
A BILL FOR AN ACT

RELATING TO ENERGY EFFICIENCY.

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

1 SECTION 1. The legislature finds that energy efficiency is
2 the most cost-effective way to reduce emissions associated with
3 electricity generation and consumption. The legislature further
4 finds that maximizing efficiency and thereby reducing demand for
5 power generation is a necessary component of reaching the
6 State's goal of one hundred per cent renewable energy by 2045.
7 Energy used to power buildings accounts for over fifty per cent
8 of the electricity consumed in the State, but despite setting
9 ambitious policy goals for increased energy efficiency and
10 renewable energy, the State has not undertaken improvements for
11 increased efficiency in many of its own facilities, amounting to
12 millions of dollars in potential savings that are being missed
13 out on. It is important for the State to lead by example when
14 it comes to energy efficiency, energy-efficient new building
15 construction, and maximizing savings of taxpayer dollars that
16 would otherwise be spent on utility bills.



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1 The purpose of this Act is to:

2 (1) Require all state facilities to undergo an energy
3 audit by July 1, 2021; implement efficiency measures
4 or enter into performance contracts for efficiency
5 measure by January 1, 2022; and reassess every five
6 years thereafter whether there are additional
7 opportunities for improved efficiency;

8 (2) Require that all state buildings track energy use and
9 performance over time and make this data publicly
10 available through the Hawaii state energy office, so
11 that the data can be used to better understand the
12 buildings' energy use and inform future decision
13 making; and

14 (3) Require that, beginning July 1, 2020, the design of
15 all new state building construction shall:

16 (A) Allow for the building to be net-zero capable;

17 (B) Use carbon-mineralized concrete where cost-
18 effective;

19 (C) For parking lots accompanying state facilities,
20 require that twenty-five per cent of parking
21 stalls are vehicle charger ready; and



1 (D) Account for the projected costs of utility bills
2 when making decisions about the most cost-
3 effective building design.

4 SECTION 2. Chapter 196, Hawaii Revised Statutes, is
5 amended by adding a new section to part II to be appropriately
6 designated and to read as follows:

7 "§196- State facilities; energy audit. By January 1,
8 2022, all state facilities shall address the results of the
9 energy audit conducted pursuant to Act , Session Laws of
10 Hawaii 2020, through the implementation of efficiency measures
11 or enter into performance contracts for efficiency measures."

12 SECTION 3. Section 107-27, Hawaii Revised Statutes, is
13 amended to read as follows:

14 "**§107-27 Design of state buildings.** (a) No later than
15 one year after the adoption of codes or standards pursuant to
16 section 107-24(c), the design of all state building construction
17 shall be in compliance with the Hawaii state building codes,
18 except state building construction shall be allowed to be
19 exempted from:

20 (1) County codes that have not adopted the Hawaii state
21 building codes;



1 (2) Any county code amendments that are inconsistent with
2 the minimum performance objectives of the Hawaii state
3 building codes or the objectives enumerated in this
4 part; or

5 (3) Any county code amendments that are contrary to code
6 amendments adopted by another county.

7 (b) Exemptions shall include county ordinances allowing
8 the exercise of indigenous Hawaiian architecture adopted in
9 accordance with section 46-1.55.

10 (c) The State shall consider hurricane resistant criteria
11 when designing and constructing new public schools for the
12 capability of providing shelter refuge.

13 (d) Beginning July 1, 2020, the design of all new state
14 building construction shall:

15 (1) Allow for the building to be a net zero capable
16 structure;

17 (2) Require the use of post-industrial carbon dioxide
18 mineralized concrete, if concrete material is required
19 for the construction of the building, where it is
20 cost-effective;



1 (3) Require at least twenty-five per cent of the
2 building's accompanying parking lot to be electric
3 vehicle charger ready, if a parking lot is to be
4 constructed; and

5 (4) Account for the projected costs of utility bills when
6 making decisions about the most cost-effective
7 building design.

8 As used in this subsection:

9 "Electric vehicle charger ready" means having sufficient
10 wire, conduit, raceway, termination point, and electrical panel
11 capacity, suitable to provide level two charging consistent with
12 an electric vehicle charging system as that term is defined in
13 section 196-7.5.

14 "Net zero capable" means having the capability to produce
15 an amount of energy, including electricity and gas, that is
16 equal to or greater than the energy consumed by the building.

17 "Post-industrial carbon dioxide mineralized concrete" means
18 concrete that has undergone active carbonation treatment during
19 mixing, in which carbon dioxide is injected into and mineralized
20 within the concrete."



1 SECTION 4. Section 196-30, Hawaii Revised Statutes, is
2 amended to read as follows:

3 "§196-30 Public buildings; benchmarks; [~~retro-~~
4 ~~commissioning guidelines,~~] energy savings performance contracts.

5 (a) [~~By December 31, 2010,~~] Beginning July 1, 2021, and every
6 year thereafter, each state department with responsibilities for
7 the design and construction of public buildings and facilities,
8 with the assistance of the Hawaii state energy office and
9 department of accounting and general services, shall benchmark
10 every existing public building [~~that is either larger than five~~
11 ~~thousand square feet or uses more than eight thousand kilowatt-~~
12 ~~hours of electricity or energy per year] to measure energy use
13 and performance over time and shall use the benchmark as a basis
14 for determining the State's investment in improving the
15 efficiency of its own building stock. Benchmarking data shall
16 be collected every month and maintained by the Hawaii state
17 energy office in a publicly available format compatible for use
18 with the portfolio management tool, and benchmarking shall be
19 conducted using the [~~ENERGY STAR~~] portfolio management [~~or~~
20 ~~equivalent~~] tool. The chief energy officer of the Hawaii state~~



1 energy office shall provide training to affected departments on
2 the [~~ENERGY STAR~~] portfolio management [~~or equivalent~~] tool.

3 (b) [~~Public buildings shall be retro commissioned~~] Each
4 state department with responsibilities for the design and
5 construction of public buildings and facilities, with the
6 assistance of the Hawaii state energy office and department of
7 accounting and general services, shall assess the equipment and
8 systems of its respective public buildings and facilities to
9 improve energy efficiency no less often than once every five
10 years. [The chief energy officer of the Hawaii state energy
11 office shall establish retro commissioning guidelines by January
12 1, 2010.]

13 (c) Departments may enter into energy savings performance
14 contracts with a third party to cover the capital costs of
15 energy-efficiency measures and distributed generation provided
16 the terms of the energy savings performance contracts conform to
17 the benchmark standard. The comptroller may review and exempt
18 specific projects as appropriate to take into account cost-
19 effectiveness.

20 Energy savings performance contracts shall be executed
21 according to state guidelines issued by the comptroller, and the



1 contracts shall be reviewed by the comptroller. To expedite
2 energy savings performance contracting for public buildings, the
3 department of accounting and general services shall develop a
4 master energy savings performance contracts agreement that any
5 department may use to contract with an energy savings
6 performance contracts provider for energy-efficiency and
7 renewable energy services.

8 (d) For existing public buildings that undergo a major
9 retrofit or renovation, the department or departments
10 responsible for design and construction shall make investments
11 in efficiency; provided that the cost of the measures shall be
12 recouped within twenty years.

13 (e) As used in this section:

14 "Benchmark" means a record of the energy used by a
15 facility, as recorded monthly for at least one year, and the
16 facility characteristics information inputs required for a
17 portfolio management tool.

18 "Portfolio management tool" means the United States
19 Environmental Protection Agency's ENERGY STAR portfolio manager
20 or an equivalent tool adopted by the chief energy officer."



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1 SECTION 5. No later than July 1, 2021, all state
 2 facilities shall undergo an energy audit, to be conducted by or
 3 contracted out to an independent third party by the Hawaii state
 4 energy office. The results of the audit shall be submitted to
 5 the legislature no later than twenty days prior to the convening
 6 of the regular session of 2022.

7 SECTION 6. This Act does not affect rights and duties that
 8 matured, penalties that were incurred, and proceedings that were
 9 begun before its effective date.

10 SECTION 7. Statutory material to be repealed is bracketed
 11 and stricken. New statutory material is underscored.

12 SECTION 8. This Act shall take effect upon its approval.

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INTRODUCED BY: Nicole E. Lowe

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Report Title:

Energy Efficiency; State Facilities; Audit; Building Design; Benchmarking

Description:

Requires an energy audit for all state facilities by July 1, 2021, and begin to address the audit results by January 1, 2022. Requires a report of the results of the audit to the legislature. Beginning July 1, 2020, requires the design of new state building construction to allow for the building to be a net zero capable structure, use post-industrial carbon dioxide mineralized concrete where cost-effective, have 25% of its accompanying parking lot be electric vehicle charger ready, and account for projected costs of utility bills when making decisions about the most cost-effective building design. Requires public buildings to be benchmarked beginning on July 1, 2021, and requires benchmarking data to be maintained by the Hawaii state energy office in a publicly available format. Requires equipment and systems to be assessed for energy efficiency every five years.

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