
A BILL FOR AN ACT

RELATING TO RENEWABLE PORTFOLIO STANDARDS.

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

1 SECTION 1. The legislature finds that the climate crisis
2 is the overriding challenge of the twenty-first century,
3 presenting significant threats to the environment, public
4 health, and economic stability of the State of Hawaii.

5 Hawaii first established a binding renewable portfolio
6 standard twenty years ago. The renewable portfolio standard is
7 a policy that recognizes the need to avoid oil price volatility
8 and the climate impacts of our electricity needs by prioritizing
9 the development of renewable energy resources. The Hawaii
10 natural energy institute submits a report every five years on
11 the effectiveness and achievability of the renewable portfolio
12 standard. The most recent report released in December 2023
13 found that the utilities will likely meet their 2030 renewable
14 portfolio standard targets.

15 As the renewable portfolio standard continues to transform
16 the State's electricity system, it requires modifications to
17 address emerging trends. In 2015, Hawaii set the nation's first
18 one hundred per cent renewable portfolio standard, in

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1 recognition of the importance of action to combat the climate
2 crisis. In 2022, the State amended the renewable portfolio
3 standard to be based on net electricity generation rather than
4 sales to better account for the climate impacts of grid
5 operations.

6 Biofuels could provide a significant contribution to the
7 State's clean energy goals, and market certainty could
8 incentivize biofuels refined locally using local feedstock to
9 achieve very low carbon footprints. By contrast, the current
10 renewable portfolio standard could allow biofuels with a very
11 high carbon footprint to satisfy clean energy requirements,
12 which would be at odds with one foundation of the renewable
13 portfolio standard. For example, the World Wildlife Fund
14 estimates that eighty per cent of deforestation in the Amazon
15 region is caused by cattle ranching, which supplies beef tallow
16 to make biofuel that currently qualifies as "renewable" under
17 the renewable portfolio standard.

18 Recent energy system studies by the Hawaii natural energy
19 institute, the Hawaiian Electric Company, and the Hawaii state
20 energy office all show the need for a diverse generation
21 portfolio to complement cost-effective solar and wind
22 development. Investments in this complementary generation

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1 capacity should incentivize the use of low- or no-carbon fuels,
2 and the renewable portfolio standard should address the
3 procurement of this decarbonized capacity.

4 Capacity markets set prices for investment in generation
5 capacity to match supply and demand well into the future based
6 on rigorous studies. In a typical capacity market, generators
7 bid on the right to build a power plant in an auction
8 established by state or federal law. Capacity markets can be
9 used in wholesale electricity markets to pay generators to be
10 available to produce electricity at peak demand several years
11 into the future. Capacity markets are an important tool for
12 limiting high carbon dioxide emitters from participating and for
13 incentivizing natural gas power plants to switch to hydrogen.
14 These markets provide for diverse clean generation portfolios
15 needed to meet demand in an economical way.

16 Grid operators in New York, New England, the Midwest, and
17 Mid-Atlantic all have capacity markets to ensure adequate
18 reliable capacity. Grid operators in New York, New England, and
19 the Midwest have been updating their capacity markets to take
20 into account the increasing quantities of renewable energy
21 resources being added to the grid. In addition, many European
22 countries have seen success with capacity markets through a

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1 central annual auction and a fixed amount of capacity demanded
2 by central authority. For European countries, capacity can be
3 met by power plants, storage facilities, or through demand
4 response. The grid operator in the Mid-Atlantic, known as PJM,
5 allows capacity to be met by new and existing generators, demand
6 response, and energy efficiency and transmission updates.

7 Capacity market pricing can vary greatly across regions and
8 seasons. The grid operator in the Midwest, known as MISO, has
9 established capacity prices that vary by season that address
10 significant changes in electricity demand over the course of a
11 year. In the Midwest, seasonal clearing prices for the summer,
12 fall, winter, and spring were \$30/megawatts-day, \$15/megawatts-
13 day, \$0.75/megawatts-day, and \$34.10/megawatts-day. In the Mid-
14 Atlantic, PJM, the largest power grid operator in the U.S.,
15 assigns values based on the type and costs of generators, with
16 prices for the 2026 market ranging from \$52 for a combustion
17 turbine, \$64 for steam oil and gas, \$70 for solar photovoltaic,
18 \$113 for combined cycle, and \$147 for onshore wind.

19 The renewable portfolio standard should increase the
20 incentive for capacity that commits to using low- or no-carbon
21 fuels, based on a lifecycle greenhouse gas assessment of the
22 plant and the fuel. One key benchmark has been set by the U.S.

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1 Department of Energy Clean Hydrogen Production Standard
2 Guidance, which establishes a target of four kilograms of carbon
3 dioxide equivalent per kilogram of hydrogen for life cycle
4 (defined here as "well-to-gate") greenhouse emissions associated
5 with hydrogen production.

6 Distributed solar is the State's largest source of
7 renewable energy. Maximizing distributed solar will be critical
8 to meet the clean energy needs of Oahu, and can help avoid
9 competition for land use across the State. Further, distributed
10 solar provides energy security and resilience to residents
11 across the State. Recognizing the unique and foundational role
12 of distributed solar will strengthen the renewable portfolio
13 standard and align the successful transformation of the
14 electricity sector with resilience, equity, and food security
15 goals. Similar to the market certainty for local biofuels and
16 other low-carbon fuels, the renewable portfolio standard should
17 remove caps on investment in distributed solar related to
18 outdated policies, support equitable access to distributed solar
19 for low- and moderate-income households, and enable these
20 resources to provide dispatchable renewable energy in a modern
21 grid.

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1 The renewable portfolio standard can be improved to better
2 mitigate oil price volatility, which still provides nearly
3 seventy per cent of the State's electricity, and avoid high-
4 carbon renewable energy. This Act will improve the
5 effectiveness of the renewable portfolio standard law, which
6 stipulates the central role of Hawaii's electric utility
7 companies in complying with the State's renewable energy and
8 climate goals.

9 SECTION 2. Section 269-27.2, Hawaii Revised Statutes, is
10 amended by amending subsection (c) to read as follows:

11 "(c) The rate payable by the public utility to the
12 producer for the nonfossil fuel generated electricity supplied
13 to the public utility shall be as agreed between the public
14 utility and the supplier [~~and as approved by the public~~
15 ~~utilities commission; provided that in the event the public~~
16 ~~utility and the supplier fail to reach an agreement for a rate,~~
17 ~~the rate shall be as prescribed by the public utilities~~
18 ~~commission according to the powers and procedures provided in~~
19 ~~this chapter.] in a manner similar to qualifying cogeneration
20 facilities under public utilities commission chapter 6-74,
21 Hawaii Administrative Rules, related to the Federal Public
22 Utility Regulatory Policies Act and consistent with capacity~~

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1 incentives established under section 269-92(b)(2); provided that
2 the public utility shall have the opportunity to review and
3 comment on the rate.

4 The commission's determination of the just and reasonable
5 rate shall be accomplished by establishing a methodology that
6 removes or significantly reduces any linkage between the price
7 of fossil fuels and the rate for the nonfossil fuel generated
8 electricity to potentially enable utility customers to share in
9 the benefits of fuel cost savings resulting from the use of
10 nonfossil fuel generated electricity. As the commission deems
11 appropriate, the just and reasonable rate for nonfossil fuel
12 generated electricity supplied to the public utility by the
13 producer may include mechanisms for reasonable and appropriate
14 incremental adjustments, such as adjustments linked to consumer
15 price indices for inflation or other acceptable adjustment
16 mechanisms."

17 SECTION 3. Section 269-91, Hawaii Revised Statutes, is
18 amended to read as follows:

19 "§269-91 [†]Definitions.[†] For the purposes of this
20 [†]part [†]:

21 "Anticipated reserve margin" means the percentage by which
22 expected generating capacity exceeds an electric utility's peak

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1 demand, excluding the amount of capacity offset by demand-
2 response systems that are expected to be available during a peak
3 demand hour.

4 "Biofuels" means [~~liquid or gaseous~~] fuels with lifecycle
5 greenhouse gas emissions below one hundred kilograms of carbon
6 dioxide equivalent per million British thermal units of power
7 generated, produced from organic sources such as biomass crops,
8 agricultural residues and oil crops, such as palm oil, canola
9 oil, soybean oil, waste cooking oil, grease, and food wastes,
10 [~~animal residues and wastes,~~] and sewage and landfill wastes.

11 "Capacity factor" means the electrical energy produced, or
12 anticipated to be produced, by a generator compared to the total
13 electrical energy that would be produced at the generator's
14 continuous full power operation during each hour of the year.

15 "Cost-effective" means the ability to produce or purchase
16 electric energy or firm capacity, or both, from renewable energy
17 resources at or below avoided costs or as the commission
18 otherwise determines to be just and reasonable consistent with
19 the methodology set by the public utilities commission in
20 accordance with section 269-27.2.

21 "Decarbonized electrical energy" means electrical energy
22 generated using fuels with lifecycle greenhouse gas emissions

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1 below four kilograms carbon dioxide equivalent per million
2 British thermal units due to the avoidance or removal of climate
3 pollutants during the production of the fuel.

4 "Electric utility company" means a public utility as
5 defined under section 269-1, for the production, conveyance,
6 transmission, delivery, or furnishing of power.

7 "Emission factor" means the weight of greenhouse gases
8 released per British thermal unit.

9 "Lifecycle greenhouse gas emission intensity" means the
10 total emissions expressed in carbon dioxide equivalent per unit
11 of energy generated as determined by a lifecycle emissions
12 assessment.

13 "Local renewable biofuels" means fuels with lifecycle
14 greenhouse gas emissions below one hundred kilograms carbon
15 dioxide equivalent per million British thermal units of
16 electricity generated and refined within the State and produced
17 from organic sources in the State such as biomass crops,
18 agricultural residues, and oil crops, such as palm oil, canola
19 oil, soybean oil, waste cooking oil, grease, and food wastes,
20 animal residues and wastes, and sewage and landfill waste.

21 "Renewable electrical energy" means:

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- 1 (1) Electrical energy generated using renewable energy as
2 the source, and beginning January 1, 2015, includes
3 customer-sited, grid-connected renewable energy
4 generation; and
- 5 (2) Electrical energy savings brought about by:
- 6 (A) The use of renewable displacement or off-set
7 technologies, including solar water heating, sea-
8 water air-conditioning district cooling systems,
9 solar air-conditioning, and customer-sited, grid-
10 connected renewable energy systems; provided
11 that, beginning January 1, 2015, electrical
12 energy savings shall not include customer-sited,
13 grid-connected renewable-energy systems; or
- 14 (B) The use of energy efficiency technologies,
15 including heat pump water heating, ice storage,
16 ratepayer-funded energy efficiency programs, and
17 use of rejected heat from co-generation and
18 combined heat and power systems, excluding
19 fossil-fueled qualifying facilities that sell
20 electricity to electric utility companies and
21 central station power projects.

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1 "Renewable energy" means energy generated or produced using
2 the following sources:

3 (1) Wind;

4 (2) The sun;

5 (3) Falling water;

6 (4) Biogas, including landfill and sewage-based digester
7 gas;

8 (5) Geothermal;

9 (6) Ocean water, currents, and waves, including ocean
10 thermal energy conversion;

11 (7) Biomass, including biomass crops, agricultural and
12 animal residues and wastes, and municipal solid waste
13 and other solid waste;

14 (8) Biofuels[?], including local renewable biofuels; and

15 (9) Hydrogen produced from renewable energy sources.

16 "Renewable portfolio standard" means the percentage of
17 electrical energy generation that is represented by renewable
18 electrical energy, excluding customer-sited, grid connected
19 generation that does not produce renewable energy."

20 SECTION 4. Section 269-92, Hawaii Revised Statutes, is
21 amended by amending subsection (b) to read as follows:

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1 "(b) The public utilities commission may establish
2 standards for each electric utility company that prescribe the
3 portion of the renewable portfolio standards that shall be met
4 by specific types of renewable energy resources; provided that:

5 ~~[(1) Before January 1, 2015, at least fifty per cent of
6 the renewable portfolio standard shall be met by
7 electrical energy generated using renewable energy as
8 the source, and after December 31, 2014, the entire
9 renewable portfolio standard shall be met by
10 electrical generation from renewable energy sources;~~

11 ~~[(2) Beginning January 1, 2015, electrical energy savings
12 shall not count toward renewable energy portfolio
13 standards;]~~

14 (1) By 2045, the public utilities commission shall ensure
15 the electric utility purchases:

16 (A) No less than 20,000,000 gallons of renewable
17 biofuels per year to produce renewable electrical
18 energy, with additional incentives available for
19 fuel contracts with lower lifecycle greenhouse
20 gas emissions;

21 (B) The renewable electrical energy produced by no
22 less than 2,000 megawatts of customer-sited, grid

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1 connected generation that can be dispatched to
2 the electric utility when needed; and

3 (C) Demand response services available to residential
4 and commercial customers at a level determined to
5 be appropriate by the public utilities
6 commission;

7 (2) The public utilities commission shall establish
8 capacity payments to ensure anticipated reserve
9 margins of no less than fifteen per cent will be met
10 by generators that can achieve an annual capacity
11 factor exceeding sixty per cent using renewable
12 electrical energy or decarbonized electrical energy;

13 (3) Where electrical energy is generated or displaced by a
14 combination of renewable and nonrenewable means, the
15 proportion attributable to the renewable means shall
16 be credited as renewable energy; and

17 (4) Where fossil and renewable fuels are co-fired in the
18 same generating unit, the unit shall be considered to
19 generate renewable electrical energy (electricity) in
20 direct proportion to the percentage of the total heat
21 input value represented by the heat input value of the
22 renewable fuels."

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1 SECTION 5. Section 269-93, Hawaii Revised Statutes, is
2 amended by amending subsection (a) to read as follows:

3 "(a) An electric utility company and its electric utility
4 affiliates may aggregate their renewable portfolios to achieve
5 the renewable portfolio standard. However, the electric utility
6 shall report progress toward the renewable portfolio standard by
7 island."

8 SECTION 6. Section 269-101.5, Hawaii Revised Statutes, is
9 repealed.

10 [~~["§269-101.5] Maximum capacity of eligible customer-~~
11 ~~generator. The eligible customer generator shall have a~~
12 ~~capacity of not more than fifty kilowatts; provided that the~~
13 ~~public utilities commission may increase the maximum allowable~~
14 ~~capacity that eligible customer generators may have to an amount~~
15 ~~greater than fifty kilowatts by rule or order."]~~

16 SECTION 7. Statutory material to be repealed is bracketed
17 and stricken. New statutory material is underscored.

18 SECTION 8. This Act, upon its approval, shall take effect
19 on July 1, 2026.

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INTRODUCED BY: Nadine K. Vaden

22

BY REQUEST

JAN 21 2025

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Report Title:

Renewable Energy Portfolio Standards; Department of Commerce and Consumer Affairs, Public Utilities Commission; Department of Commerce and Consumer Affairs, Division of Consumer Advocacy.

Description:

Modifies and improves the effectiveness of the renewable portfolio standards law, which stipulates the central role of Hawaii's electric utility companies in complying with the State's renewable energy and climate goals to address emerging trends.

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

JUSTIFICATION SHEET

DEPARTMENT: Business, Economic Development, and Tourism

TITLE: A BILL FOR AN ACT RELATING TO RENEWABLE PORTFOLIO STANDARDS.

PURPOSE: To strengthen the existing statute to add lifecycle carbon emission intensity standards for qualifying fuels, remove restrictions on distributed solar, and require incentives for low- or no-carbon generation capacity that complements wind and solar.

MEANS: Amend sections 269-27.2(c), 269-91, 269-92(b), and 269-93(a) and repeal section 269-101.5, Hawaii Revised Statutes.

JUSTIFICATION: This bill will improve the effectiveness of the Renewable Portfolio Standards law, which establishes the central role of Hawaii's electric utility companies in complying with the State's renewable energy and climate goals.

Impact on the public: A more effective Renewable Portfolio Standards would mitigate oil price volatility, which presents severe economic harm to Hawaii's energy consumers and overall economy, and improve the investment climate for clean energy providers.

Impact on the department and other agencies: The Public Utilities Commission in the Department of Commerce and Consumer Affairs has oversight of enforcing the Renewable Portfolio Standards, and would develop any rules or regulatory proceedings associated with this bill. The Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs would review and comment on any associated rule changes or regulatory proceedings associated with this bill.

GENERAL FUND: None.

OTHER FUNDS: None.

PPBS PROGRAM
DESIGNATION: BED 120.

OTHER AFFECTED
AGENCIES: Department of Commerce and Consumer Affairs,
Public Utilities Commission; and Department
of Commerce and Consumer Affairs, Division
of Consumer Advocacy.

EFFECTIVE DATE: July 1, 2026.