving net-zero energy usage by 2035. While we had hoped that the \$100 million would extend cooling technology to thousands of classrooms throughout the state, unexpectedly high procurement bids have limited the reach of the state's funding. Accordingly, we must find a dedicated and continual funding stream to extend heat abatement to all children in need. We believe that the current measure presents the best pathway forward, as it expands the DOE's heat abatement program through green infrastructure loans, thus guaranteeing both funding for future classroom cooling efforts and that such efforts will be implemented in an energy efficient manner.

School should be cool. To make our classrooms more suitable for student learning, the Hawaii State Teachers Association asks your committee to **support** this bill.



**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Friday, February 3, 2017 3:58 PM  
**To:** EEPtestimony  
**Cc:** mendezj@hawaii.edu  
**Subject:** \*Submitted testimony for HB957 on Feb 7, 2017 09:30AM\*

**HB957**

Submitted on: 2/3/2017

Testimony for EEP on Feb 7, 2017 09:30AM in Conference Room 325

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Javier Mendez-Alvarez	Individual	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Tuesday, February 7, 2017 11:01 PM  
**To:** EEPtestimony  
**Cc:** tika\_bean@hotmail.com  
**Subject:** Submitted testimony for HB957 on Feb 7, 2017 09:30AM

**HB957**

Submitted on: 2/7/2017

Testimony for EEP on Feb 7, 2017 09:30AM in Conference Room 325

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Erica Scott	Individual	Support	No

Comments: Aloha, my name is Erica Scott and I am a Makiki resident and I strongly support this bill.

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