

SB3126

Measure Title: RELATING TO PUBLIC SCHOOLS.

Report Title: Public Schools (\$)

Description: To provide for air conditioning, heat abatement and related energy efficiency measures at public schools by authorizing a loan from the green infrastructure loan program to the departments of education and budget and finance, and making appropriations for expenditure of the borrowed funds, additional capital improvements and the initial loan repayment.

Companion: [HB2726](#)

Package:

Current Referral: EDU/TRE, WAM

Introducer(s): KOUCHI (Introduced by request of another party)



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

Date: 02/09/2016
Time: 03:00 PM
Location: 229
Committee: Senate Education
Senate Transportation and Energy

Department: Education

Person Testifying: Kathryn S. Matayoshi, Superintendent of Education

Title of Bill: SB 3126 RELATING TO PUBLIC SCHOOLS

Purpose of Bill: To provide for air conditioning, heat abatement and related energy efficiency measures at public schools by authorizing a loan from the green infrastructure loan program to the departments of education and budget and finance, and making appropriations for expenditure of the borrowed funds, additional capital improvements and the initial loan repayment.

Department's Position:

The Hawaii State Department of Education (Department) is pleased to testify in support of SB 3126. This measure aims to provide funding for air conditioning (AC), heat abatement and related energy efficiency measures at public school classrooms utilizing Green Energy Market Securitization (GEMS) financing and \$30 million in dedicated CIP funding.

These funds will allow the Department to reach the goal of installing AC in 1,000 classrooms. Additionally, the GEMS financing will boost efforts in implementing heat abatement and energy efficient measures towards cooling additional classrooms, while offsetting anticipated energy uses.

Thank you for the opportunity to testify in support of SB 3126.

TAX FOUNDATION OF HAWAII

126 Queen Street, Suite 304

Honolulu, Hawaii 96813 Tel. 536-4587

SUBJECT: MISCELLANEOUS, Use of GEMS Money to Fund Public School Heat Abatement

BILL NUMBER: HB 2726, SB 3126 (Identical)

INTRODUCED BY: HB by Souki by request; SB by Kouchi by request

EXECUTIVE SUMMARY: Allows the Department of Education to borrow \$100 million from the GEMS loan program to cool the schools. Such action must be taken with great care to be sure that the legitimate expectations of bond holders and electric rate payers are not violated.

BRIEF SUMMARY: Authorizes the Department of Education, with the approval of the governor, to borrow \$100 million from the 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 at public schools. Appropriates \$7 million of general fund money for the initial loan repayment. An additional \$30 million of general obligation bond proceeds is appropriated for the same costs.

EFFECTIVE DATE: Upon approval.

STAFF COMMENTS: This bill is sponsored by the Department of Budget and Finance, and is designated BUF-16 (16).

This bill concerns GEMS. GEMS, which stands for Green Energy Market Securitization, is a program that was adopted by our state government in Act 211, SLH 2013. It is codified in Hawaii Revised Statutes chapter 196, part IV.

The idea behind GEMS is that the state wanted to facilitate the buildout of “clean energy infrastructure,” which was seen as a necessary step to reaching a goal of 70% clean energy by 2030. (This was under Gov. Abercrombie’s administration, before the current goal of 100% clean energy by 2045 was signed by Gov. Ige.) GEMS is a financing program that provides low-cost capital to finance solar photovoltaic systems and other clean energy improvements for those who may otherwise have difficulty obtaining financing for these projects. Low-credit homeowners and renters, as well as nonprofits, are among those who qualify for project financing through GEMS. The “securitization” part refers to how this money was going to be raised. The plan was for the State to raise \$150 million on the bond market. Those dollars would then be loaned to these individuals and business entities so they could purchase renewable energy systems or other energy efficiency paraphernalia.

Remember that “raising the money in the bond market” means borrowing it. That money needs to be paid back, with interest. That’s where ordinary folks who get an electric bill every month come in. Buried in the electric bill is a “Green Energy Infrastructure Fee” collected by the utility and passed on to DBEDT. For residential customers, the fee was \$1.29 per month from December 2014 through June 2015. It went up to \$1.42 per month through December 2015, and

is anticipated to be \$1.30 per month for the first half of 2016. Commercial customers, of course, pay more.

This fee pays for principal, interest, and other charges. According to “Revenue Requirements Certificates” filed by DBEDT with the PUC in Docket 2014-0134, principal and interest on the bonds exceeds \$6.5 million every six months, and there are other financing costs, most of which were expended in the beginning to set up and market the bond issue. Now, according to official filings with the Public Utilities Commission in Docket 2014-0135, through September 30, 2015, exactly zero was deployed. To date, three (3) consumer loans have been approved.

Apparently the loan program took a while to set up. Although the bonds were sold in November 2014 and the \$150 million was ready to be deployed then, the program didn’t even begin taking applications until March 2015 for nonprofits and June 2015 for individuals. As of September 30, there were around 250 applications received. There were some denials and some prequalification, but no final approvals were granted and no money went out. Meanwhile, over \$750,000 was spent on administrative costs since program launch, which doesn’t include the millions in upfront legal, accounting, financing, and marketing costs necessary for the bond issue.

Apparently GEMS is an attractive target for raiding because most of the \$150 million raised in the bond issue is still there. But three things need to be remembered: First, it’s a financing program, not a grant program. Second, it’s been established for specific purposes. Third, it is funded by all users of electricity through a “green infrastructure fee” on our electric bills.

The first point, that it is a financing program rather than a grant program, means that if we are using GEMS money we are borrowing it. If we use this \$100 million of GEMS money, we need to pay it back in the future. The Legislatures of tomorrow, then, will need to appreciate and provide for payment of this debt. Some would call this “kicking the can down the road.”

The second point is that the financing program is for specific purposes, namely to fund green infrastructure costs. This means clean energy technology like solar and wind; demand response technology; and energy use reduction and demand side management infrastructure. To fund the program, \$150 million was borrowed on the bond market. Now it is proposed that two-thirds of this, \$100 million, be used to cool the schools. Existing investors bought into the program to support saving the planet, and now we are tweaking the program so that most of the money goes to save school kids. Even if the money is loaned to the Department of Education at “affordable rates,” whatever those are, investors might not be happy about a significant deployment of the capital for purposes other than those mentioned in the GEMS statute. At a minimum we had better make sure that we are loaning the money at institutional market rates, and are not breaching covenants in the bond indenture.

Finally, the principal and interest on the GEMS bonds were and are being paid by a surcharge on utility bills. Does being an electric company customer have anything to do with classroom conditions in the public schools? If this is a problem affecting taxpayers in general, then it should not be funded by a raid on ratepayer money. And we already spend more than one out of

every five State dollars on education, to the tune of \$1.5 billion dollars a year. Why isn't that enough to keep our children from roasting?

Perhaps the better thing to do would be for the Board of Education or the Legislature to conduct a thorough investigation on what has caused this tragedy, for the results of the investigation to be thoroughly understood by lawmakers so they can fix the problems, and to focus the many good, hard-working people in our educational system on managing infrastructure competently.

Digested 2/2/2016

TESTIMONY BY WESLEY K. MACHIDA
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE
STATE OF HAWAII
TO THE SENATE COMMITTEES ON EDUCATION AND
TRANSPORTATION AND ENERGY
ON
SENATE BILL NO. 3126

February 9, 2016

RELATING TO PUBLIC SCHOOLS

Senate Bill No. 3126 is an emergency appropriation measure which:

1. Appropriates special funds from the Hawaii Green Infrastructure Special Fund to provide a loan to the Department of Education (DOE) and the Department of Budget and Finance (B&F) for the equipment and installation of air conditioning, energy efficient lighting and other energy efficiency measures.
2. Authorizes DOE and B&F to borrow from the Green Infrastructure Loan Program and authorizes DOE to expend the funds for the equipment and installation of air conditioning, heat abatement equipment, energy efficient lighting and other energy efficiency measures.
3. Appropriates general obligation (G.O.) bond funds to DOE for the equipment and installation of air conditioning, heat abatement equipment, energy efficient lighting and other energy efficiency measures.
4. Appropriates general funds to B&F to make the initial loan repayment to the Green Infrastructure Loan Program.

B&F strongly supports this Administration measure which will allow DOE to more expeditiously address heat abatement concerns, while employing energy efficiency measures to offset increased energy needs. This measure will allow such

projects to be implemented as quickly as possible and with least disruption to the affected schools to provide improved learning and teaching environments for public school students and teachers.

This measure proposes to primarily utilize funds loaned from the Green Infrastructure Loan Program, with G.O. bond funds also requested. Bond Counsel has opined to us that DOE may be a borrower of a green infrastructure loan.

Using the Green Infrastructure Loan Program funds will allow the State to make the best use of its existing resources, as these funds are currently available. Although the terms of the loan are still being worked out, the funds will be loaned to DOE and B&F at reasonable rates and those funds can be made available to DOE quickly through the requested emergency appropriations. Additionally, use of this alternative funding source will mean that these projects will not compete for the limited G.O. bond funds that must be used to address projects statewide.

B&F will provide support to this effort as co-borrower of the loan and will be responsible for the loan repayments. B&F will continue to work with DOE and the Hawaii Green Energy Infrastructure Authority, who oversees the Green Infrastructure Loan Program, to ensure proper implementation of this proposal.



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

DAVID Y. IGE
GOVERNOR

LUIS P. SALAVERIA
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

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Statement of
LUIS P. SALAVERIA
Director
Department of Business, Economic Development, and Tourism
before the
**SENATE COMMITTEES ON EDUCATION
AND
TRANSPORTATION AND ENERGY**

Tuesday, February 9, 2016
3:00p.m.
State Capitol, Conference Room 229

in consideration of
SB3126
RELATING TO PUBLIC SCHOOLS.

Chairs Kidani and Inouye, Vice Chairs Harimoto and Gabbard, and Members of the Committees.

The Department of Business, Economic Development, and Tourism (DBEDT) supports SB 3126, which provides for air conditioning, heat abatement and related energy efficiency measures at public schools using, in part, a loan from the Hawaii green infrastructure loan program.

DBEDT strongly supports the deployment of cost-effective energy efficiency, which helps ensure continued progress to our Energy Efficiency Portfolio Standards and the goals of the Hawaii Clean Energy Initiative. DBEDT would also like to note that use of the Green Energy Market Securitization Bonds 2014 Series A bond sale proceeds for cost-effective energy efficiency is consistent with the “green bond” designation.

In order to be consistent with the statutorily approved uses of the green infrastructure loan program, DBEDT suggests that the language on page 3, line 8 add the additional text, “for the purposes allowed under Hawaii Revised Statutes 196-65(b).” Similarly, DBEDT suggests the following language be added to page 3, line 15, “as permissible under Hawaii Revised Statutes 196-65(b).”

DBEDT respectfully defers to the Hawaii Green Infrastructure Authority on the oversight and use of its funds, the Department of Education on the implementation of the efficiency measures, and the Department of Budget and Finance on the use of general obligation bond funds.

Thank you for the opportunity to offer testimony in support of SB 3126.



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Testimony of ERIK KVAM
Director of Renewable Energy Action Coalition of Hawaii
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In SUPPORT of SB 3126 RELATING TO PUBLIC SCHOOLS
before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Tuesday, February 9, 2016 3:00 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Erik Kvam. I am a Director of Renewable Energy Action Coalition of Hawaii (REACH). REACH is a trade association whose vision is a Hawaiian energy economy based 100% on renewable sources indigenous to Hawaii.

REACH is in **SUPPORT** of SB 3126.

Right now, the State of Hawaii is paying interest and fees on more than \$100 million of funds that were borrowed for the green infrastructure loan program. It appears that those funds are idle and are likely to remain idle for the foreseeable future.

Instead of letting those borrowed funds remain idle, it makes sense to use those borrowed funds to pay for solar air conditioning and other energy efficiency improvements, in the State's schools. Such improvements will save the State money and allow the State to repay the borrowed funds out of money saved from such improvements.

REACH **SUPPORTS** SB 3126 – authorizing a loan from the green infrastructure loan program to the Department of Education and the Department of Budget & Finance – for the equipment and installation of such air conditioning and energy efficiency improvements.

Thank you for allowing me to testify.



DAVID Y. IGE
GOVERNOR

TARA M. YOUNG
EXECUTIVE DIRECTOR

HAWAII GREEN INFRASTRUCTURE AUTHORITY

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Statement of
TARA YOUNG
Executive Director
Hawaii Green Infrastructure Authority
before the
SENATE COMMITTEE ON EDUCATION
and
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Tuesday, February 9, 2016
3:00p.m.
State Capitol, Conference Room 229

in consideration of
SB3126
RELATING TO PUBLIC SCHOOLS.

Chair Kidani, Chair Inouye, Vice Chair Harimoto, Vice Chair Gabbard, and
Members of the Committee.

The Hawaii Green Infrastructure Authority (HGIA) supports SB 3126, which provides for air conditioning, heat abatement and related energy efficiency measures at public schools using, in part, a loan from the HGIA's green infrastructure lending portfolio.

HGIA was originally founded with a broad mandate to accelerate adoption of renewable energy technology by deploying capital to consumers, for-profit, non-profit and public sector entities. HGIA is confident that this initiative will advance progress of our Energy Efficiency Portfolio Standards and the goals of the Hawaii Clean Energy Initiative. The application of Green Energy Market Securitization (GEMS) capital toward public sector energy efficiency improvements, as part of the overall program envisioned under SB 3126, is consistent with the HGIA's mission and charter, and will complement its portfolio of consumer and commercial

lending programs already in place. HGIA has already proposed a loan program for commercial energy efficiency improvements with many analogous elements to the program contemplated under SB 3126.

HGIA would also note that a secondary advantage of a market-driven program like GEMS is that funds are available for deployment, subject to appropriation. Given the urgency of the situation in our classrooms, we believe that rapid execution is critical. HGIA has the resources and capabilities to work with HIDOE to bring relief to Hawaii's classrooms as quickly as possible should the legislation be enacted.

This proposed legislation is entirely aligned with HGIA's mission. HGIA will continue to work with the Department of Education on the implementation of the efficiency measures, and the Department of Budget and Finance on the use of general obligation bond funds. HGIA would like to work with stakeholders to ensure that improvements in energy efficiency at HIDOE as a result of these investments are measurable and accountable.

Thank you for the opportunity to offer testimony in support of SB 3126.



**SENATE COMMITTEE ON EDUCATION
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY**

February 9, 2016, 3 P.M.

Room 229

(Testimony is 1 page long)

**TESTIMONY IN SUPPORT OF SB 3126
PROPOSED CLARIFYING AMENDMENT**

Aloha Chairs Kidani and Inouye, and members of the committees:

The Blue Planet Foundation supports SB 3126, which authorizes the use of funds from the green infrastructure authority to install air conditioning and efficiency measures in schools. We note that the original purpose of the green infrastructure program is to implement a new mechanism to fund upfront capital costs for clean energy strategies. To this end, the cooling strategies utilized under SB 3126 should be focused on clean energy strategies such as renewable generation (e.g. solar-powered air conditioning), demand response, and energy storage – in addition to efficiency measures such as reflective roofing, ventilation, and shading with vegetation.

We suggest amending Section 4 as follows:

SECTION 4. The department of education and department of budget and finance, with the approval of the governor, are authorized to borrow the sum of \$100,000,000 or so much thereof as may be necessary for fiscal year 2015-2016 from the green infrastructure loan program for capital improvement program equipment and installation costs for renewable-powered air conditioning, energy efficient lighting, energy storage, demand response, reflective roofing, ventilation, vegetation shading, and other energy efficiency or clean energy measures related to heat abatement at public schools

Blue Planet hopes that the legislature will consider a broad plan to provide schools with air conditioning powered by 100% renewable sources that are coupled with energy storage that will enable all schools to operate as emergency shelters in case of a grid power outage. Such an initiative would serve the public in multiple ways by providing an energy independent safe haven for residents during a disaster; demonstrating energy science and engineering to students; and operating as a pilot for the utility to better understand how microgrids can function as part of our 100% clean energy future.

Thank you for the opportunity to testify.

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

TESTIMONY BEFORE THE SENATE COMMITTEES ON
EDUCATION AND TRANSPORTATION AND ENERGY

RE: SB 3126 - RELATING TO PUBLIC SCHOOLS.

TUESDAY, FEBRUARY 9, 2016

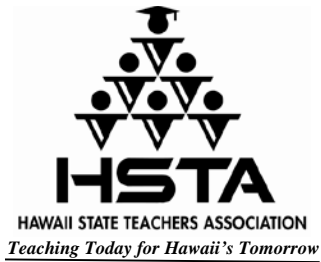
COREY ROSENLEE, PRESIDENT
HAWAII STATE TEACHERS ASSOCIATION

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

The Hawaii State Teachers Association **strongly supports SB 3126**, relating to public schools, **with suggested amendments**.

It's getting hot in Hawai'i. According to the National Weather Service, our state set over 50 high temperature records this summer, 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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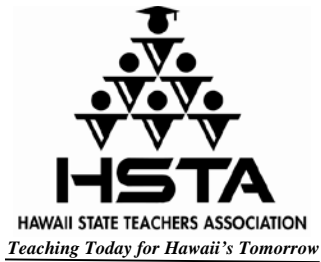
Wilbert Holck
Executive Director

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.

We applaud Gov. David Ige's call to cool 1,000 classrooms within the next two years. While previous department of education estimates put the cost of comprehensive air conditioning at \$1.5 billion, that figure has been fallen as investments in experiments with renewable energy technology have proven fruitful. Furthermore, in conversations with photovoltaic companies, advocates for cool schools have learned that employing off-grid DC-powered air conditioners, operated entirely from photovoltaic modules that store energy in power-saving batteries, could cost between \$15,000 to \$30,000 per classroom, a savings of approximately 70 percent from earlier departmental projections (discounting a monthly lease per-classroom payment that could be offset by the department's ongoing and all-encompassing renewable energy savings).

Yet, a number of questions remain about comprehensive classroom cooling, such as:

- What type of batteries and/or solar panels should be used for off-grid and renewable units, and how many of each? Enchanted Lakes Elementary is piloting a lead acid battery, while Kalaheo High School will be employing a salt water battery.
- How many thermal units (BTU) are needed to properly air condition classrooms of varying sizes?
- How should comprehensive heat abatement be funded, especially if the cost of a cooling system can be lowered by up to 75 percent? Administrators at Enchanted Lake Elementary believe that they can install air conditioning at a cost of \$5,000-\$6,000 per classroom, a cost at which, if scaled, could bring down the total for comprehensive statewide cooling for all 7,000 classrooms in need to approximately \$40 million.



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While HSTA supports the goals of this bill—funding air conditioning, heat abatement and related energy efficiency measures through a \$100 million loan from the green infrastructure loan program—we feel that that this measure may be strengthened by combining it into one measure with the contents of HB 2569, HD1, which requires the DOE to become net-zero with respect to energy use by 2035, establish microgrid pilot projects at public schools, and expedite the cooling of all public school classrooms to a temperature acceptable for student learning. Additionally, we believe that a timeline for comprehensive classroom cooling should be placed in state law to continue the heat abatement initiatives launched by this bill. Thus, we urge your committee to add an additional section to the proposal to read: “**§302A-Classroom climate control and cooling.** (a) Beginning with the 2016-2017 school year, the department shall develop a plan to air condition public schools that

includes a mix of technologies, including off-grid technology, microgrid technology, photovoltaic technology, and split air conditioning units.

(b) Beginning with the 2017-2018 school year, the department shall develop a master plan to provide air conditioning to all public school classrooms that meet or exceed a temperature of eighty-five degrees Fahrenheit, including a list of priority schools to receive air conditioning by the 2018-2019 school year.

(c) No later than the 2019-2020 school year, the department shall provide air conditioning to at least fifty per cent of public school classrooms that meet or exceed a temperature of eighty-five degrees Fahrenheit.

(d) No later than the 2021-2022 school year, the department shall provide air conditioning to all public school classrooms that meet or exceed a temperature of eighty-five degrees Fahrenheit.”

School should be cool. To improve air conditioning facilities and, in turn, boost student learning, the Hawaii State Teachers Association asks your committee to **support and amend** this bill.