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# A BILL FOR AN ACT

RELATING TO ENERGY.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1 PART I

2 SECTION 1. The legislature finds that the current governor  
3 has pledged to address the challenges facing Hawaii's  
4 classrooms, including soaring temperatures, outdated  
5 infrastructure, and costly electric bills throughout the State.

6 The legislature also finds that the University of Hawaii is  
7 progressing toward becoming energy net-zero by producing as much  
8 renewable energy as the system consumes by 2035. This progress  
9 will reduce the university's energy costs, contribute to  
10 Hawaii's clean energy goals, and make better use of limited  
11 resources. A similar opportunity to save on long-term energy  
12 costs and maximize limited resources exists in Hawaii's  
13 elementary, middle, and high schools. The department of  
14 education spends approximately \$62,000,000 annually for  
15 electricity, gas, and water services. By implementing a program  
16 similar to the university program, the large sum of money used  
17 for utility services could be redirected broadly on projects



1 that will improve the learning environment, such as cooling  
2 solutions, better learning tools for students, enriching sports,  
3 arts, and extracurricular programs, and increasing pay to hire  
4 and retain better teachers.

5       Temperatures in Hawaii's kindergarten through grade twelve  
6 classrooms can reach over one hundred degrees Fahrenheit, far  
7 exceeding the ideal conditions in which children and teachers  
8 are effectively able to perform. Reducing temperatures in hot  
9 classrooms is critical to increasing student learning. A recent  
10 peer-reviewed study by the Harvard School of Public Health, "The  
11 Impact of Green Buildings on Cognitive Function," found that  
12 cognitive scores were over one hundred per cent higher in  
13 enhanced green building conditions with adequate ventilation  
14 that lowered carbon dioxide levels and provided a comfortable  
15 indoor environment. Other recent studies have shown increases  
16 in cognitive function and student performance in classrooms with  
17 daytime light emitting diode lighting over traditional  
18 fluorescent or incandescent lighting.

19       Installing more efficient lighting, natural ventilation,  
20 and integrating innovative renewable technologies such as solar  
21 panels and batteries can help power schools, reduce electricity



1 costs, and improve student performance. Powering new classroom  
2 air conditioning units with solar panels and batteries without  
3 the need to connect to the electric grid can also reduce costs  
4 by eliminating the need for costly campus electrical upgrades,  
5 and will not add significant new costs to public school electric  
6 bills.

7 Although the department of education previously estimated  
8 that it would cost over \$30,000 to air condition a single  
9 classroom, pilot projects installing cheaper solar-powered air  
10 conditioning solutions have demonstrated that installation can  
11 cost less than \$8,000 per classroom. The legislature finds that  
12 it is in the public's interest to maximize the use of effective  
13 innovative technologies to reduce installation and operating  
14 costs.

15 The purpose of this part is to accelerate the goals of the  
16 department of education to cool Hawaii's schools, reduce energy  
17 costs, meet Hawaii's clean energy goals, and provide all  
18 students with better classrooms in which to learn.

19 SECTION 2. Chapter 302A, Hawaii Revised Statutes, is  
20 amended by adding a new section to part VI to be appropriately  
21 designated and to read as follows:



1        "§302A- Sustainable schools initiative. (a) The  
2 department shall establish a goal of becoming net-zero with  
3 respect to energy use, producing as much renewable energy as the  
4 department consumes across all public school facilities, by  
5 January 1, 2035.

6        (b) The department shall use the amount and value of  
7 energy consumed by the department across all public school  
8 facilities during the 2015-2016 fiscal year as the benchmark for  
9 measuring the department's progress toward the energy usage goal  
10 set forth in subsection (a).

11       (c) The department shall submit an annual report to the  
12 legislature no later than twenty days before the convening of  
13 each regular session. The annual report shall include  
14 information about:

- 15        (1) Overall progress toward the net-zero energy goal set  
16        forth in subsection (a); and
- 17        (2) Plans and recommendations to advance the net-zero  
18        energy goal set forth in subsection (a)."

19        SECTION 3. (a) In each county, the department of  
20 education shall establish a minimum of one microgrid pilot  
21 project at public schools that also serve as emergency shelters.



1 (b) Each pilot project shall provide power for the  
2 operations of campus facilities and be capable of operation  
3 without reliance on the existing electric grid.

4 (c) The department of education, in conjunction with the:

5 (1) Hawaii natural energy institute at the University of  
6 Hawaii at Manoa;

7 (2) Hawaii state energy office; and

8 (3) The administrator or director of the county emergency  
9 management agency affected,

10 shall examine the pilot projects, and identify how to maximize  
11 microgrid inclusion at all department of education public  
12 schools.

13 (d) The department of education shall report its findings  
14 and recommendations, including any proposed legislation, to the  
15 legislature no later than twenty days prior to the convening of  
16 the regular session of 2018.

17 SECTION 4. (a) The department of education shall expedite  
18 the cooling of all public school classrooms to a temperature  
19 acceptable for student learning.

20 (b) When implementing classroom cooling measures, the  
21 department, and any contractor hired to implement classroom



1 cooling measures, shall maximize energy efficiency, and  
2 installation and operating costs savings over the entire life of  
3 the project.

4 (c) The department of education shall submit a report to  
5 the legislature about the implementation of measures taken to  
6 cool public school classrooms. The report shall include the  
7 following information:

8 (1) The number of classrooms that cooling measures were  
9 implemented in and that still require cooling;

10 (2) The different types of cooling measures implemented;

11 (3) Costs per school for each type of planned cooling  
12 measure, including installation, upgrades, equipment,  
13 maintenance, and projected operating costs; and

14 (4) Actual costs per school for each cooling measure  
15 implemented, including installation, equipment,  
16 maintenance, and operating costs.

17 (d) The department of education shall report its findings  
18 and recommendations, including any proposed legislation, to the  
19 legislature no later than twenty days prior to the convening of  
20 each regular session following a year in which the department of



1 education expends general obligation bond moneys authorized by  
2 this Act for the purpose of cooling classrooms.

3 PART II

4 SECTION 5. This part is recommended by the governor for  
5 immediate passage in accordance with article VII section 9 of  
6 the Hawaii State Constitution.

7 SECTION 6. There is appropriated out of the Hawaii green  
8 infrastructure special fund the sum of \$ or so much  
9 thereof as may be necessary for fiscal year 2015-2016 and to  
10 loan such moneys to the department of education and department  
11 of budget and finance.

12 The sum appropriated shall be expended by the department of  
13 business, economic development, and tourism for the purposes of  
14 this Act.

15 SECTION 7. The department of education and department of  
16 budget and finance, with the approval of the governor, are  
17 authorized to borrow the sum of \$ or so much thereof as  
18 may be necessary for fiscal year 2015-2016 from the green  
19 infrastructure loan program for capital improvement program  
20 equipment and installation costs for air conditioning, energy-  
21 efficient lighting, and other energy-efficiency measures related



1 to heat abatement at public schools. The sum of \$ or so  
2 much thereof as may be necessary is appropriated out of other  
3 funds for fiscal year 2015-2016 to allow expenditure of the  
4 funds for such purpose.

5 The sums appropriated shall be expended by the department  
6 of education for the purposes of this Act.

7 SECTION 8. There is appropriated out of the general  
8 revenues of the State of Hawaii the sum of \$ or so much  
9 thereof as may be necessary for fiscal year 2016-2017 for the  
10 initial loan repayment for the moneys borrowed from the green  
11 infrastructure loan program by the department of education and  
12 department of budget and finance.

13 The sum appropriated shall be expended by the department of  
14 budget and finance for the purposes of this Act.

15 SECTION 9. The director of finance is authorized to issue  
16 general obligation bonds in the sum of \$ or so much  
17 thereof as may be necessary and the same sum or so much thereof  
18 as may be necessary is appropriated for fiscal year 2015-2016  
19 for capital improvement program equipment and installation costs  
20 for air conditioning, other heat abatement measures, energy-





1 efficient lighting, and other energy-efficiency measures related  
2 to heat abatement at public schools.

3 The sum appropriated shall be expended by the department of  
4 education for the purposes of this Act.

5 SECTION 10. Funds appropriated or authorized by this Act  
6 that are not expended or encumbered by June 30, 2018, shall  
7 lapse as of that date; provided that funds appropriated or  
8 authorized by section 9 of this Act not expended or encumbered  
9 by June 30, 2017, shall lapse as of that date.

10 SECTION 11. New statutory material is underscored.

11 SECTION 12. This Act shall take effect on July 1, 2030;  
12 provided that section 8 shall take effect on July 1, 2016.



**Report Title:**

Department of Education; Net-Zero Energy Use; Classrooms;  
Cooling; Energy; Microgrids; General Obligation Bonds;  
Appropriation

**Description:**

Requires DOE to: (1) Establish a goal of becoming net-zero with respect to energy use by January 1, 2035; (2) Establish microgrid pilot projects at public schools that also serve as emergency shelters; and (3) Expedite the cooling of all public school classrooms. Authorizes the issuance of general obligation bonds and the use of funds from the Green Infrastructure Loan Program to implement cooling measures in public school classrooms. (HB2569 HD2)

*The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.*

