HAWAII STATE TEACHERS ASSOCIATION
Teaching Today for Hawaii's Tomorrow

1200 Ala Kapuna Street ♦ Honolulu, Hawaii 96819
Tel: (808) 833-2711 ♦ Fax: (808) 839-7106 ♦ Web: www.hsta.org

Corey Rosenlee
President

Justin Hughey
Vice President

Amy Perruso
Secretary-Treasurer

Wilbert Holck
Executive Director

TESTIMONY BEFORE THE SENATE COMMITTEE ON WAYS AND MEANS

RE: SB 2604 - RELATING TO A MICROGRID PILOT PROJECT FOR SCHOOLS.

FRIDAY, FEBRUARY 26, 2016

COREY ROSENLEE, PRESIDENT
HAWAII STATE TEACHERS ASSOCIATION

Chair Tokuda and Members of the Committee:

The Hawaii State Teachers Association **supports SB 2604**, relating to a microgrid pilot project for schools.

It's 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

HAWAII STATE TEACHERS ASSOCIATION
Teaching Today for Hawaii's Tomorrow

1200 Ala Kapuna Street ♦ Honolulu, Hawaii 96819
Tel: (808) 833-2711 ♦ Fax: (808) 839-7106 ♦ Web: www.hsta.org

Corey Rosenlee
President

Justin Hughey
Vice President

Amy Perruso
Secretary-Treasurer

Wilbert Holck
Executive Director

vocabulary, total math, problem solving, math procedures, pre-writing, and editing at schools with air conditioning, as compared with peers from non-cooled schools.

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.

Accordingly, HSTA supports all efforts to provide climate control to classrooms using renewable energy technology. We believe, as the preamble to this bill states, that microgrids provide many benefits, including power security when an electrical grid falters, integration of clean and renewable energy, advancement of environmental standards, reduction of grid congestion, and localization of energy production. The DOE's Ka Hei program, through a public-private partnership with OpTerra Energy Services, already provides technical and financial expertise to help reduce energy costs throughout the department, making the program an ideal and economical generator of clean energy cooling and scientific learning.

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** this bill.