JOSH GREEN, M.D.
GOVERNOR

KEITH T. HAYASHI
SUPERINTENDENT

STATE OF HAWAIʻI
DEPARTMENT OF EDUCATION
KA ʻOIHANA HOʻONAʻAUAO
P.O. BOX 2360
HONOLULU, HAWAIʻI 96804

OFFICE OF THE SUPERINTENDENT

December 22, 2022

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

The Honorable Scott K. Saiki, Speaker
and Members of the House of Representatives
State Capitol, Room 431
Honolulu, Hawaii 96813

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

For your information and consideration, I am transmitting a copy of the annual report, Sustainable Schools Initiative, pursuant to Section 302A-1510, Hawaii Revised Statutes (HRS). In accordance with Section 93-16, HRS, I am also informing you that the report may be viewed electronically at: http://www.hawaiipublicschools.org/VisionForSuccess/SchoolDataAndReports/StateReports/Pages/Legislative-reports.aspx.

Sincerely,

Keith T. Hayashi
Superintendent

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

State of Hawaii
Department of Education

Annual Report on Sustainable Schools Initiative

December 2022

Section 302A-1510, Hawaii Revised Statutes (HRS), requires the Hawaii 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; and 3) 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 Hawaii State Department of Education's (Department) Sustainable Schools Initiative 2022

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

Hawaii School Facilities Energy Report Comparison of Fiscal Year (FY) 2021 and FY 2022				
	FY 2021		FY 2022	
School Facilities Energy	kWh	$M	kWh	$M
Utility Energy [(1)]	95,080	$29.1	107,581	$39.6
Renewable Energy	23,369	$5.5	22,304	$5.4
Total Energy	**118,449**	**$34.6**	**129,885**	**$45.0**

1. Utility Energy includes Hawaiian Electric Company (HECO), Hawaii Electric Light Company (HELCO), Kauai Island Utility Cooperative (KIUC), and Maui Electric Company (MECO).

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

	Year-Over-Year Change (%)		Percent of Total Energy (kWh)	
School Facilities Energy	kWh	$	FY 2021	FY 2022
Utility Energy [(1)]	13%	36%	80%	83%
Renewable Energy	-5%	-2%	20%	17%
Total Energy	**10%**	**30%**	**100%**	**100%**

For FY 2022, total electricity consumption across all public campuses statewide increased 10% from FY 2021. The total cost of electricity increased by 30%.

YOY, utility electricity consumption increased 13%. The YOY cost of utility electricity increased 36% due to both increased consumption and higher utility rates. The average cost of utility electricity for FY 2022 was $0.3679 per kilowatt-hour (kWh) compared to $0.3064 in FY 2021, an increase of 20%.

YOY, renewable electricity consumption across all public campuses statewide was down 5% from FY 2021. However, due to contractual increases of approximately 2% in the rates paid to Power Purchase Agreement providers for many campuses, the annual cost of renewable electricity decreased by only 4%.

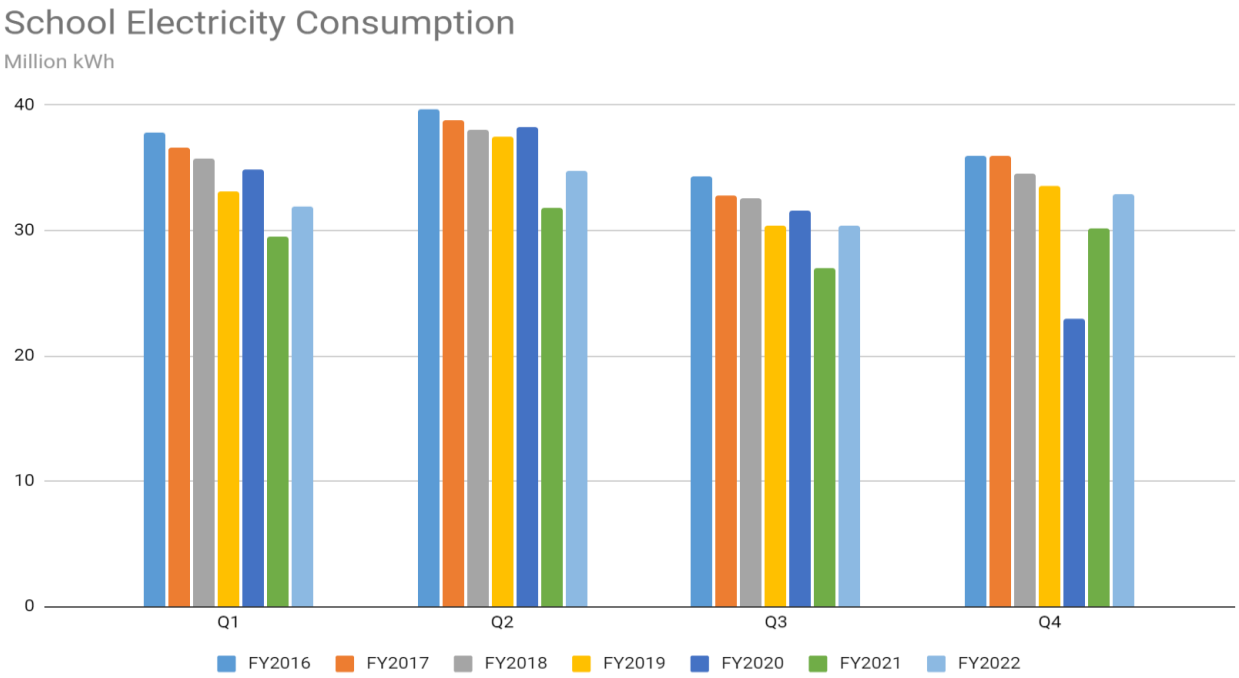


Figure 1 - Total Electricity Consumption by FQ

The major factor affecting consumption during FY 2022 was the increased need to provide ventilation and air conditioning for purposes of air quality in school facilities. On a YOY basis, the consumption in all quarters of FY 2022 increased significantly over FY 2021. However, consumption has not yet quite recovered to pre-pandemic levels.

In FY 2022, the solar percent consumption of renewable energy decreased to 17% from 20% in FY 2021. This was due primarily to a 4.6% reduction in solar energy production. Solar production peaked in FY 2020 at 23,903,943 kWh and has fallen for two straight years. However, this statistic may be skewed due to problems at two solar units at Jefferson Elementary School that were out of commission for an extended period of time.

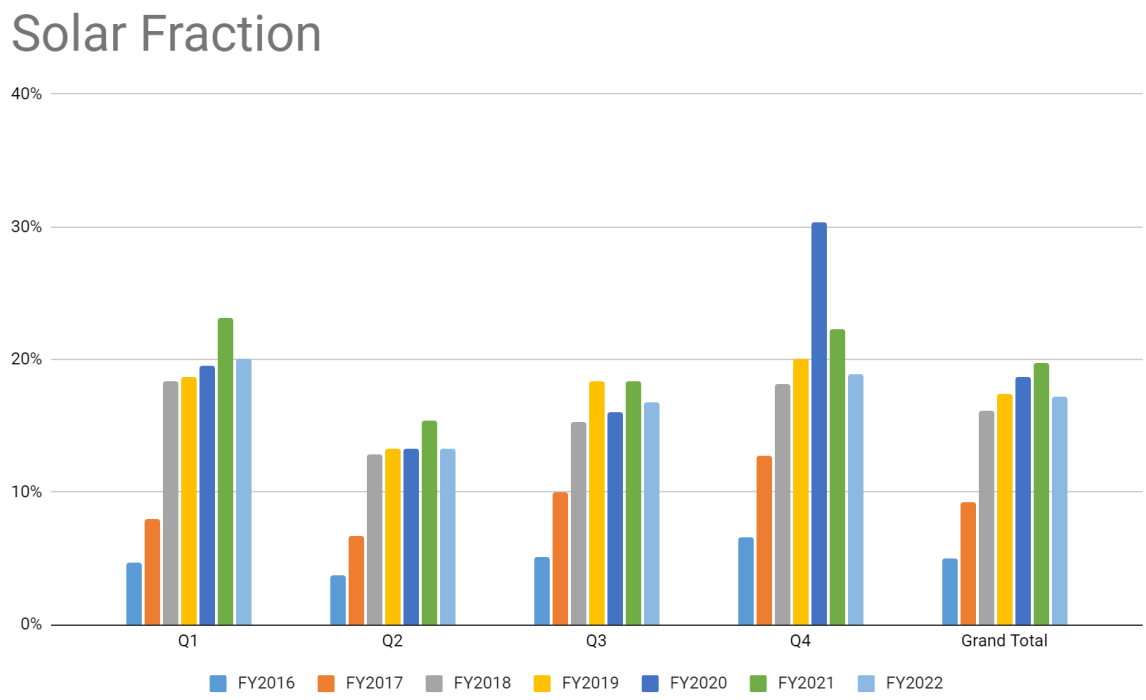


Figure 2 – Solar Fraction of Electricity Consumption for FY 2016-2022

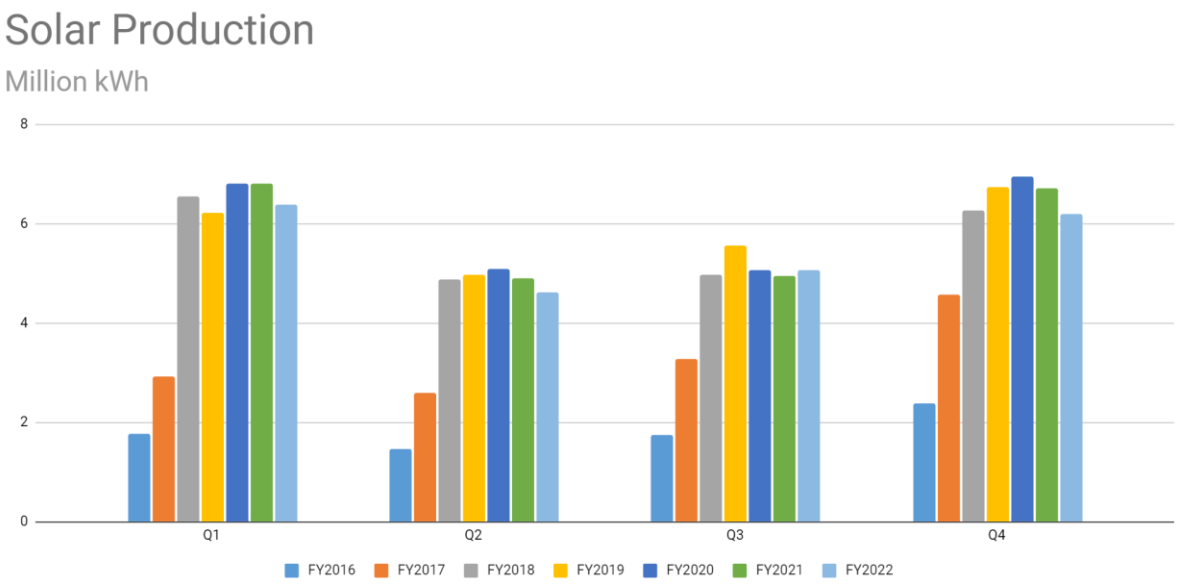


Figure 3 – Solar Energy Production for FY 2016-2022

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

Feasibility studies have been conducted in order to get a feel for the many problems that may arise in trying to achieve net-zero energy at Hawaii schools. The results of those studies are summarized in the table below:

School	Total Initial Cost	Annual Savings	Annual Costs	Simple Payback	kW Solar	kWh Battery	kWh Delivered
Molokai Middle School	**$171,806**	**$20,424**	**$1,024**	**8.9**	**31**	**504**	**33,729**
Maunaloa Elem School	**$360,979**	**$34,227**	**$1,748**	**11.1**	**50**	**792**	**56,364**
Kilohana Elem School	**$508,378**	**$60,025**	**$2,584**	**8.9**	**81**	**1,296**	**99,361**
Lanai High & Elem School	**$1,397,434**	**$229,967**	**$7,703**	**6.3**	**208**	**4,104**	**349,172**
Kaunakakai Elem School	**$1,956,139**	**$195,530**	**$10,426**	**10.6**	**325**	**4,752**	**323,015**
Molokai High School	**$1,977,912**	**$216,597**	**$11,671**	**9.7**	**325**	**5,040**	**356,050**
Total	**$6,372,648**	**$756,770**	**$35,156**	**8.8**	**1021**	**16,488**	**1,217,691**

Based on these analyses, investments in microgrids in higher utility rate regions can have positive economic returns. However, although cost is an important consideration, solar energy requires large amounts of flat space. Significant amounts of solar energy can command areas that approach the interior floor space of the entire school.

Moreover, some amount of energy storage is a requirement for most net-zero solutions. Using lead-acid batteries for storage would require large enclosed but ventilated areas. Using lithium technology would be more compact, but is prohibitively expensive. Either solution raises both environmental and safety concerns.

The footprint of solar technology can be made more compact by using more expensive technologies such as bifacial panels and two-axis sun-tracking. Research is also being conducted that may eventually produce panels that can actually collect energy from night time skies.

In addition to solar technologies, research is currently being conducted into new wind technologies that overcome many of the concerns regarding existing wind technologies. For example, researchers from the University of Houston, Sandia National Laboratories, and Texas Tech University are working on a device that requires 10% of the space required by solar panels, has no external blades and is purportedly very quiet. It also requires no tower and is installed on flat roofs. This device is currently being trialed by BASF Corporation at a Michigan manufacturing plant. Current plans are to have the technology on the market by late 2023.

The Aeromine rooftop wind device. Aeromine Technologies

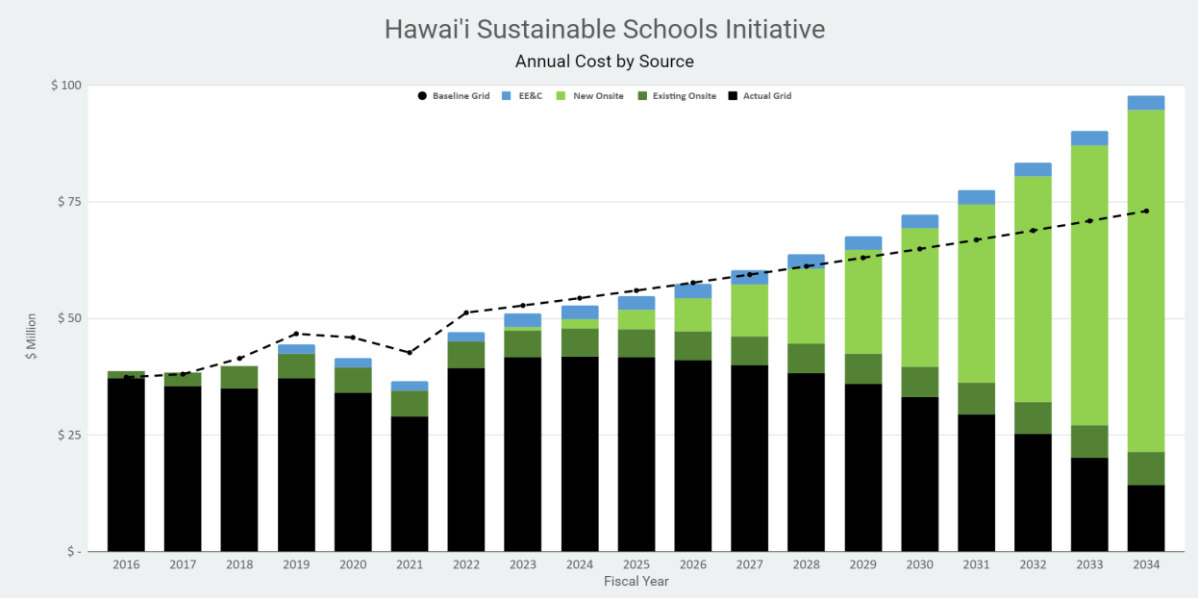
Aeromine says its "motionless" rooftop wind energy units deliver 150% as much energy for the money as solar panels, while taking up 10% of the roof space (Aeromine)

In summary:

- The economic costs of net-zero energy schools are high, but high current rates of utility electricity provide an incentive to invest in higher levels of alternative energy production if the cost can be controlled.
- There are constraints on alternative energy adoption other than just economics. These include large space requirements and environmental and safety concerns.
- Ongoing developments in alternative energy research may eventually provide solutions to the constraints on alternative energy adoption. The Department will continue to monitor these developments. However, it should not be expected that these developments will arrive on cue to meet political demands.

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

Over the past two years, photovoltaic panel costs have risen due to higher costs for polysilicon as well as tariffs on imported solar panels. This has introduced the issue of cost-effectiveness of solar energy as a solution to meeting the mandate for achieving net-zero energy at Hawaii schools. If the rate of inflation in solar energy just equals the rate of inflation of petroleum, the cost of new solar energy will actually exceed that of fossil-fueled generation by 2035.

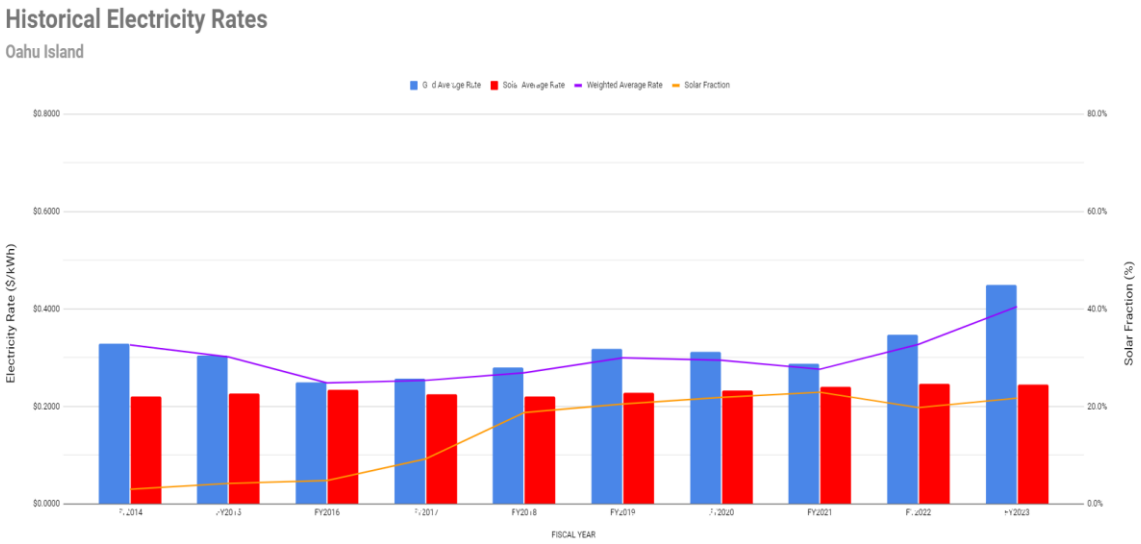


Currently, the market conditions for adding substantially to the production of alternate energy at school campuses are mixed. On the one hand, the cost of solar panels have increased enormously due to various supply side issues. On the other hand, the cost of utility electricity has also increased by surprising amounts due to the greatly increased cost of fossil-based fuels over the current year.

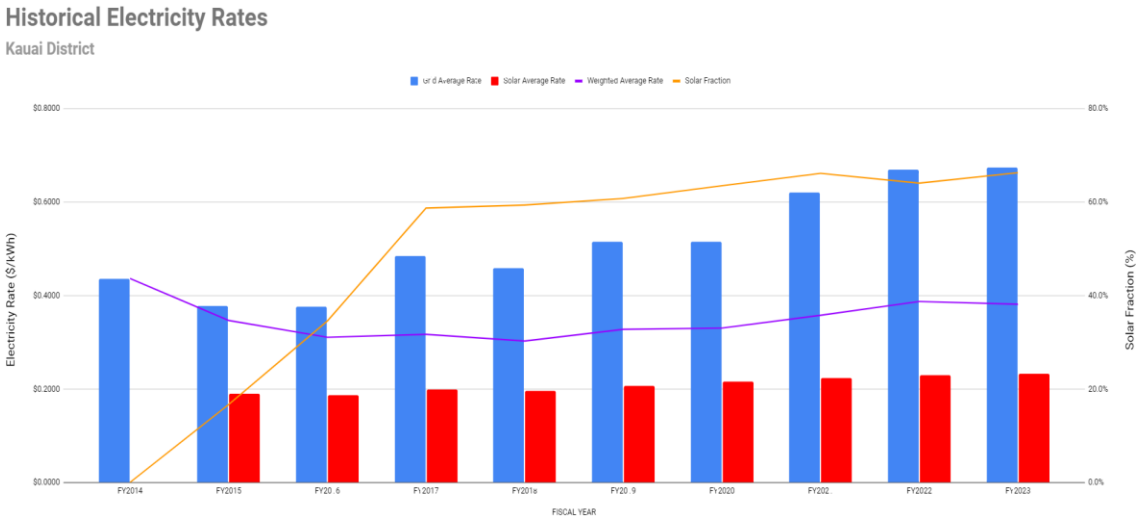
If it is possible to add substantially to alternate energy infrastructure before technology costs increase substantially more from current prices, then there may be a window during which time such investments may be beneficial to containing future increases in average electricity costs.

Comparing actual achieved electricity costs at Oahu and Kauai schools, the impact of solar energy on those costs have also been mixed.

On Oahu, the cost of utility electricity has ranged from $0.25 to $0.33 per kWh from FY 2014 to FY 2020. During that same period, the cost of solar electricity has been relatively stable from $0.22 to $0.25 per kWh. On average, the price differential has been $0.0641. During that same period, the solar fraction (amount of energy provided by the solar technology divided by the total energy required) has risen from 3.0% to 21.8%. The amount of solar energy at Oahu schools has been constrained due to the limitations on energy export imposed by HECO. The resulting impact on the average weighted electricity rates has been an extremely modest $0.0073 reduction from the utility rate.



On the other hand, although utility rates have also risen dramatically on Kauai, the actual historical electricity costs show that the impact of high solar fractions has resulted in weighted average electricity rates that are much lower than the utility rates.



Although Kauai has significantly higher utility rates than Oahu, the weighted average electricity rates have been reduced to Oahu-like levels by the 60%-plus solar fraction levels permitted by the KIUC net energy metering agreements.

These results demonstrate that higher solar fractions may actually be more economically viable in the higher utility cost rate areas represented by Kauai, Molokai, and Lanai than in the lower utility rate areas of Oahu. These results are highly dependent on the local cost of installing solar in these more remote areas.

However, it should not be ignored that adopting microgrid technology to these areas will provide more benefits than simply lowering average electric bills. Community resiliency may be significantly improved since many of these remote schools serve as shelter during emergencies. Bolstering the abilities of these schools to generate their own energy may also provide opportunities to add other services such as neighborhood clinics and local wifi communications for underserved areas.

In FY 2022, the average cost of utility electricity was $0.37 per kWh. However, as a planning tool, utilizing the average cost is misleading. Only a portion of the average cost is avoidable as long as the school campus remains connected to the grid. Thus, reducing utility energy consumption by 1 kWh will reduce utility electricity cost by less than $0.37. The fixed component of the utility energy bill reduces any economic savings that are achieved by replacing carbon-based fuels with lower cost alternative energy.

It is anticipated that the problem will worsen in future years as the underlying infrastructure of the electric companies shift to include more renewable energy sources. Renewable energy sources, by their nature, have large fixed costs and small marginal costs. As HECO shifts its generating infrastructure to more renewable sources, its rate structure will shift toward a larger fixed component and a smaller incremental component.

§269-92 Renewable portfolio standards.

(a) Each electric utility company that sells electricity for consumption in the State shall establish a renewable portfolio standard of:

(1) Ten per cent of its net electricity sales by December 31, 2010;
(2) Fifteen per cent of its net electricity sales by December 31, 2015;
(3) Thirty per cent of its net electricity sales by December 31, 2020;
(4) Forty per cent of its net electricity sales by December 31, 2030;
(5) Seventy per cent of its net electricity sales by December 31, 2040; and
(6) One hundred per cent of its net electricity sales by December 31, 2045.

Section 269-92 Renewable Portfolio Standards, HRS

The mandate that public school facilities achieve net-zero energy consumption 10 years ahead of the public utilities, in effect, sets up the Department as a de facto competitor to the public utilities in producing renewable energy economically across the State of Hawaii.

A complimentary Sustainable Schools energy policy would have the following results for FY2022:

Act 176 (16) Sustainable Schools				
FY	**Consumption**	**Change**	**% Self Generation**	**% Renewable**
FY2022	129.9M kWh	9.7% or 11.4M kWh increase	17.2% solar power	**46% ****
FY2021	118.5M kWh	-7.1% or 9.1M kWh reduction*	19.7% solar power	**47% ****
FY2020	127.6M kWh	-5.2% or 7.1M kWh reduction	18.7% solar power	**19%**
FY2019	134.7M kWh	-4.4% or 6.1M kWh reduction	17.4% solar power	**17%**
FY2018	140.8M kWh	-2.3% or 3.3M kWh reduction	16.1% solar power	**16%**
FY2017	144.1M kWh	-2.4% or 3.5M kWh reduction	9.3% solar power	**9%**
FY2016	147.6M kWh	Statutory Benchmark	5.0% solar power	**5%**

*** COVID shutdown ** HECO @ 34.5% in FY 2021**

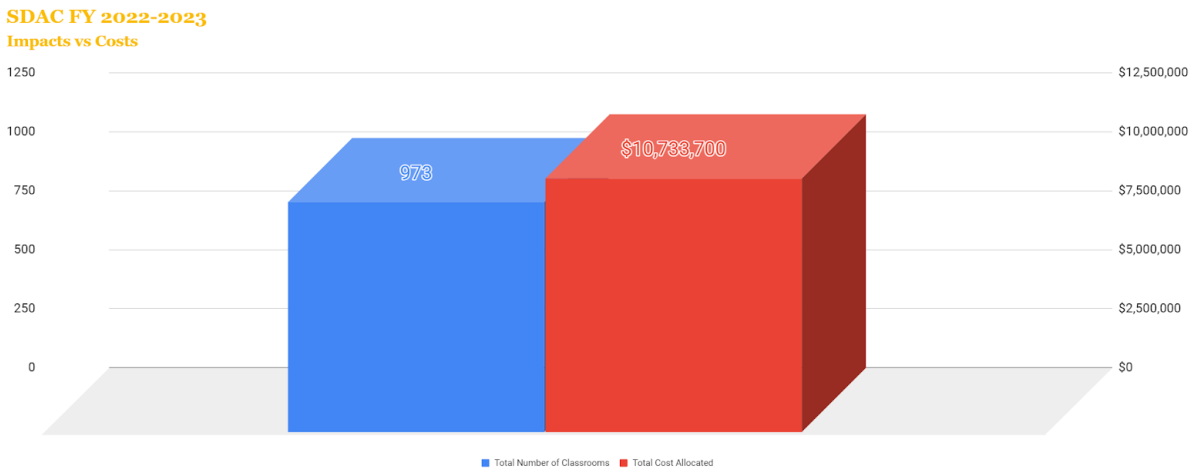
4) CHALLENGES OR BARRIERS ENCOUNTERED OR ANTICIPATED IN MEETING THE NET-ZERO ENERGY GOAL SET FORTH IN SECTION 302A-1510(a), HRS:

Although the cost of alternative energy technology has increased dramatically in the recent past, electric utility rates have also risen. Volatility in both of these factors make it difficult to evaluate the specific economics of net-zero energy.

Past experience with solar energy has demonstrated that higher solar fractions can help to lower average electric rates in high utility rate regions and provide a less volatile rate environment.

School Directed Air Conditioning Program (SDAC) Update

The first phase of the SDAC installed approximately 4,000 window air conditioning units in approximately 2,000 classrooms. The current phase, for fiscal year 2022-2023, has seen applications for 973 classrooms at an overall estimated cost of $10,733,700. This represents an estimated average cost of $11,000 per classroom.



A further breakdown of the application data shows:

Island	School	Classrooms	Cost
Hawaii	Hilo High	9	$75,000
	Hilo Intermediate	17	$250,000
	Honaunau Elementary	1	$5,000
	Kahakai Elementary	1	$5,000
	Kalanianaole Elementary and Intermediate	1	$50,000
	Kapiolani Elementary	27	$250,000
	Kau High and Pahala Elementary	66	$795,000
	Kaumana Elementary	22	$175,000
	Keaau Middle	14	$210,000
	Keonepoko Elementary	30	$450,000
	Konawaena Elementary	7	$200,000
	Konawaena High	23	$200,000
	Konawaena Middle	5	$50,000
	Mountain View Elementary	32	$480,000
	Naalehu Elementary	35	$525,000
	Pahoa Elementary	30	$450,000

	Pahoa High and Intermediate	42	$630,000
	Waiakea High	27	$250,000
Hawaii Total		389	$5,050,000

Island	School	Classrooms	Cost
Oahu	Ahuimanu Elementary	66	$1,064,000
	Castle High	25	$400,000
	Haaheo Elementary	13	$120,000
	Hokulani Elementary	19	$200,000
	Kahuku Elementary	10	$100,000
	Kailua Elementary	26	$200,000
	Kailua High	48	$392,000
	Kalaheo High	64	$500,000
	Kaleiopuu Elementary	3	$70,000
	Kaneohe Elementary	35	$280,000
	Kapunahala Elementary	30	$240,000
	Leilehua High	15	$225,000
	Maemae Elementary	34	$346,800
	Mililani Mauka Elementary	6	$48,000
	Niu Valley Middle	16	$108,000
	Pauoa Elementary	15	$147,900
	Pearl Ridge Elementary	8	$60,000
	Puohala Elementary	20	$160,000
	Scott Elementary	30	$80,000
	Sunset Beach Elementary	7	$105,000
	Wahiawa Elementary	16	$128,000
	Wahiawa Middle	20	$160,000
	Waialua Elementary	29	$232,000

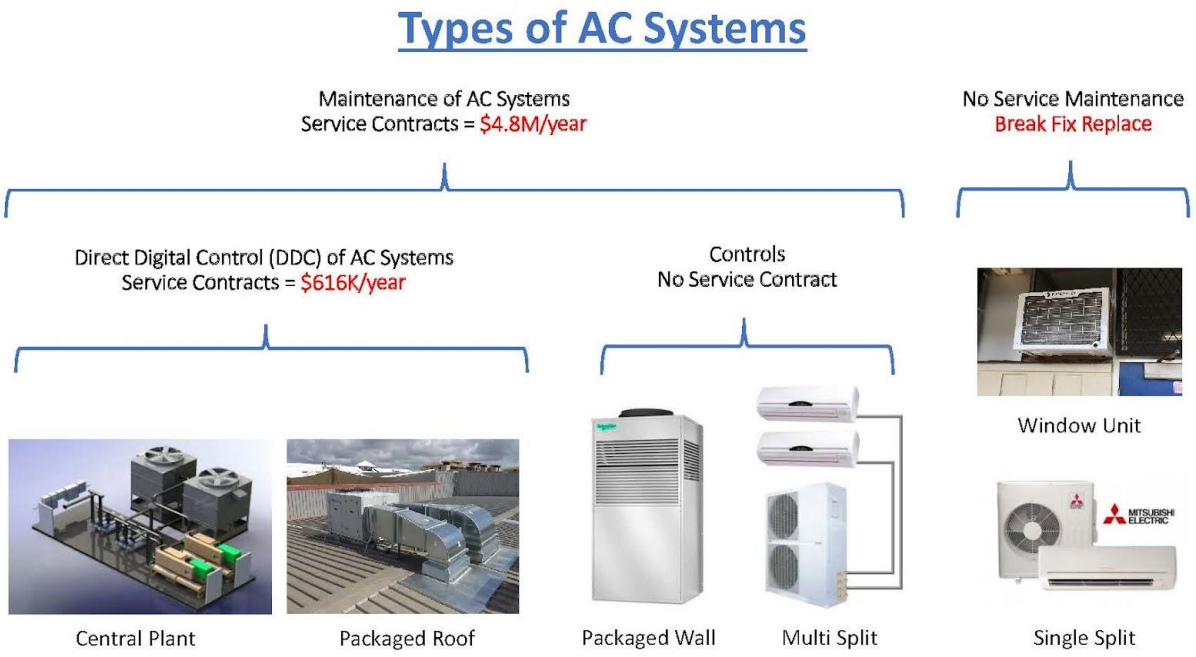
	Waialua High and Intermediate	3	$45,000
	Waianae High	1	$10,000
	Waikele Elementary	1	$12,000
	Waipahu Intermediate	24	$250,000
Oahu Total		584	$5,683,700
Grand Total		**973**	**$10,733,700**

This indicates that, on the island of Hawaii, an average classroom costs $13,000 to air condition while an average classroom on Oahu costs $9,700.

It is estimated that, after this phase of the SDAC, there will be a remaining 2,000+ classrooms that still require air conditioning. The current estimated cost for this work is $22,000,000. However, it should be noted that many of these classrooms may require electrical upgrades in order to support the addition of air conditioning. The costs for these upgrades will probably be considerable and are not included in the cost estimate for the air conditioning itself.

Types of Air Conditioning Systems

The Department has service contracts on its multi-unit air conditioning systems. For single-unit systems, there is no service contract as it is more cost-effective to replace the single unit at the end of its life.



The following are pictures of some aging, but currently functioning air conditioning systems in use at our public schools.


AC Deferred Maintenance

Air Conditioning Design Standards

The Department has found that decentralized air conditioning systems are much more economical over the service life of the system than complex centralized air conditioning systems.

AC Design Standards

Sustainable Systems

Air Conditioning Data Collection

The Department is facing some difficulties in acquiring up-to-date data on the existing equipment installed in classrooms. There are over 10,300 classrooms in Hawaii's 258 public schools. An average of 40 classrooms per school would take over 10 person-hours to conduct just a 15-minute inspection of each room. To conduct such inspections regularly would require additional personnel.

The table below provides a list of the scope of facilities at each Department school:

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
Ahuimanu El Total	18	368	15,586
Aiea El Total	21	420	18,762
Aiea High Total	67	1,802	75,676
Aiea Intermediate Total	43	1,111	42,187
Aikahi El Total	24	498	23,380
Aina Haina El Total	31	735	26,489
Ala Wai El Total	30	631	25,149
Aliamanu El Total	42	877	35,640
Aliamanu Middle Total	49	1,222	47,942
Aliiolani El Total	22	417	20,785
Alvah Scott El Total	28	620	23,541
Anuenue El Total	27	601	23,286

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
August Ahrens El Total	70	1,521	61,169
Baldwin High Total	91	2,213	87,783
Barbers Point El Total	33	693	36,816
Campbell High Total	143	3,654	156,828
Castle High Total	103	2,653	118,132
Central Middle Total	35	920	30,381
Chiefess Kamakahelei Middle Total	64	1,674	67,103
de Silva El Total	21	449	17,712
Dole Middle Total	51	1,317	54,469
Eleele El Total	22	472	18,621
Enchanted Lake El Total	24	524	23,326
Ewa Beach El Total	38	797	36,141
Ewa El Total	46	987	43,609
Ewa Makai Middle Total	48	1,223	55,385
Farrington High Total	129	3,348	139,941
Fern El Total	25	562	23,196
Haaheo El Total	8	172	5,609
Hahaione El Total	28	587	24,430
Haiku El Total	20	384	14,978
Hale Kula El Total	42	857	29,252
Haleiwa El Total	26	472	22,467
Hana High & El Total	31	730	37,064
Hanalei El Total	14	315	12,229
Hauula El Total	15	325	12,900
Hawaii School for the Deaf and Blind Total	18	428	10,545
Heeia El Total	37	755	34,116
Helemano El Total	31	622	26,234
Hickam El Total	29	601	25,093
Highlands Int Total	57	1,446	64,940
Hilo High Total	82	2,013	80,440
Hilo Int Total	36	989	45,046
Hilo Union El Total	26	564	20,338
Ho'okele El Total	45	900	46,031

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
Hokulani El Total	19	419	17,466
Holomua El Total	51	1,054	42,618
Holualoa El Total	28	575	19,448
Honaunau El Total	14	276	11,788
Honokaa El Total	17	364	15,968
Honokaa High & Int Total	54	1,509	52,164
Honowai El Total	35	771	31,463
Hookena El Total	17	308	14,568
Iao Int Total	50	1,292	40,615
Iliahi El Total	23	465	21,439
Ilima Int Total	56	1,397	60,802
Iroquois Point El Total	36	805	31,366
Jarrett Middle Total	31	746	32,222
Jefferson El Total	20	382	21,531
Ka'a'awa El Total	8	172	7,137
Kaahumanu El Total	29	629	25,318
Kaala El Total	25	539	21,590
Kaelepulu El Total	7	160	11,782
Kaewai El Total	21	433	18,232
Kahakai El Total	35	759	30,870
Kahala El Total	27	550	23,480
Kahalu'u El Total	17	349	15,148
Kahuku El Total	22	492	18,495
Kahuku High & Int Total	97	2,473	104,955
Kahului El Total	45	955	36,523
Kailua El Total	27	524	24,760
Kailua High Total	70	1,847	90,513
Kailua Int Total	56	1,436	62,416
Kaimiloa El Total	32	689	27,716
Kaimuki High Total	78	2,029	78,921
Kaimuki Middle Total	56	1,512	60,921
Kainalu El Total	29	626	24,714
Kaiser High Total	64	1,668	84,900

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
Kaiulani El Total	24	511	22,084
Kalaheo El Total	32	646	22,005
Kalaheo High Total	63	1,663	85,235
Kalakaua Middle Total	53	1,354	55,785
Kalama Int Total	57	1,396	52,980
Kalani High Total	63	1,691	76,072
Kalanianaole El & Int Total	25	579	21,125
Kaleiopuu El Total	49	1,059	44,511
Kalihi El Total	30	711	27,737
Kalihi Kai El Total	35	784	33,887
Kalihi Uka El Total	17	362	16,240
Kalihi Waena El Total	29	580	26,428
Kamali'i El Total	37	812	32,815
Kamehameha III El Total	39	820	30,675
Kamiloiki El Total	23	473	25,308
Kaneohe El Total	29	619	26,552
Kanoelani El Total	37	743	33,512
Kapa'a El Total	52	1,143	44,954
Kapa'a High Total	66	1,791	75,689
Kapa'a Middle Total	47	1,169	46,350
Kapalama El Total	31	666	25,801
Kapiolani El Total	23	507	22,157
Kapolei El Total	46	964	38,828
Kapolei High Total	174	4,495	151,759
Kapolei Middle Total	73	1,744	73,616
Kapunahala El Total	30	628	27,228
Kau High & Pahala El Total	39	998	43,927
Kauai High Total	87	2,254	71,405
Kauluwela El Total	17	354	14,079
Kaumana El Total	15	324	12,017
Kaumualii El Total	33	690	30,027
Kaunakakai El Total	17	364	13,852
Kawananakoa Middle Total	50	1,315	49,194

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
Ke Kula o Ehunuikaimalino Total	14	300	9,777
Kea'au El Total	41	891	34,283
Kea'au High Total	81	2,157	75,549
Keaau Middle Total	46	1,204	55,376
Kealakehe El Total	55	988	47,121
Kealakehe High Total	80	2,104	101,756
Kealakehe Int Total	58	1,519	59,300
Keaukaha El Total	23	452	17,987
Kekaha El Total	18	382	15,417
Kekaulike High Total	81	1,999	92,354
Keolu El Total	10	217	8,484
Keone'ula El Total	48	1,061	41,724
Keonepoko El Total	36	696	32,170
Kihei El Total	65	1,371	57,081
Kilauea El Total	19	414	15,007
Kilohana El Total	8	185	7,082
King Int Total	55	1,384	78,149
Kipapa El Total	41	869	36,222
Kohala El Total	21	443	20,250
Kohala High Total	32	810	36,176
Kohala Middle Total	15	362	9,770
Koko Head El Total	22	448	21,046
Koloa El Total	20	432	17,130
Konawaena El Total	30	620	26,698
Konawaena High Total	62	1,615	74,931
Konawaena Middle Total	34	785	29,059
Kuhio El Total	18	379	15,772
Kula El Total	27	556	24,013
Lahaina Int Total	40	1,001	37,871
Lahainaluna High Total	57	1,551	62,758
Laie El Total	42	915	39,524
Lanai High & El Total	41	1,012	60,598
Lanakila El Total	22	451	19,496

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
Lehua El Total	23	460	21,479
Leihoku El Total	45	1,020	39,868
Leilehua High Total	109	2,820	121,610
Lihikai El Total	52	1,081	44,647
Liholiho El Total	22	424	18,515
Likelike El Total	23	491	21,410
Linapuni El Total	12	240	11,624
Lincoln El Total	27	484	24,500
Lokelani Int Total	39	1,017	38,156
Lunalilo El Total	25	521	22,771
Ma'ema'e El Total	28	612	24,906
Maili El Total	48	944	39,613
Makaha El Total	34	655	31,296
Makakilo El Total	24	535	19,996
Makalapa El Total	33	639	29,882
Makawao El Total	35	698	24,278
Manana El Total	22	484	18,868
Manoa El Total	28	578	24,293
Maui High Total	106	2,751	103,297
Maui Waena Int Total	52	1,297	50,693
Mauka Lani El Total	33	706	27,503
Maunaloa El Total	8	172	4,534
Maunawili El Total	19	417	16,708
McKinley High Total	115	3,026	107,221
McKinley High - MCSA McKinley Community School Total	28	700	15,285
Mililani High Total	125	3,157	140,859
Mililani Ike El Total	47	990	36,638
Mililani Mauka El Total	48	975	39,331
Mililani Middle Total	80	2,038	79,157
Mililani Uka El Total	34	706	29,529
Mililani Waena El Total	38	793	34,611
Moanalua El Total	32	714	27,744

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
Moanalua High Total	100	2,673	126,387
Moanalua Middle Total	44	1,155	39,249
Mokapu El Total	37	799	29,690
Mokulele El Total	27	569	23,064
Molokai High Total	42	1,059	44,373
Molokai Middle Total	14	350	13,862
Momilani El Total	17	365	13,891
Mountain View El Total	27	597	22,270
Na'alehu El Total	27	563	19,164
Nanaikapono El Total	54	1,109	39,512
Nanakuli El Total	26	507	26,664
Nanakuli High & Int Total	79	2,131	94,882
Nimitz El Total	34	705	26,777
Niu Valley Middle Total	38	979	40,769
Noelani El Total	21	457	18,701
Nuuanu El Total	16	355	14,063
Olomana Int & High - OYC Only Total	15	382	9,226
Pa'auilo El & Int Total	17	411	15,486
Pahoa El Total	25	526	21,945
Pahoa High & Int Total	55	1,429	66,665
Paia El Total	21	404	13,783
Palisades El Total	23	478	20,804
Palolo El Total	16	329	14,477
Parker El Total	23	420	21,833
Pauoa El Total	17	362	15,689
Pearl City El Total	28	572	23,992
Pearl City High Total	115	2,992	146,098
Pearl City Highlands El Total	25	518	26,078
Pearl Harbor El Total	38	795	29,716
Pearl Harbor Kai El Total	27	605	23,549
Pearl Ridge El Total	27	595	23,729
Pohakea El Total	29	574	26,668
Pomaikai El Total	39	762	32,564
Pope El Total	20	429	19,016

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
Princess Nahienaena El Total	37	796	32,392
Pu'ohala El Total	21	449	19,289
Pu'u Kukui El Total	33	685	30,534
Pu'uhale El Total	18	232	16,054
Pukalani El Total	22	453	19,775
Radford High Total	77	1,953	96,986
Red Hill El Total	29	605	23,729
Roosevelt High Total	80	2,105	82,448
Royal El Total	16	347	13,823
Salt Lake El Total	40	778	34,072
Shafter El Total	18	395	16,451
Solomon El Total	50	1,045	48,686
Stevenson Middle Total	47	1,191	40,938
Sunset Beach El Total	23	497	19,319
Wahiawa El Total	28	590	23,770
Wahiawa Middle Total	58	1,473	60,734
Waiahole El Total	12	208	12,069
Waiakea El Total	42	906	39,644
Waiakea High Total	96	2,492	131,901
Waiakea Int Total	53	1,348	55,853
Waiakeawaena El Total	34	809	29,463
Waialua El Total	32	665	28,142
Waialua High & Int Total	60	1,572	67,035
Waianae El Total	42	923	34,946
Waianae High Total	109	2,801	133,529
Waianae Int Total	55	1,352	57,755
Waiau El Total	26	547	28,634
Waihee El Total	39	842	35,321
Waikele El Total	32	670	26,424
Waikiki El Total	24	522	21,761
Waikoloa El & Middle Total	42	928	35,352
Wailuku El Total	41	823	35,296
Waimalu El Total	30	623	26,325
Waimanalo El & Int Total	38	844	35,042

School Name	Classroom Count	HIDOE Design Enrollment	Sq Ft. Area
Waimea Canyon Middle Total	39	959	36,744
Waimea El Total	30	584	26,598
Waimea High Total	46	1,242	55,399
Waipahu El Total	54	1,231	47,962
Waipahu High Total	125	3,209	145,569
Waipahu Int Total	70	1,750	73,815
Washington Middle Total	58	1,505	52,376
Webling El Total	26	564	23,057
Wheeler El Total	42	832	38,665
Wheeler Middle Total	49	1,281	46,487
Wilcox El Total	48	999	48,259
Wilson El Total	29	595	25,583
Grand Total	**10,367**	**242,777**	**10,165,825**

Proposed Legislation

The Department does not have any sustainable schools proposed legislation for this upcoming legislative session.