
A BILL FOR AN ACT

RELATING TO ELECTRIC GRID RESILIENCY.

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

PART I

1
2 SECTION 1. The legislature finds that achieving electric
3 grid resiliency requires maximizing energy efficiency, strategic
4 planning for electric grid infrastructure, and leadership from
5 the public sector.

6 The legislature finds that green infrastructure financing
7 was established in the public interest to make cost-effective
8 green infrastructure equipment options accessible and affordable
9 to Hawaii consumers.

10 The legislature further finds that Act 57, Session Laws of
11 Hawaii 2017 (Act 57), appropriated \$46,400,000 out of the Hawaii
12 green infrastructure special fund for fiscal year 2017-2018 for
13 the purpose of financing the installation costs for energy-
14 efficient lighting and other energy efficiency measures related
15 to heat abatement at public schools. Act 57 also authorized the
16 department of education, with the approval of the governor, to
17 borrow \$46,400,000 for fiscal year 2017-2018 from the green



1 infrastructure loan program. Pursuant to Act 57, repayment of
2 the loan, which is to be issued free of interest charges, will
3 be from general revenue savings from reduced utility costs as a
4 result of the implementation of energy-efficient lighting and
5 other energy efficiency measures.

6 While the department of education's energy efficiency plan,
7 utilizing Hawaii green infrastructure financing, initially
8 included only light-emitting diode lighting retrofits, the
9 legislature finds that this financing mechanism, coupled with
10 innovative implementation strategies, will enable the department
11 of education to implement deeper retrofits that include other
12 energy efficiency measures.

13 The legislature notes that EnerNOC Utility Solutions
14 Consulting prepared and presented the *State of Hawaii Energy*
15 *Efficiency Potential Study: Project #1448* (Study) to the Hawaii
16 public utilities commission on January 15, 2014. The Study
17 categorized Hawaii's 2012 energy consumption into five sectors:
18 residential (thirty-two per cent), military (eleven per cent),
19 water and wastewater (four per cent), street lighting (0.5 per
20 cent) and commercial (fifty-two per cent). According to the
21 Study, the commercial sector, which includes government, is the



1 sector with the majority of the statewide energy efficiency
2 savings potential.

3 The legislature also notes that in a 2015 report to the
4 legislature on behalf of the department of business, economic
5 development, and tourism, titled *Lead by Example: State of*
6 *Hawaii Agencies' Energy Initiatives FY 2013-2014*, the department
7 of education was found to be the second largest consumer of
8 electricity amongst state departments, consuming over 135
9 million kWh per year from fiscal year 2004-2005 through fiscal
10 year 2013-2014 at an average cost of \$38,000,000 per year.
11 However, there are a number of other state agencies and
12 departments that would benefit from a similar financing
13 arrangement. Reducing energy consumption in state buildings
14 would significantly and positively contribute to the achievement
15 of Hawaii's energy efficiency portfolio standard, while reducing
16 and controlling costs for Hawaii's taxpayers.

17 The legislature additionally finds that although government
18 agencies were not named as underserved by the Hawaii public
19 utilities commission in the green energy market securitization
20 program, the commission has acknowledged that the green energy
21 market securitization program was not intended to be exclusively



1 dedicated to underserved customers. The legislature also notes
2 that while state agencies constitute a significant component of
3 energy consumption in Hawaii, investment in energy efficiency
4 improvements by government agencies has been limited.
5 Furthermore, government agencies can be classified with those
6 ratepayers who are considered hard to reach with traditional
7 market-competitive financing agreements, due to procurement
8 limitations and the obligation to include contractual provisions
9 that make the continuation of contracts contingent upon the
10 allocation of funds. For these reasons, the use of the green
11 energy market securitization program funds to provide low-cost
12 financing to enable energy efficiency retrofits for state
13 government agencies fills a gap not served by the capital
14 market.

15 Accordingly, the purpose of this part is to provide all
16 state agencies and departments the opportunity to obtain low-
17 cost financing from the green energy market securitization
18 program, at an interest rate of 3.50 per cent per annum, to
19 reduce energy costs and consumption by installing energy
20 efficiency measures. This part also creates a sub-fund under
21 the umbrella of the green energy market securitization loan fund



1 and converts \$30,000,000 into a revolving line of credit for any
2 state agency or department to finance energy efficiency
3 measures, subject to sub-fund availability, on an on-going
4 basis.

5 SECTION 2. Section 196-61, Hawaii Revised Statutes, is
6 amended by adding three new definitions to be appropriately
7 inserted and to read as follows:

8 "Energy efficiency measures" means any type of project
9 conducted, or technology implemented, to reduce the consumption
10 of energy in a building. The types of projects implemented can
11 be in a variety of forms but are usually designed to reduce
12 electric utility costs.

13 "Revolving line of credit" means a type of sub-fund for
14 loan advances for eligible purposes and repaid principal is
15 deposited back into the sub-fund for future loan advances.

16 "Sub-fund" means a separate fund within the green energy
17 market securitization fund reserved for a specific purpose."

18 SECTION 3. Section 196-62, Hawaii Revised Statutes, is
19 amended to read as follows:

20 "[+]§196-62[+] Hawaii green infrastructure loan program.

21 There is established a Hawaii green infrastructure loan program,



1 which shall be a loan program as defined under section 39-51.
2 The program shall be administered by the authority on behalf of
3 the department in a manner consistent with chapter 39, part III.
4 This loan program may include loans made to government entities
5 and private entities, whether corporations, partnerships,
6 limited liability companies, or other persons, which entities
7 may lease or provide green infrastructure equipment to electric
8 utility customers, as well as direct loans to electric utility
9 customers, on terms approved by the authority."

10 SECTION 4. Section 196-65, Hawaii Revised Statutes, is
11 amended by amending subsection (b) to read as follows:

12 "(b) Moneys in the Hawaii green infrastructure special
13 fund may be used, subject to the approval of the public
14 utilities commission, for the purposes of:

15 (1) Making green infrastructure loans, including for
16 installation costs for energy-efficient lighting and
17 other energy-efficiency measures [~~related to heat~~
18 ~~abatement at public schools~~];

19 (2) Creating a \$50,000,000 sub-fund, as a revolving line
20 of credit under the umbrella of the green energy
21 market securitization loan fund, for any state agency



1 or department to obtain low-cost financing to install
2 energy efficiency measures;

3 [~~2~~] (3) Paying administrative costs of the Hawaii green
4 infrastructure loan program;

5 [~~3~~] (4) Paying any other costs related to the Hawaii
6 green infrastructure loan program; or

7 [~~4~~] (5) Paying financing costs, as defined in section
8 269-161, to the extent permitted by the public
9 utilities commission in a financing order issued
10 pursuant to section 269-163."

11 SECTION 5. There is appropriated out of the Hawaii green
12 infrastructure special fund the sum of \$50,000,000 or so much
13 thereof as may be necessary for fiscal year 2018-2019 for the
14 purpose of financing the installation costs for energy-efficient
15 lighting and other energy efficiency measures for any state
16 agency or department.

17 The sum appropriated shall be expended by the Hawaii green
18 infrastructure authority for the purposes of this Act.

19 SECTION 6. With the approval of the governor, interested
20 state agencies and departments may apply for financing, subject
21 to availability under the revolving line of credit for fiscal



1 year 2018-2019, and annually thereafter, from the green
2 infrastructure loan program for the purposes of this Act, upon
3 such terms and conditions as are agreed to between the
4 department or agency and the Hawaii green infrastructure
5 authority; provided that the loans shall be issued at an
6 interest rate of 3.50 per cent per annum.

7 SECTION 7. The department or agency shall meet with the
8 public benefits fee administrator prior to the launch of the
9 project planning phase. The department or agency's proposed
10 energy efficiency measures shall meet or exceed the public
11 benefits fee administrator's enhanced efficiency levels and
12 requirements in order to be eligible for the Hawaii green
13 infrastructure loan program. The department or agency shall
14 work with the public benefits fee administrator throughout the
15 entire project cycle to ensure energy efficiency is maximized.
16 All supporting documentation required by the public benefits fee
17 administrator shall be provided by the department or agency to
18 ensure proper tracking toward the State's energy-efficiency
19 portfolio standard, as specified in section 269-96, Hawaii
20 Revised Statutes.



1 SECTION 8. The department or agency shall submit an
 2 expenditure plan to the Hawaii green infrastructure authority's
 3 executive director, who shall serve as the fiscal administrator
 4 for the loans issued pursuant to section 6 of this Act and shall
 5 make payment on behalf of the department or agency, as
 6 appropriate, upon submission of requests for payment from the
 7 department or agency.

8 SECTION 9. Beginning with fiscal year 2018-2019, and
 9 annually thereafter, the department or agency shall begin to
 10 repay the loan pursuant to section 6 of this Act using general
 11 revenue savings resulting from reduced utility costs as a result
 12 of the implementation of energy efficient lighting and other
 13 energy efficiency measures.

14 PART II

15 SECTION 10. The legislature finds that in September 2017,
 16 Hurricanes Irma and Maria struck Puerto Rico with devastating
 17 force, causing an estimated \$95,000,000,000 in damages to the
 18 island, including extensive damages to the island's electrical
 19 infrastructure. Recent estimates predict that power in Puerto
 20 Rico will not be fully restored until spring of 2018, thus
 21 leaving some residents without power for half a year. The



1 prolonged lack of electrical power has left the residents of
2 Puerto Rico without essential services and has created a
3 humanitarian crisis.

4 The legislature further finds that a direct hit on Oahu
5 from a similar category five hurricane will almost certainly
6 cause extensive property damage and extended power outages
7 across the island. Moreover, much of the State's energy-
8 generating infrastructure is susceptible to storm surges due to
9 the structures being located at or near the coastline. The
10 Hawaii emergency management agency estimates that under a best-
11 case scenario, it would take at least fourteen days after
12 landfall of a category four hurricane on Oahu to restore eighty
13 per cent of grid power. Most public emergency shelters in the
14 State do not have the capacity to provide two weeks of
15 electrical service and relief from the mainland is dependent
16 upon a functioning airport and seaport. Furthermore, the risks
17 of a natural disaster increase with the impacts of climate
18 change. Scientists have described 2017 as the most weather
19 destructive year on record and opined that the number of extreme
20 weather events will continue to increase.



1 The legislature hereby declares that it shall be the policy
2 of the State to ensure that the State is prepared to withstand
3 natural disasters and other emergencies by making investments in
4 grid resiliency to protect the State's critical infrastructure
5 and its citizens. The goals of this policy are: to prevent or
6 reduce the severity of damage to the electric grid from a
7 natural disaster or state of emergency; enable faster recovery
8 of normal grid operations after a grid outage due to a natural
9 disaster or state of emergency; and maintain critical loads at
10 critical infrastructure such as hospitals, fire stations, police
11 stations, airports, and seaports during a grid outage due to a
12 natural disaster or state of emergency. Furthermore, a loan
13 program is necessary to proactively upgrade resiliency before a
14 natural disaster.

15 The purpose of this part is to:

- 16 (1) Create a grid resiliency task force to identify
17 critical infrastructure needs and provide
18 recommendations for enhancing grid resiliency to
19 critical infrastructure throughout the State;
- 20 (2) Establish a grid resiliency loan program to provide
21 funding for critical infrastructure;



1 (3) Direct government agencies to begin building grid
2 resiliency into their planning; and

3 (4) Direct public utilities to incorporate grid resiliency
4 planning into their integrated resource and grid
5 modernization planning.

6 SECTION 11. Chapter 196, Hawaii Revised Statutes, is
7 amended by adding two new sections to part III to be
8 appropriately designated and to read as follows:

9 "§196-A Grid resiliency task force; membership. (a) A
10 grid resiliency task force is established within the department
11 of business, economic development, and tourism for
12 administrative purposes.

13 (b) The task force shall comprise the following members or
14 their designees:

15 (1) The governor, who shall serve as the chair;

16 (2) The head of each principal department;

17 (3) The administrator of the Hawaii emergency management
18 agency;

19 (4) The chief justice;

20 (5) The chairperson of the board of trustees of the office
21 of Hawaiian affairs;



- 1 (6) The president of the senate;
2 (7) The speaker of the house of representatives; and
3 (8) The mayors of the counties of Hawaii, Maui, and Kauai
4 and the city and county of Honolulu.

5 §196-B Grid resiliency task force; duties. (a) The grid
6 resiliency task force shall:

7 (1) Analyze grid resiliency incentive programs, including
8 the California small generator incentive program, and
9 recommend aspects of those programs that should be
10 adopted by the State; and

11 (2) Identify critical infrastructure and provide
12 recommendations regarding the:

13 (A) Amounts of funding necessary for the critical
14 infrastructure loan program established in
15 section 269-A; and

16 (B) Priority recommendations for critical
17 infrastructure upgrades.

18 (b) The task force may hire a consultant to assist the
19 task force in performing its duties.

20 (c) No later than twenty days prior to the convening of
21 the 2019 regular session, the task force shall submit an interim



1 report to the legislature. The report shall include the
2 recommendations required under subsection (a)(2)(A).

3 (d) No later than twenty days prior to the convening of
4 the 2020 regular session, the task force shall submit a final
5 report to the legislature. The report shall include:

6 (1) A description of the activities of the task force for
7 the previous fiscal year;

8 (2) Recommendations, including, if necessary, amendment to
9 those recommendations made pursuant to subsection (c);
10 and

11 (3) Recommended legislation, if any."

12 SECTION 12. Chapter 269, Hawaii Revised Statutes, is
13 amended by adding two new sections to part I to be appropriately
14 designated and to read as follows:

15 "§269-A Grid resiliency loan program. (a) There is
16 established a grid resiliency loan program that shall be
17 administered by the public utilities commission.

18 (b) In administering the grid resiliency loan program, the
19 public utilities commission shall:

20 (1) After adopting or modifying the recommendations of the
21 grid resiliency task force established pursuant to



- 1 section 269-C, expend moneys from the grid resiliency
2 loan special fund established pursuant to section 269-
3 B to fund loans for the purchase and installation of
4 eligible resiliency facilities in accordance with this
5 section;
- 6 (2) Prepare forms necessary for a resiliency facility
7 owner to claim a loan under subsection (c);
- 8 (3) At regular intervals and within reasonable periods of
9 time, post the amounts remaining in the grid
10 resiliency loan special fund established in section
11 269-B on its website;
- 12 (4) Administer the grid resiliency loan program in a
13 manner to ensure that critical infrastructure
14 throughout the State has sufficient grid resiliency
15 facilities to maintain critical loads; and
- 16 (5) Adopt rules, without regard to chapter 91, necessary
17 to effectuate the purposes of this section.
- 18 (c) A resiliency facility owner that:
- 19 (1) Leases an eligible resiliency facility to a resiliency
20 facility user; or



1 (2) Purchases and installs an eligible resiliency facility
2 in the State,
3 may apply to the commission, within six months of the eligible
4 resiliency facility being first placed in service, to claim a
5 one-time loan per eligible resiliency facility under this
6 section; provided that the loan shall be made available for
7 eligible resiliency facilities first placed in service after
8 June 30, 2019.

9 (d) A resiliency facility owner shall be entitled to
10 receive a loan of no more than _____ per cent of the qualified
11 resiliency facility costs for each eligible resiliency facility.

12 (e) Nothing in this section shall alter taxes due on the
13 original purchase price of an eligible resiliency facility prior
14 to the application of this loan. Any loan received pursuant to
15 the grid resiliency loan program shall not be considered income
16 for the purposes of state or county taxes.

17 §269-B Grid resiliency loan special fund. There is
18 established a grid resiliency loan special fund within the
19 treasury of the State into which shall be deposited:

20 (1) Appropriations made by the legislature into the fund;
21 and



1 (2) The public benefits fee collected pursuant to section
2 269-121.

3 Moneys from the fund shall be used to fund loans in accordance
4 with section 269-A."

5 SECTION 13. Section 196-2, Hawaii Revised Statutes, is
6 amended by adding nine new definitions to be appropriately
7 inserted and to read as follows:

8 "Battery storage device" means an identifiable facility,
9 equipment, or apparatus that:

10 (1) Is electrically connected to a resiliency facility
11 user's critical load and paired with a new or existing
12 renewable generation system;

13 (2) Stores electricity from its paired renewable
14 generation system via a chemical or mechanical
15 process;

16 (3) Delivers stored energy at a later time to the
17 resiliency facility user, an electric utility, or the
18 Hawaii electric system; and

19 (4) Has a storage capacity capable of supplying:

20 (A) A critical infrastructure's critical load for a
21 minimum of twenty-four hours; or



1 (B) The total of a critical infrastructure's average
2 daily usage for a minimum of five hours.

3 "Critical infrastructure" means a police station, fire
4 station, hospital, nursing home, designated emergency shelter,
5 emergency care providers, health centers, and other critical
6 infrastructure that may be designated by the governor pursuant
7 to the recommendations of the grid resiliency task force, or by
8 the governor or other authorized official pursuant to a natural
9 disaster or state of emergency designation.

10 "Critical load" means the minimum load necessary for any
11 critical infrastructure to perform its essential functions
12 during a natural disaster or state of emergency.

13 "Designated emergency shelter" means any building owned by
14 the State, a county, or a municipal government agency that has
15 been designated by appropriate authorities as a place of
16 community refuge made available to provide temporary shelter and
17 housing to citizens during any natural disaster or state of
18 emergency as declared by the governor or other authorized
19 official.



1 "Eligible resiliency facility" means a battery storage
2 device paired with an electric generation system powered by
3 renewable energy that is:

- 4 (1) Installed on the property where critical
5 infrastructure is located or on property contiguous to
6 the property where critical infrastructure is located
7 without regard to interruptions in contiguity caused
8 by easements, public thoroughfares, transportation
9 rights-of-way, and utility rights-of-way; provided
10 that the contiguous property is owned or leased by the
11 same person or entity that owns or leases the property
12 where the critical infrastructure is located;
- 13 (2) Sized to power at least fifty per cent but not more
14 than one hundred per cent of the critical
15 infrastructure's annual electrical requirements;
- 16 (3) Is capable of isolating from the electric grid and
17 operating independently during periods of electrical
18 outages; and
- 19 (4) Is not owned by an electric utility.

20 "Grid resiliency" means the installation and operation of
21 electrical equipment that:



- 1 (1) Prevents or reduces the severity of damage to the
2 electric grid from a natural disaster or state of
3 emergency;
- 4 (2) Enables faster recovery of normal grid operations
5 after a grid outage due to a natural disaster or state
6 of emergency; and
- 7 (3) Maintains critical loads at critical infrastructure
8 during a grid outage due to a natural disaster or
9 state of emergency.

10 "Qualified resiliency facility cost" means those
11 expenditures made for the purchase and installation of an
12 eligible resiliency facility. Expenditures made for the
13 purchase and installation of a battery storage device that is
14 paired with an existing renewable generation system is a
15 qualified resiliency facility cost.

16 "Resiliency facility owner" means the person, individual,
17 partnership, corporation, association, or public or private
18 organization that holds legal title to an eligible resiliency
19 facility.



1 "Resiliency facility user" means the real property owner,
2 or the real property owner's lessees or tenants, that use the
3 energy discharged from an eligible resiliency facility."

4 SECTION 14. Section 269-1, Hawaii Revised Statutes, is
5 amended by adding eight new definitions to be appropriately
6 inserted and to read as follows:

7 "Critical infrastructure" shall have the same meaning as
8 defined in section 196-2.

9 "Critical load" shall have the same meaning as defined in
10 section 196-2.

11 "Eligible resiliency facility" shall have the same meaning
12 as defined in section 196-2.

13 "First placed in service" has the same meaning as title 26
14 Code of Federal Regulations section 1.167(a)-11(e)(1).

15 "Grid resiliency" shall have the same meaning as defined in
16 section 196-2.

17 "Qualified resiliency facility cost" shall have the same
18 meaning as defined in section 196-2.

19 "Resiliency facility owner" shall have the same meaning as
20 defined in section 196-2.



1 "Resiliency facility user" shall have the same meaning as
2 defined in section 196-2."

3 SECTION 15. Section 269-121, Hawaii Revised Statutes, is
4 amended by amending subsection (b) to read as follows:

5 "(b) The public benefits fee shall be used to support
6 clean energy technology, demand response technology, grid
7 resiliency, and energy use reduction, and demand-side management
8 infrastructure, programs, and services, subject to the review
9 and approval of the public utilities commission. Of the
10 revenues collected pursuant to this section, \$ shall be
11 allocated to the grid resiliency loan special fund established
12 pursuant to section 269-B to address critical infrastructure
13 priorities. These moneys shall not be available to meet any
14 current or past general obligations of the State; provided that
15 the State may participate in any clean energy technology, demand
16 response technology, or energy use reduction, and demand-side
17 management infrastructure, programs, and services on the same
18 basis as any other electric consumer.

19 For the purpose of this subsection, "clean energy
20 technology" means any commercially available technology that
21 enables the State to meet the renewable portfolio standards,

1 established pursuant to section 269-92, or the energy-efficiency
2 portfolio standards, established pursuant to section 269-96, and
3 approved by the public utilities commission by rule or order."

4 SECTION 16. Section 269-145.5, Hawaii Revised Statutes, is
5 amended to read as follows:

6 "§269-145.5 **Advanced grid modernization technology;**
7 **principles.** (a) The commission, in carrying out its
8 responsibilities under this chapter, shall consider the value of
9 improving electrical generation, transmission, and distribution
10 systems and infrastructure within the State through the use of
11 advanced grid modernization technology in order to improve the
12 overall reliability and operational efficiency of the Hawaii
13 electric system.

14 (b) In advancing the public interest, the commission shall
15 balance technical, economic, environmental, and cultural
16 considerations associated with modernization of the electric
17 grid, based on principles that include but are not limited to:

- 18 (1) Enabling a diverse portfolio of renewable energy
19 resources;
20 (2) Expanding options for customers to manage their energy
21 use;



- 1 (3) Maximizing interconnection of distributed generation
2 to the State's electric grids on a cost-effective
3 basis at non-discriminatory terms and at just and
4 reasonable rates, while maintaining the reliability of
5 the State's electric grids, and allowing such access
6 and rates through applicable rules, orders, and
7 tariffs as reviewed and approved by the commission;
- 8 (4) Determining fair compensation for electric grid
9 services and other benefits provided to customers and
10 for electric grid services and other benefits provided
11 by distributed generation customers and other non-
12 utility service providers; ~~and~~
- 13 (5) Maintaining or enhancing grid reliability and safety
14 through modernization of the State's electric
15 grids ~~[]~~; and
- 16 (6) Maintaining and enhancing grid resiliency.
- 17 (c) The commission shall require each electric public
18 utility within its jurisdiction to incorporate a grid resiliency
19 plan into the utility's integrated resource and grid
20 modernization planning. All expenditures for grid resiliency
21 approved by the commission as part of an electric public



1 utility's integrated resource plan or grid modernization plan
2 shall be presumed to be just and reasonable for the purposes of
3 the grid resiliency loan program pursuant to section 269-A."

4 SECTION 17. There is appropriated out of the green
5 infrastructure special fund the sum of \$20,000,000 or so much
6 thereof as may be necessary for fiscal year 2018-2019 to be
7 deposited into the grid resiliency loan special fund established
8 pursuant to section 196-B, Hawaii Revised Statutes, established
9 in section 12 of this Act.

10 PART III

11 SECTION 18. In codifying the new sections added by
12 sections 11 and 12 of this Act, the revisor of statutes shall
13 substitute appropriate section numbers for the letters used in
14 designating the new sections in this Act.

15 SECTION 19. Statutory material to be repealed is bracketed
16 and stricken. New statutory material is underscored.

17 SECTION 20. This Act shall take effect on July 1, 2050.



Report Title:

Grid Resiliency; Loan Program; Special Fund; Task Force

Description:

Creates a \$50,000,000 revolving line of credit sub-fund under the umbrella of the Green Energy Market Securitization Loan Fund for any state agency or department to finance energy efficiency measures. Establishes the Grid Resiliency Loan Program and a Grid Resiliency Task Force to prepare the State's electrical grid for natural disasters and other emergencies. Establishes a Grid Resiliency Loan Special Fund to provide funding for critical infrastructure. (SB2910 HD1)

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