

JOSH GREEN, M.D.  
GOVERNOR



DEPT. COMM. NO. 240

KEITH T. HAYASHI  
SUPERINTENDENT

STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
KA 'OIHANA HO'ONA'AUAO  
P.O. BOX 2360  
HONOLULU, HAWAII 96804

OFFICE OF THE DEPUTY SUPERINTENDENT OF STRATEGY AND ADMINISTRATION

December 31, 2025

The Honorable Ronald D. Kouchi, President  
and Members of the Senate  
415 South Beretania Street  
State Capitol, Room 409  
Honolulu, Hawaii 96813

The Honorable Nadine K. Nakamura, Speaker  
and Members of the House of Representatives  
415 South Beretania Street  
State Capitol, Room 431  
Honolulu, Hawaii 96813

Re: Hawaii State Department of Education Annual Report on Sustainable Schools Initiative

Dear President Kouchi, Speaker Nakamura, and Members of the Legislature:

For your information and consideration, a copy of the annual Sustainable Schools Initiative report is being transmitted, pursuant to Section 302A-1510, Hawaii Revised Statutes (HRS). In accordance with Section 93-16, HRS, the report may be viewed electronically at:  
<https://hawaiipublicschools.org/data-reports/legislative-reports/>

Should you have any questions, please contact Ken Kakesako, Director of the Policy, Innovation, Planning and Evaluation Branch, Office of Strategy, Innovation and Performance, via email at [ken.kakesako@k12.hi.us](mailto:ken.kakesako@k12.hi.us) or by phone at (808) 282-3430.

Sincerely,

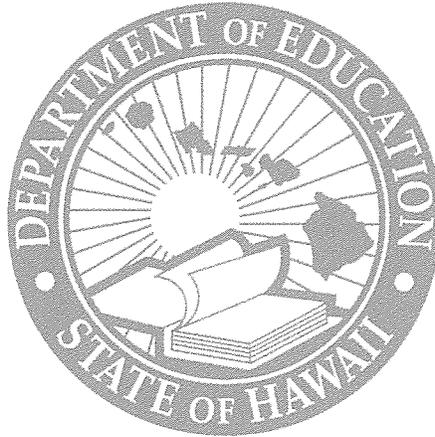
A handwritten signature in black ink, appearing to read "Tammi", with a long horizontal flourish extending to the right.

Tammi Oyadomari-Chun  
Deputy Superintendent of Strategy and Administration

TOC:at  
Attachment

c: Legislative Reference Bureau  
Hawaii State Public Library System  
University of Hawaii  
Deputy Superintendent of Operations  
Office of Facilities and Operations

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State of Hawai'i  
Department of Education

# **Annual Report on Sustainable Schools Initiative**

December 2025

Section 302A-1510, Hawai'i Revised Statutes (HRS), requires the Hawai'i State Department of Education (Department) to annually report on the following: 1) The overall progress toward the net-zero energy goal set forth in Section 302A-1510(a), HRS; 2) Its plans and recommendations to advance the net-zero goal set forth in Section 302A-1510(a), HRS; 3) Different types of cooling measures implemented; and 4) Any challenges or barriers encountered or anticipated by the Department in meeting the net-zero energy goal set forth in Section 302A-1510(a), HRS.

**Annual Report on the Hawai'i State Department of Education's  
Sustainable Schools Initiative**

**1) OVERALL PROGRESS TOWARD THE NET-ZERO ENERGY GOAL BY JANUARY 1, 2035  
SET FORTH IN SECTION 302A-1510(a), HRS:**

| Hawai'i School Facilities Energy Report<br>Comparison of Fiscal Year (FY) 2024 and FY 2025  |                    |               |                |               |
|---|--------------------|---------------|----------------|---------------|
|   | FY 2024            |               | FY 2025        |               |
| School Facilities Energy  | MWh <sup>(2)</sup> | \$M           | MWh            | \$M           |
| Utility Energy <sup>(1)</sup>   | 113,740            | \$47.9        | 121,933        | \$49.3        |
| Renewable Energy  | 20,560             | \$5.1         | 19,692         | \$4.9         |
| <b>Total Energy</b>   | <b>134,300</b>     | <b>\$53.0</b> | <b>141,625</b> | <b>\$54.2</b> |
| 1. Utility Energy includes Hawaiian Electric Company, Hawai'i Electric Light Company, Kaua'i Island Utility Cooperative, and Maui Electric Company.<br>2. MWh = megawatt-hour |                    |               |                |               |

The year-over-year (YOY) percentage changes and the percent of total energy are provided in the table below:

|                               | YOY Change |           | Share of Total Energy |             |
|-------------------------------|------------|-----------|-----------------------|-------------|
| School Facilities Energy      | MWh        | \$        | FY 2024               | FY 2025     |
| Utility Energy <sup>(1)</sup> | 7%         | 3%        | 85%                   | 86%         |
| Renewable Energy              | -4%        | -2%       | 15%                   | 14%         |
| <b>Total Energy</b>           | <b>5%</b>  | <b>2%</b> | <b>100%</b>           | <b>100%</b> |

*Note: Figures in the table are rounded to the nearest percent*

For the full FY 2025, total electricity consumption across all public campuses statewide was up 5% from FY 2024. The total cost of electricity increased by 2%.

The YOY utility electricity consumption increased by 7%. However, the YOY cost of utility electricity increased only 3% due to a 4% decrease in average utility rates. The average cost of utility electricity for FY 2025 was \$0.4044 per kilowatt-hour (kWh) compared to \$0.4215 in FY 2024.

The YOY renewable electricity consumption across all public campuses statewide was down 4% from FY 2024. Although the average contractual rates paid to power purchase agreement providers increased by 2%, the annual cost of renewable electricity was lower by 2% due to the 4% decrease in production.

# School Electricity Consumption

Million kWh

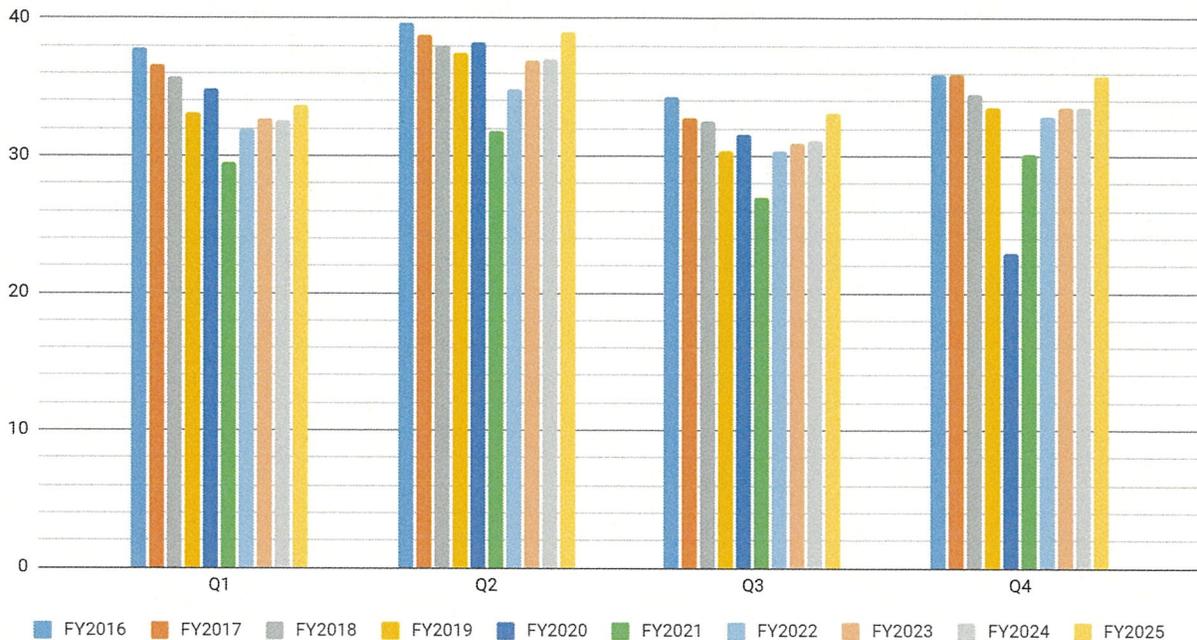


Figure 1 - Total Electricity Consumption by FQ

The overall consumption in FY 2025 was 5% higher than FY 2024. On a YOY basis, the consumption in all quarters of FY 2025 was up from FY 2024.

## 2) PLANS AND RECOMMENDATION TO ADVANCE THE NET-ZERO ENERGY GOAL SET FORTH IN SECTION 302A-1510(a), HRS:

Over the longer term, reductions in utility electricity consumption have been driven by increased onsite solar PV generation and electricity conservation and energy efficiency measures; however, in FY 2025, total utility electricity consumption increased relative to FY 2024. Increased solar PV consumption amounted to approximately 1.3 million kWh per year, and conservation and energy efficiency amounted to approximately 2.0 million kWh per year.

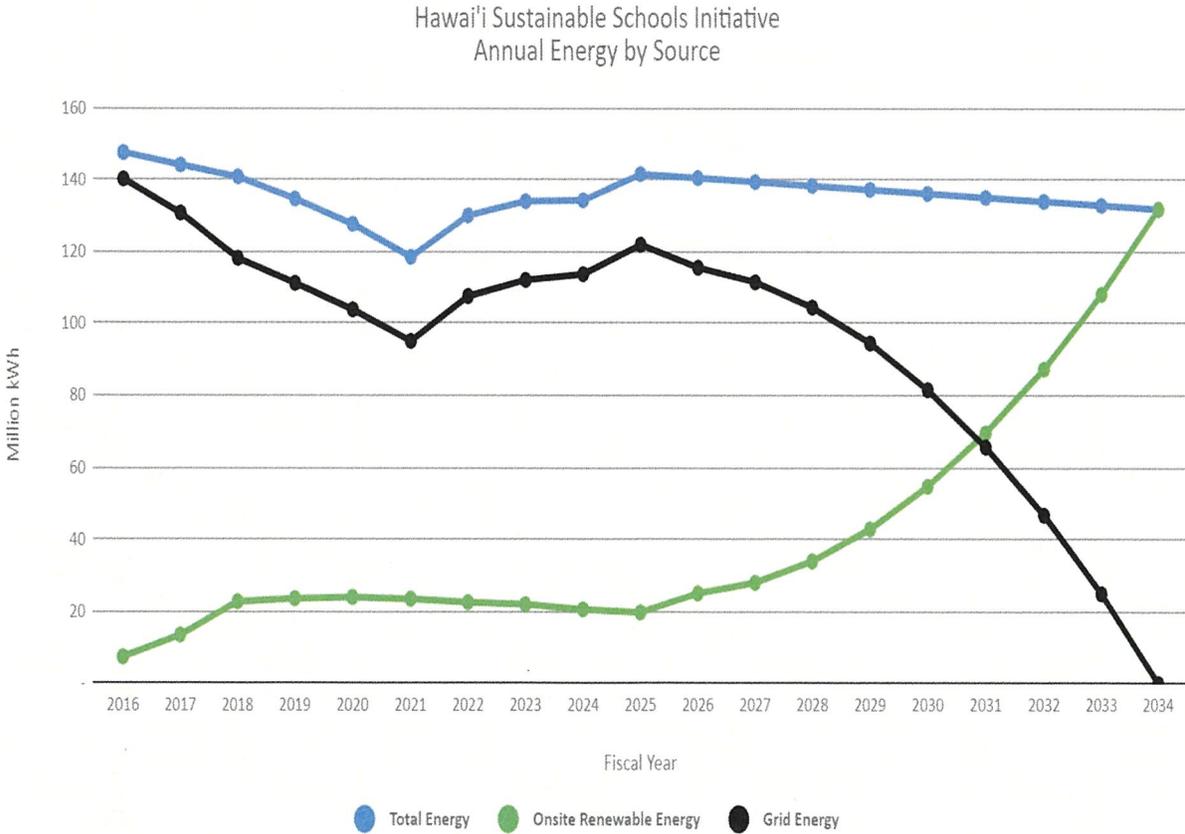
Recent negotiations for onsite solar photovoltaic (PV) electricity average \$0.2792 per kWh. Although this is 30% higher than previous PV solar installed at Hawaii schools, it is still at a discount from the lowest expected cost of utility electricity.

On a historical basis, although the consumption of utility electricity has declined by 2 million kWh per year since FY 2016, the cost of that electricity has increased by \$1.6 million a year. This is because the rate paid for utility electricity has, on average, gone up faster than the reduction in consumption. On average, the utility electricity rate has gone up \$0.019 per kWh per year. By comparison, the solar PV electricity rate has only increased to \$0.0041 per kWh per year.

**School Facilities Historical Data**

| FISCAL YEAR | Grid from Utilities |             | Onsite Renewable Energy |            | Total        |             |
|-------------|---------------------|-------------|-------------------------|------------|--------------|-------------|
|             | Grid Cost           | Grid kWh    | Onsite Cost             | Onsite kWh | Total Cost   | Total kWh   |
| FY2016      | \$37,391,889        | 140,234,958 | \$1,611,222             | 7,364,015  | \$39,003,100 | 147,598,973 |
| FY2017      | \$35,715,782        | 130,744,891 | \$2,907,602             | 13,383,387 | \$38,623,362 | 144,128,278 |
| FY2018      | \$35,146,461        | 118,154,761 | \$4,887,719             | 22,658,877 | \$40,034,164 | 140,813,638 |
| FY2019      | \$37,303,528        | 111,196,400 | \$5,260,174             | 23,487,725 | \$42,602,165 | 134,684,125 |
| FY2020      | \$34,243,443        | 103,845,177 | \$5,502,585             | 23,903,943 | \$39,723,761 | 127,647,855 |
| FY2021      | \$29,131,849        | 95,080,156  | \$5,529,898             | 23,424,997 | \$34,661,754 | 118,505,153 |
| FY2022      | \$39,582,126        | 107,580,693 | \$5,423,489             | 22,479,460 | \$45,005,545 | 130,060,153 |
| FY2023      | \$50,378,215        | 112,107,710 | \$5,327,135             | 21,935,903 | \$55,705,289 | 134,043,613 |
| FY2024      | \$47,938,239        | 113,727,098 | \$5,054,623             | 20,559,628 | \$53,017,094 | 134,286,726 |
| FY2025      | \$49,309,150        | 121,932,852 | \$4,932,998             | 19,685,810 | \$54,267,925 | 141,618,662 |

Based on this historical performance, the Hawai'i State Department of Education (Department) developed a schedule by which the Sustainable Schools Initiative may be accomplished by January 1, 2035.

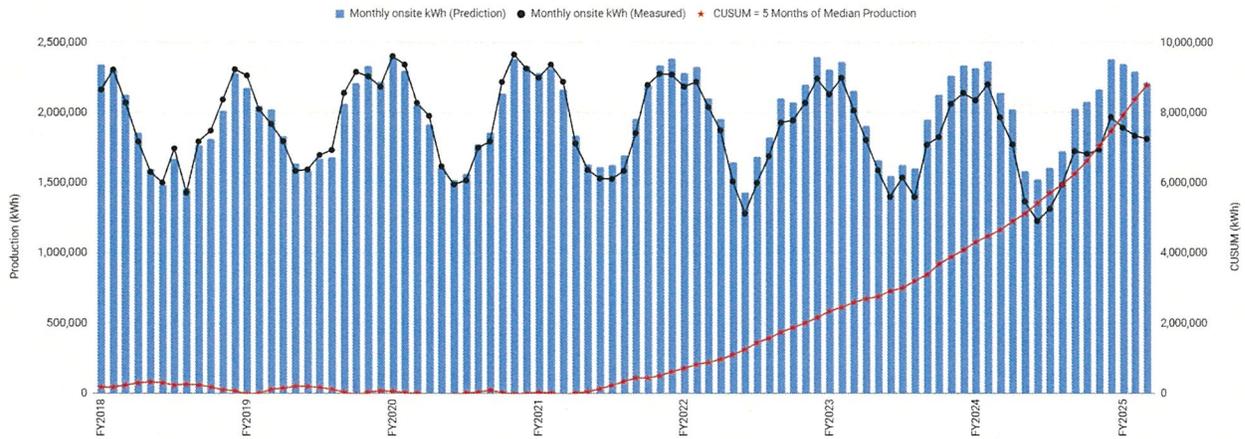


### 3) CHALLENGES OR BARRIERS ENCOUNTERED OR ANTICIPATED IN MEETING THE NET-ZERO ENERGY GOAL SET FORTH IN SECTION 302A-1510(a), HRS:

An issue has developed with existing solar PV production that may seriously affect the life of these systems and, potentially, the life of future systems. Based simply on annual production records, there has been a noticeable drop off in electricity production since FY 2020. This drop off amounts to 14% or an average of 3.5% a year. This is seven times higher than solar industry standards.

Based on a model of solar production as a function of solar irradiance, since the end of FY 2020, cumulative solar energy production has been 8.8 million kWh lower than expected. This is the equivalent of approximately five months of production. Using a rounded planning assumption that utility electricity costs average approximately \$0.20 per kWh more than onsite solar electricity, the lower solar production has cost the Department an estimated \$1.8 million over the last four fiscal years. There are indications that the deterioration may be increasing.

Measured vs Predicted PV Solar Production (kWh per Month)



There is no single cause of the problem. Various factors are at work, including varying ages and designs of the systems. The Department will require that future PV solar systems be designed, constructed and maintained to strict standards.

Overall, while the Department is statutorily required to pursue the net-zero renewable energy goal, achieving net-zero production at public school campuses presents several related economic and operational challenges, including the following:

- The electric utilities are also mandated to implement 100% renewable energy objectives in their resource mixes. This essentially sets up the Department of Education as a competitor to these utilities. If the Department cannot produce the renewable energy at a lower cost than the utilities, it will incur a higher cost of operation producing a negative economic result. The electric utilities have the operational objective and expertise in producing electricity while the Department's primary operational objective is to provide public education.
- Unlike the electric utilities that have diverse customer electric demand load shapes, the Department has to contend with school electric demand load shapes that are largely the same. During the summer vacation, demand is much lower than during the normal school year. If renewable energy capacity is designed to meet higher demand periods, the system cost will be extremely high while production will be far too high during the summer period. Hawaiian Electric Company allows the Department to export excess energy to the grid during low-demand periods, but at rates that are lower than the cost of electricity purchased during peak school-year demand.

- As the renewable energy production capacity at the schools increases toward net-zero over time, the Department’s ability to manage these assets may be constrained unless additional professional and technical resources are acquired.

**4) IMPLEMENTATION OF MEASURES TO COOL PUBLIC SCHOOL CLASSROOMS SET FORTH IN SECTION 302A-1510(e), HRS:**

**School Directed Air Conditioning Program (SDAC) and Heat Abatement Efforts**

**(1) Classrooms with Cooling Measures Implemented; Classrooms Remaining**

Through the SDAC and earlier heat abatement initiatives, the Department has implemented classroom cooling measures in multiple phases.

During the initial SDAC phase (FY 2019–2020), approximately 2,000 classrooms received cooling measures through the installation of approximately 4,000 window air conditioning units. In the most recently completed SDAC phase (FY 2022–2023), an additional 766 classrooms were renovated to add cooling measures, at an overall cost of \$5,876,589.

Separately, under the State’s heat abatement program initiated in 2016, cooling measures were implemented in classrooms using a combination of photovoltaic-powered air conditioning systems (PVAC) and passive cooling strategies. As of November 3, 2025, heat abatement funding has supported cooling measures in 1,267 classrooms, including 840 classrooms funded entirely with heat abatement funds and 427 classrooms funded through mixed sources.

Based on the results of completed phases and current inventory estimates, the Department estimates that more than 2,400 classrooms statewide remain without air conditioning and require cooling measures.

**(2) Types of Cooling Measures Implemented**

Cooling measures implemented to date include:

- Window air conditioning units, primarily through the SDAC program;
- Photovoltaic-powered air conditioning (PVAC) systems, installed under the Heat Abatement Program;
- Passive cooling measures, including roof reflective coatings and ceiling fan installations, implemented at selected campuses; and
- Associated electrical and facility modifications necessary to support these systems.

**(3) Approximate Cost per Classroom for Planned Cooling Measures**

Based on recent SDAC project experience, the Department estimates the approximate capital cost for planned SDAC cooling measures at \$8,000 per classroom. This estimate reflects installation and equipment costs for window air conditioning units only.

This estimate does not include the cost of potential electrical infrastructure upgrades, ongoing maintenance, or projected operating costs over the life of the installed cooling measures. Electrical upgrade needs vary significantly by campus and have not been comprehensively quantified.

Costs associated with PVAC systems and passive cooling measures under the heat abatement program differ substantially from SDAC installations.

#### **(4) Approximate Cost per Completed Classroom**

For the FY 2022–2023 SDAC phase, cooling measures were implemented in 766 classrooms at an overall cost of \$5,876,589, representing an average capital cost of approximately \$7,672 per classroom. This figure reflects installation and equipment costs only and does not include operating or long-term maintenance costs.

Under the heat abatement program, the average per-classroom cost for PVAC installations was significantly higher due to system complexity, renewable energy integration, and associated infrastructure. Those costs are reported separately and are not directly comparable to SDAC installations.

#### **(5) Energy Efficiency Measures Implemented; Classrooms Remaining**

Energy efficiency measures have been implemented in conjunction with cooling projects primarily through equipment replacement and passive cooling strategies, rather than through a standalone, classroom-level energy efficiency retrofit program.

The Department has not completed a comprehensive inventory quantifying the number of classrooms with discrete energy efficiency measures installed or the number of classrooms remaining that require such measures. Energy efficiency improvements to date have been integrated into cooling projects based on site-specific conditions and funding availability.

#### **(6) Types of Energy Efficiency Measures Implemented**

Energy efficiency measures associated with classroom cooling projects have included:

- Replacement of obsolete air conditioning equipment with newer, higher-efficiency units;
- Integration of photovoltaic generation to offset air conditioning energy demand at selected campuses;
- Passive cooling measures such as roof reflective coatings and ceiling fans; and
- Minor electrical improvements associated with system upgrades.

The Department has not implemented a uniform, statewide classroom-level energy efficiency retrofit program independent of cooling initiatives.