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OFFICE OF THE PUBLIC DEFENDER

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
P.O. BOX 150
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ADMINISTRATIVE AND RESEARCH OFFICE
BUDGET, PROGRAM PLANNING AND
MANAGEMENT DIVISION
FINANCIAL ADMINISTRATION DIVISION
OFFICE OF FEDERAL AWARDS MANAGEMENT (OFAM)

WRITTEN COMMENTS

TESTIMONY BY WESLEY K. MACHIDA
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE
TO THE SENATE COMMITTEES ON EDUCATION AND
TRANSPORTATION AND ENERGY
ON
HOUSE BILL NO. 957, HD1

March 22, 2017
2:45 p.m.
Room 229

RELATING TO HEAT ABATEMENT

House Bill No. 957, HD1 proposes to expedite the cooling of all public school classrooms to a temperature conducive to student learning by providing that moneys in the Hawaii green infrastructure special fund may be used for loans to subsidize installation costs for air conditioning, energy-efficient lighting, and other energy-efficiency measures related to heat abatement at public schools.

The Department of Budget and Finance has concerns about this measure regarding the use of GEMS program as a financing mechanism, and the use of the Department as a fiscal agent between the GEMS program and the Department of Education. The GEMS program was initially enacted to offer low interest government financing for private sector energy efficiencies, and thus we question the efficacy of using these funds for government purposes. Secondly, it is not necessary to designate the Department of Budget and Finance as an intermediary, as we do not manage the GEMS funds.

Thank you for your consideration of our comments.



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

Date: 03/22/2017

Time: 02:45 PM

Location: 229

Committee: Senate Education
Senate Transportation and Energy

Department: Education

Person Testifying: Kathryn S. Matayoshi, Superintendent of Education

Title of Bill: HB 0957, HD1 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. (HB957 HD1)

Department's Position:

The Department of Education (DOE) supports the intent of HB 0957, which authorizes the DOE and the Department of Budget & Finance to borrow moneys from the Green Energy Market Securitization (GEMS) program. The DOE, however, recommends that the moneys be used for installation of energy-efficient lightning since previous appropriations were primarily used for air conditioning the schools.

Energy-efficient lightning programs such as the replacement of fluorescent bulbs with Light Emitting Diodes (LEDs) in the 256 public schools would result in cooler classrooms and lower utility bills. While air conditioning schools improves the learning environment it also increases utility and maintenance costs for running the schools. Energy-efficient lightning allows the DOE to offset increased costs.

Heat abatement, efficient lighting, and energy efficiency remain top priorities for all Hawaii public schools. The deployment of GEMS financing to the DOE significantly increases the DOE's ability to become more energy efficient and to bring temperatures down to appropriate levels to create a quality learning environment for Hawaii's students.

TESTIMONY OF RANDY IWASE
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII
TO THE
SENATE COMMITTEES ON
EDUCATION
&
TRANSPORTATION AND ENERGY

March 22, 2017
2:45 p.m.

MEASURE: H.B. No. 957, H.D. 1

TITLE: RELATING TO HEAT ABATEMENT

Chair Kidani, Chair Inouye, and Members of the Committees:

DESCRIPTION:

This measure would authorize the Department of Education (“DOE”) and the Department of Budget and Finance (“B&F”) to borrow an unspecified amount of moneys from the Hawaii Green Infrastructure Loan Program for capital improvement program equipment and installation costs for air conditioning, energy-efficient lighting, and other energy-efficiency measures related to 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 Committees’ 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, provided that funds for repayment are provided for the duration of the loan repayment. Unintended consequences, including increased customer surcharges and/or a limited ability to achieve the State’s statutorily required Energy Efficiency Portfolio Standards, pursuant to section 269-96, HRS, may arise if

general fund appropriations are only provided for initial loan repayments (FY 2017-2018) as proposed in Section 6 of this measure.

The Commission also notes that on February 22, 2017, via Order No. 34421 in Docket No. 2014-0135, the Commission approved Program Notification No. 11 ("PN11") authorizing the Hawaii Green Infrastructure Authority ("HGIA") to deploy up to \$60,000,000 from the Hawaii Green Infrastructure Loan Program to DOE for energy efficiency ("EE") infrastructure as part of the DOE's Ka Hei Energy Sustainability Program ("Ka Hei Program"). According to HGIA, the Ka Hei Program has developed shovel-ready EE initiatives including energy efficient LED lighting and other energy conservation measures, such as the optimization and control of existing equipment and facilities (i.e. refrigeration and ventilation systems, etc.). PN11 is intended to provide DOE with access to financing to install EE and certain heat abatement measures that could significantly reduce DOE's kW load, energy consumption, and costs.

Thank you for the opportunity to testify on this measure.



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Corey Rosenlee
President
Justin Hughey
Vice President
Amy Perruso
Secretary-Treasurer
Wilbert Holck
Executive Director

TESTIMONY BEFORE THE SENATE COMMITTEES ON
EDUCATION and TRANSPORTATION AND ENERGY

RE: HB 957, HD 1 - RELATING TO HEAT ABATEMENT.

WEDNESDAY, MARCH 22, 2017

COREY ROSENLEE, PRESIDENT
HAWAII STATE TEACHERS ASSOCIATION

Chair Kidani, Chair Inouye, and Members of the Committee:

The Hawaii State Teachers Association **strongly supports HB 957, HD 1**, 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 4th and 9th 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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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. Currently, the DOE expects to cool only 1,064 classrooms with the \$100 million appropriation, an average cost of \$93,985 per classroom. This is unacceptable. Last April, NextEra Energy Hawai'i donated 33 hybrid solar air-conditioning units to Kaunakakai Elementary and Kilohana Elementary schools on Moloka'i. Greenpath Technologies Inc., a Honolulu-based renewable energy company, performed the installations at a cost of \$20,000 per classroom, verifying that classroom cooling could be accomplished sustainably and at significant cost savings.

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. Given that Gov. Ige's approximately \$62 million budget request for the department's heat abatement program appears to have been cut back to \$1.5 million for two schools, this measure must be passed to provide quick relief to teachers and students.

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.



Hawaii Solar Energy Association

Serving Hawaii Since 1977

**TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION
IN REGARD TO HB 957 HD1, RELATING TO HEAT ABATEMENT
BEFORE THE
SENATE COMMITTEE ON EDUCATION AND SENATE COMMITTEE ON
TRANSPORTATION AND ENERGY
ON
WEDNESDAY, MARCH 22ND, 2017**

Chair Kidani, Chair Inouye, and members of the joint committees, my name is Hajime Alabanza, and I represent the Hawaii Solar Energy Association, Inc. (HSEA)

HSEA **supports** HB 957 HD1. This measure seeks to borrow moneys from the Green Energy Market Securitization (GEMS) program for heat abatement measures at public schools.

While the GEMS program has already commenced work regarding heat abatement measures with the DOE and Office of Budget and Finance, we recognize that Hawaii's schools are in dire need of heat abatement measures. HB 957 HD 1 would give the GEMS program the increased scope it would need to fulfill this mission.

The Associated Press recently reported in September of 2015 that 93% of public schools in Hawaii do not have air conditioning units throughout the entire school. That same report used thermal imaging that revealed that some classrooms can reach well over 90 degrees Fahrenheit in the summer months.

A significant statutory change like the one proposed in HB 957 HD 1 would recover much of the cost of these installations and abatement measures through strategic financing through GEMS. Through its loan with the DOE's Ka Hei program, GEMS has already proven its capability to administer these types of funds.

We urge the committee to pass HB 957 HD 1.

Thank you for the opportunity to testify.



COLLEGE OF SOCIAL SCIENCES

HAWAII ENERGY POLICY FORUM

UNIVERSITY OF HAWAI'I AT MĀNOA

Hawaii Energy Policy Forum

Jeanne Schultz Afuvai, Hawaii Inst. for Public Affairs
Hajime Alabanza, Hawaii Solar Energy Association
John Antonio, US Dept of Agriculture
Karlle Asato, Hawaii Government Employees Assn
David Bissell, Kauai Island Utility Cooperative
Joseph Boivin, Hawaii Gas
Warren Bollmeier, Hawaii Renewable Energy Alliance
Michael Brittain, IBEW, Local Union 1260
Albert Chee, Chevron
Elizabeth Cole, The Kohala Center
Kyle Datta, Ulupono Initiative
Mitch Ewan, UH Hawaii Natural Energy Institute
Jay Fidell, ThinkTech Hawaii
Carl Freedman, Haiku Design & Analysis
Matthias Fripp, REIS at University of Hawaii
Ford Fuchigami, Hawaii Dept of Transportation
Justin Gruenstein, City & County of Honolulu
Dale Hahn, Ofc of US Senator Brian Schatz
Michael Hammett, SSRI at University of Hawaii
Senator Lorraine Inouye, Hawaii State Legislature
Randy Iwase, Public Utilities Commission
Brian Kealoha, Hawaii Energy
Darren Kimura, Energy Industries
Kelly King, Sustainable Biodiesel Alliance
Kal Kobayashi, Maui County Energy Office
Representative Chris Lee, Hawaii State Legislature
Gladys Marrone, Building Industry Assn of Hawaii
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Joshua Michaels, Ofc of US Rep. Colleen Hanabusa
Sharon Moriawaki, UH Public Policy Center
Ron Nelson, US Pacific Command Energy Office
Jeffrey Ono, Division of Consumer Advocacy, DCCA
Stan Osserman, HCATT
Darren Pai, Hawaiian Electric Companies
Melissa Pavlicek, Hawaii Public Policy Advocates
Randy Pereira, Hawaii Government Employees Assn
Fredrick Redell, Maui County Energy Office
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Will Rolston, Hawaii County, Research & Development
Peter Rosegg, Hawaiian Electric Companies
Riley Saito, SunPower Systems
Scott Seu, Hawaiian Electric Companies
Joelle Simonpietri, UH Applied Research Lab
Ben Sullivan, Kauai County
Terry Surles, Hawaii State Energy Office, DBEDT
Lance Tanaka, Par Hawaii, Inc.
Maria Tome, Public Utilities Commission
Kirsten Turner, Ofc of US Representative Tulsi Gabbard
Alan Yamamoto, Ofc of US Senator Mazie Hirono

Testimony of Ray Starling
Chair, Energy Efficiency Working Group
Hawaii Energy Policy Forum

To the
Senate Committee on Education
and
Senate Committee on Transportation and Energy

March 22, 2017 at 2:45 pm in Conference Room 229

COMMENTS ON HB957 HD1, Relating to Heat Abatement

Chair Kidani, Chair Inouye, and Members of the Committees,

I am Ray Starling, Chair of the Energy Efficiency Working Group of the Hawaii Energy Policy Forum (Forum). The Forum, created in 2002, is comprised of over 40 representatives from Hawaii's electric utilities, oil and natural gas suppliers, environmental and community groups, renewable energy industry, and federal, state and local government, including representatives from the neighbor islands. Our vision and mission, and comprehensive "10 Point Action Plan" serves as a guide to move Hawaii toward its preferred energy goals and our support for this bill.

HB957 HD1 authorizes the DOE and B&F to borrow moneys from the Hawaii Green Infrastructure Loan Program for heat abatement measures at public schools, and appropriates general funds to make an initial repayment to the Hawaii Green Infrastructure Special Fund.

The Forum has discussed HB957 HD1 and is in full support of the bill's ultimate objective to provide heat abatement and energy efficiency for the public schools. However, the Forum does have concerns about the repayment of rater funds used for the needed loan for school heat abatement, specifically, as follows:

Electric Ratepayers at Risk: The bill would authorize the DOE and B&F to borrow money from the Green Energy Market Securitization (GEMS) to fund heat abatement and energy efficiency measures at public schools. While such abatement measures are greatly needed, HB957 HD1 only authorizes funding for the state to make an "initial" repayment on the money borrowed from GEMS, thus making it unclear whether and how full repayment of the loan will be made. Since GEMS funds come from bonds secured *solely* by electric utility rate-payers, rather than taxpayers, ratepayers would be required to make up any shortfall if the proposed loans are not paid by the state beyond the "initial" payment. This would place an undue and unfair burden on ratepayers. The state should thus obligate itself to make all repayments on any DOE/B&F loans from the GEMS program.

The Forum thus recommends the following clarifying language to ensure that the loan is repaid in full, by amending Section 6 as follows:

SECTION 6. There is appropriated out of the general revenues of the State of Hawaii the sum of \$ _____ or so much thereof as may be necessary for [fiscal year 2017-2018 for] the [initial] loan repayment for the moneys borrowed from the green infrastructure loan program by the department of education and department of budget and finance.

Thank you for the opportunity to testify.

This testimony reflects the position of the Forum as a whole and not necessarily of the individual Forum members or their companies



46-063 Emepela Pl. #U101 Kaneohe, HI 96744 · (808) 679-7454 · Kris Coffield · Co-founder/Executive Director

**TESTIMONY FOR HOUSE BILL 957, HOUSE DRAFT 1, RELATING TO HEAT
ABATEMENT**

**Senate Committee on Education
Hon. Michelle N. Kidani, Chair
Hon. Kaiali'i Kahele, Vice Chair**

**Senate Committee on Transportation and Energy
Hon. Lorraine R. Inouye, Chair
Hon. Donovan M. Dela Cruz, Vice Chair**

**Wednesday, March 22, 2017, 2:45 PM
State Capitol, Conference Room 229**

Honorable Chair Kidani, Chair Inouye, and committee members:

I am Kris Coffield, representing IMUAlliance, 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, House Draft 1, 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. Today, the department officials plan to cool only 1,064 classrooms with the \$100 million appropriated last session, an average cost of \$93,985 per classroom. Last April, however, after NextEra Energy Hawai'i donated 33 hybrid solar air-conditioning units to Kaunakakai Elementary and Kilohana Elementary schools on Moloka'i, Greenpath Technologies Inc., a Honolulu-based renewable energy company, performed the installations at a cost of \$20,000 per classroom, verifying that classroom cooling could be accomplished sustainably and at significant cost savings. Thus, we believe the DOE's current cost projections 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. That said, we oppose amending this bill to dilute available loan funding for heat abatement by expanding the bill's language to fund renewable energy upgrades identified through the DOE's Ka Hei sustainability program for 241 schools.

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

Sincerely,
Kris Coffield
Executive Director
IMUAlliance