
A BILL FOR AN ACT

RELATING TO A MICROGRID PILOT PROJECT FOR SCHOOLS.

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

1 SECTION 1. The legislature finds that the nature of
2 electricity production and generation is evolving rapidly in
3 light of technical, market, and public policy changes that are
4 occurring globally, nationally, and in Hawaii.

5 The legislature finds that Hawaii's electricity customers
6 continue to endure the highest electricity prices in the
7 country, and the high cost of this essential service imposes
8 substantial burdens on Hawaii's households and businesses.

9 The legislature further finds that the department of
10 education is also burdened with the high cost of electricity for
11 electricity usage at its schools. The department of education's
12 energy requirements and electricity bills are expected to
13 increase as a result of, among other things, volatile oil
14 prices, and the need to install heat abatement and air
15 conditioning equipment in some schools to preserve and promote
16 the health and safety of students and teachers and to foster a
17 better and more comfortable and productive learning environment
18 in public schools.



1 The legislature additionally finds that the State has
2 established an important policy goal of achieving a renewable
3 portfolio standard of one hundred per cent by 2045 pursuant to
4 Act 97, Session Laws of Hawaii 2015.

5 The legislature finds that the department of education has
6 established a sustainability policy of achieving a clean energy
7 goal of ninety per cent clean energy by 2040.

8 The legislature also finds that as Hawaii's electric
9 systems evolve, energy districts and microgrids can serve as an
10 essential building block for Hawaii's utility of the future.
11 Microgrids provide many benefits, including but not limited to
12 being a secure and reliable power source when the main
13 electrical grid is down, facilitating the integration of clean
14 and renewable energy, helping institutions enhance their
15 environmental standing and contributions, reducing grid
16 congestion, balancing the electrical load, and localizing energy
17 production.

18 The legislature further finds that schools are suitable
19 environments for microgrids as the implementation of microgrids
20 will further improve the reliability and resiliency of schools
21 throughout the State. Microgrid systems will allow schools to



1 serve communities by also acting as potential disaster response
2 centers for civil defense, providing independent and secure
3 facility power during extreme weather events that may cause
4 grid-wide power outages, as two hundred fifteen out of two
5 hundred fifty-six Hawaii public schools are designated as
6 possible hurricane shelters. Microgrids will also help to
7 alleviate the high cost of electricity to department of
8 education schools.

9 The legislature also finds that Ka Hei is a department of
10 education program designed to boost student success through the
11 implementation of renewable energy sources, campus
12 modernization, and increased real-world educational
13 opportunities in science, technology, engineering, and math
14 (STEM). The Ka Hei educational enrichment program gives
15 students the opportunity to develop twenty-first century STEM
16 skills, which are a pre-requisite for a global economy, using
17 construction projects as the springboard for learning. The
18 robust Ka Hei program integrates construction projects into the
19 existing curriculum and utilizes best practices to enhance STEM
20 pedagogy including inquiry, hands-on, and project-based
21 learning, while addressing existing standards in innovative



1 ways. The Ka Hei program fosters students' intellectual
2 curiosity and exposes them to future career opportunities.
3 Hands-on, project-based learning experiences will engage
4 students and provide real-world contexts for students'
5 understanding through the existing work being done at their
6 school, their region, and the State.

7 The legislature also finds that the department of
8 education's Ka Hei program will integrate innovative energy
9 technology with meaningful learning experiences, all while
10 reducing energy costs. As a comprehensive energy and
11 sustainability program, Ka Hei will transform the learning
12 environment, reduce operational expenses, and provide engaging
13 educational opportunities for our students and community.
14 Through a combination of energy efficiency measures, clean
15 energy generation, and a comprehensive sustainability program,
16 Ka Hei will improve the learning environment so students and
17 teachers can perform at their best.

18 The department of education is implementing its Ka Hei
19 program in a public-private partnership with OpTerra Energy
20 Services, which provides its technical design and integration
21 expertise and utilizes existing procurement mechanisms and



1 innovative financing to help reduce energy costs for the
2 department of education by using a portion of energy cost
3 savings to fund the Ka Hei program.

4 The legislature further finds that section 196-21(a),
5 Hawaii Revised Statutes, requires state agencies to maximize
6 their use of available alternative financing contracting
7 mechanisms, including energy-savings contracts, when life-cycle
8 cost-effective, to reduce energy use and cost in their
9 facilities and operations.

10 The legislature also finds that section 196-21(b), Hawaii
11 Revised Statutes, provides that state agencies that perform
12 energy efficiency and renewable energy system retrofitting may
13 continue to receive budget appropriations for energy
14 expenditures at an amount that will not fall below the pre-
15 retrofitting energy budget but will rise in proportion to any
16 increase in the agency's overall budget for the duration of the
17 performance contract or project payment term. A portion of the
18 moneys saved through efficiency and renewable energy system
19 retrofitting shall be set aside to pay for any costs directly
20 associated with administering energy efficiency and renewable
21 energy system retrofitting programs incurred by the agency.



1 The legislature finds that a pilot microgrid project should
2 be implemented to demonstrate the viability of such a project at
3 a department of education school. Costs for similar future
4 microgrid projects at other schools will likely decrease with
5 the increased scale and advances in technology.

6 The legislature further finds that the department of
7 education, through its Ka Hei program, should be authorized and
8 required to implement an off-grid microgrid pilot project that
9 is detached from any electric utility company's grid at a
10 department of education school.

11 The purpose of this Act is to require the department of
12 education to implement an off-grid, microgrid pilot program at a
13 school of the department of education's choosing through its Ka
14 Hei program.

15 SECTION 2. Chapter 302A, Hawaii Revised Statutes, is
16 amended by adding a new section to be appropriately designated
17 and to read as follows:

18 "§302A- Off-grid microgrid pilot project. (a)
19 Notwithstanding any other law to the contrary, the department,
20 through its Ka Hei program, shall establish and implement an



1 off-grid microgrid pilot project at an appropriate school
2 selected by the department in its discretion.

3 (b) No later than December 31, 2016, the department shall
4 prepare plans for the off-grid microgrid pilot project,
5 including the school selected, the schedule for implementation
6 and installation, and any other relevant information required
7 for the off-grid microgrid pilot project.

8 (c) The department shall complete the installation and
9 commence the operations and utilization of the off-grid
10 microgrid pilot project by December 31, 2017; provided
11 sufficient funding is made available by August 1, 2017.

12 (d) Nothing in this section shall preclude the department
13 from working with and receiving assistance from any other
14 department or agency in carrying out the purposes of this
15 section.

16 (e) Notwithstanding any law to the contrary, no electric
17 utility company shall be allowed to assess a charge, fee, or
18 penalty of any kind to the department for disconnecting from the
19 grid of the electric utility company.

20 (f) For purposes of this section, an "off-grid microgrid
21 pilot project" means a group of interconnected loads and



1 distributed energy resources and backup energy generation
2 resources within clearly defined electrical boundaries and
3 within a department school that may operate as a contained
4 controllable entity, is not inter-connected with the grid of an
5 electric utility company or of any other party, and that is
6 designed and intended to be operated by the department for a
7 minimum of five years.

8 (g) The department shall report on the status of the
9 implementation of the off-grid microgrid pilot project, along
10 with any proposed legislation, to the legislature no later than
11 twenty days prior to:

- 12 (1) The regular session of 2017; and
13 (2) Every regular session thereafter until completion of
14 the pilot project."

15 SECTION 3. The department of education shall be required
16 to maximize its use of available public and private alternative
17 financing contracting mechanisms and available grants to fund
18 the off-grid microgrid pilot project, including but not limited
19 to, financing through green infrastructure bonds as provided in
20 part X, chapter 269, Hawaii Revised Statutes, and from the
21 United States Department of Energy and the United States



1 Department of Education; provided that if the department of
2 education determines that such funding is not adequate or
3 feasible, the department shall include in its report to the
4 legislature prior to the regular session of 2017 the
5 department's funding requirements for the off-grid microgrid
6 pilot project and submit an appropriate request for funding.

7 SECTION 4. New statutory material is underscored.

8 SECTION 5. This Act shall take effect on July 1, 2016.



Report Title:

Microgrid Pilot Project; Department of Education; Schools;
Electric Power; Ka Hei Program

Description:

Requires the department of education to establish an off-grid
microgrid pilot project through the Ka Hei program at a school
of its choosing. (SD1)

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

