



## HOUSE BILL 1935, RELATING TO AIR CONDITIONING IN SCHOOLS

FEBRUARY 8, 2022 · HOUSE EDUCATION  
COMMITTEE · CHAIR REP. JUSTIN H. WOODSON

**POSITION:** Supporting the intent.

**RATIONALE:** The Democratic Party of Hawai'i Education Caucus supports the intent of HB 1935, relating to air conditioning in schools, which appropriates moneys for air conditioning and filtration at Kahakai Elementary School, Kealakehe Elementary School, Kealakehe Intermediate School, and Kealakehe High School of the Department of Education.

If school is cool, then our classrooms should be, too. Yet, last year, classroom temperatures regularly exceeded 100 degrees and have reached as high as 108 degrees in one Kalaheo High School classroom in recent years. **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While local schools' outdated electrical infrastructure often cannot support traditional air conditioning technology, experiments in renewable energy cooling systems have lowered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 air conditioning installation to approximately \$6,000 to \$8,000 per classroom or a total of \$40 million for the roughly 5,000 classrooms currently in need.**

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 that \$100 million would cover heat abatement for thousands of classrooms beyond the governor's call. Unfortunately, contractor bids were 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. At the time, however, 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, installed the units at a cost of \$20,000 per classroom, verifying that classroom cooling could be accomplished sustainably and at significant cost savings. Since then, the cost of air conditioner installation and maintenance that employs renewable technology has declined even more.

Three years ago, HIDOE officials announced an ambitious plan to lower air conditioning installation costs even further. Under a new, streamlined process, HIDOE is now giving school leaders the power to request an electrical assessment from the department to determine if their classrooms have the electrical capacity for additional air conditioning units. If they do, then schools can budget for installation, partner with community groups for equipment donations and installation services, and install split AC and hybrid units that dramatically undercut previous heat abatement costs. Quite frankly, this is what HIDOE leaders should have been doing all along.

That said, we believe that air conditioning should be made available to all schools in need, especially since the costs of heat abatement installation have decreased so dramatically. **Accordingly, we urge your committee to hear HB 2267, relating to education, which would appropriate funds to install air conditioning throughout our state's public school system.**

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## TESTIMONY BEFORE THE HOUSE COMMITTEE ON EDUCATION

RE: HB 1935 – RELATING TO AIR CONDITIONING IN SCHOOLS

TUESDAY, FEBRUARY 8, 2022

OSA TUI, JR., PRESIDENT  
HAWAII STATE TEACHERS ASSOCIATION

Chair Woodson, and Members of the Committee:

The Hawaii State Teachers Association **supports HB 1935**, relating to air conditioning in schools. This bill appropriates funds to provide air conditioning and filtration at Kahakai Elementary School, Kealakehe Elementary School, Kealakehe Intermediate School, and Kealakehe High School of the Department of Education

HSTA thanks you for your past support to cool our schools and ensure air quality, but more needs to be done to complete this task. It is not complete yet, and our students, teachers, and staff are still suffering.

**It should be noted that these particular schools are located in Kona**, and when volcanic eruptions occur on Hawaii island, prevailing wind patterns typically push vog emissions westward, where they accumulate over north and south Kona. Depending on the level of volcanic activity, vog can affect air quality to the point where it poses significant health risks. **When vog levels are high, the public health recommendations to reduce exposure includes staying indoors with windows closed, using an air filter, and avoiding outdoor activities that cause heavy breathing. However, in schools without air conditioning, it can be very difficult to follow these recommendations and retain a healthy learning environment at the same time. Hot temperatures negatively impact the ability of students to learn, and west Hawaii island, and the Kona area in particular, consistently report some of the hottest temperatures in the State.** The coronavirus disease 2019 (COVID-19) pandemic has added additional challenges, where the recommendations to stay outdoors or keep windows open directly conflict with the recommendations regarding vog.

Vog can irritate the skin, eyes, nose, and throat, and can penetrate airways and the lungs, which can trigger respiratory distress and induce asthma symptoms. Other common symptoms of vog exposure include headaches, sore throat, flu-like symptoms, and lethargy. Studies about the effects of vog on residents of Hawaii island show correlations between vog exposure and increased rates of high blood pressure, acute bronchitis, acute airway problems, asthma exacerbations and respiratory illness. Children are generally more sensitive to vog than adults because children

have higher respiratory rates than adults, meaning they take more breaths per minute.

Also, being overheated negatively affects health and learning, if windows need to be closed, it is just too hot in their classrooms. 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. 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.

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

**HB-1935**

Submitted on: 2/7/2022 3:42:04 PM

Testimony for EDN on 2/8/2022 2:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Remote Testimony Requested</b>
Dara Carlin, M.A.	Individual	Support	No

Comments:

Stand in Support.