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# A BILL FOR AN ACT

RELATING TO RENEWABLE ENERGY.

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

- 1           SECTION 1. The purpose of this Act is to:
- 2           (1) Require the office of planning and sustainable  
3           development to update the state energy plan;
- 4           (2) Ensure grid reliability by diversifying the State's  
5           renewable energy portfolio to include firm and  
6           intermittent renewable energy;
- 7           (3) Establish a state energy policy that requires at least  
8           33.33 per cent of renewable energy to be generated by  
9           firm renewable energy and for renewable energy to  
10          replace fossil fuel energy and achieve one hundred per  
11          cent renewable energy generation;
- 12          (4) Establish a state energy policy that requires the  
13          State to maintain a diversified renewable energy  
14          portfolio; and
- 15          (5) Amend other statutory provisions to achieve at least  
16          33.33 per cent firm renewable energy generation for  
17          each island.



1 SECTION 2. Section 226-10, Hawaii Revised Statutes, is  
2 amended by amending subsection (b) to read as follows:

3 "(b) To achieve the potential growth and innovative  
4 activity objective, it shall be the policy of [~~this~~] the State  
5 to:

- 6 (1) Facilitate investment and employment growth in  
7 economic activities that have the potential to expand  
8 and diversify Hawaii's economy, including but not  
9 limited to diversified agriculture, aquaculture,  
10 renewable energy development, creative media, health  
11 care, and science and technology-based sectors;
- 12 (2) Facilitate investment in innovative activity that may  
13 pose risks or be less labor-intensive than other  
14 traditional business activity, but, if successful,  
15 will generate revenue in Hawaii through the export of  
16 services or products or substitution of imported  
17 services or products;
- 18 (3) Encourage entrepreneurship in innovative activity by  
19 academic researchers and instructors who may not have  
20 the background, skill, or initial inclination to



- 1           commercially exploit their discoveries or  
2           achievements;
- 3           (4) Recognize that innovative activity is not exclusively  
4           dependent upon individuals with advanced formal  
5           education, but that many self-taught, motivated  
6           individuals are able, willing, sufficiently  
7           knowledgeable, and equipped with the attitude  
8           necessary to undertake innovative activity;
- 9           (5) Increase the opportunities for investors in innovative  
10          activity and talent engaged in innovative activity to  
11          personally meet and interact at cultural, art,  
12          entertainment, culinary, athletic, or visitor-oriented  
13          events without a business focus;
- 14          (6) Expand Hawaii's capacity to attract and service  
15          international programs, technologies, and activities  
16          that generate employment for Hawaii's people;
- 17          (7) Enhance and promote Hawaii's role as a center for  
18          international relations[  ]; trade[  ]; finance[  ];  
19          services[  ]; technology[  ]; education[  ];  
20          demonstration projects for innovations in



- 1           sustainability, renewable energy innovation and  
2           intellectual property; culture[7]; and the arts;
- 3           (8) Accelerate research and development of new  
4           energy-related industries based on wind, solar, ocean,  
5           underground resources, [~~and~~] solid waste[7], and firm  
6           renewable energy;
- 7           (9) Promote Hawaii's geographic, environmental, social,  
8           and technological advantages to attract new or  
9           innovative economic activities into the State;
- 10          (10) Provide public incentives and encourage private  
11          initiative to attract new or innovative industries  
12          that best support Hawaii's social, economic, physical,  
13          and environmental objectives;
- 14          (11) Increase research and the development of ocean-related  
15          economic activities such as mining, food production,  
16          energy production, and scientific research;
- 17          (12) Develop, promote, and support research and educational  
18          and training programs that will enhance Hawaii's  
19          ability to attract and develop economic activities of  
20          benefit to Hawaii;



1 (13) Foster a broader public recognition and understanding  
2 of the potential benefits of new or innovative  
3 growth-oriented industry in Hawaii;

4 (14) Encourage the development and implementation of joint  
5 federal and state initiatives to attract federal  
6 programs and projects that will support Hawaii's  
7 social, economic, physical, and environmental  
8 objectives;

9 (15) Increase research and development of businesses and  
10 services in the telecommunications and information  
11 industries;

12 (16) Foster the research and development of nonfossil fuel  
13 and energy efficient modes of transportation; and

14 (17) Recognize and promote health care and health care  
15 information technology as growth industries."

16 SECTION 3. Section 226-18, Hawaii Revised Statutes, is  
17 amended to read as follows:

18 "§226-18 Objectives and policies for facility systems--  
19 energy. (a) Planning for the State's facility systems with  
20 regard to energy shall be directed toward the achievement of the  
21 following objectives, giving due consideration to all:



- 1 (1) Dependable, efficient, and economical statewide energy  
2 systems capable of supporting the needs of the people;
- 3 (2) Increased energy security and self-sufficiency through  
4 the reduction and ultimate elimination of Hawaii's  
5 dependence on imported fuels for electrical generation  
6 and ground transportation;
- 7 (3) Greater diversification of energy generation and  
8 reduction of reliance on imports in the face of  
9 threats to Hawaii's energy supplies and systems;
- 10 (4) Reduction, avoidance, or sequestration of greenhouse  
11 gas emissions from energy supply and use [~~+~~and],  
12 including but not limited to ensuring that all new  
13 utility scale electricity generation facilities shall  
14 be renewable capable;
- 15 (5) Utility models that make the social and financial  
16 interests of Hawaii's utility customers a priority [~~-~~];
- 17 (6) Greater diversification of renewable energy generation  
18 to include intermittent and firm renewable generation  
19 to improve reliability and achieve one hundred per  
20 cent renewable energy objectives;



- 1        (7) Reliable replacement of fossil fuel generation with  
2        firm renewable generation;
- 3        (8) Firm renewable generation shall be a minimum of 33.33  
4        per cent of renewable energy generation for each  
5        island. Notwithstanding any law to the contrary, this  
6        percentage may be updated by the legislature pursuant  
7        to the following:
- 8        (A) By adoption of a concurrent resolution based on  
9        data from a study by the Hawaii natural energy  
10       institute, as described in section 7 of  
11       Act \_\_\_\_\_, Session Laws of Hawaii 2022; and
- 12       (B) The office of planning and sustainable  
13       development shall submit for introduction to the  
14       legislature a concurrent resolution for review of  
15       the proposed firm renewable energy generation  
16       minimum percentage;
- 17       (9) Limit the percentage of any one type of renewable  
18       energy source to forty-five per cent of all generation  
19       for each island, except for geothermal generated  
20       energy. Notwithstanding any law to the contrary, this



1           percentage may be updated pursuant to paragraph (a) (8)  
2           of this section; and  
3        (10) Fossil fuel generation shall be prohibited after  
4           December 31, 2045; except in cases of emergencies or  
5           natural disaster, situations where unavailability of  
6           renewable fuels would require limited use of fossil  
7           fuels to maintain grid reliability, and events or  
8           circumstances that are outside of an electric utility  
9           company's reasonable control, to the extent the event  
10          or circumstance could not be reasonably foreseen and  
11          ameliorated. Notwithstanding any law to the contrary,  
12          the legislature may extend this deadline by three  
13          years pursuant to the following:  
14          (A) By adoption of a concurrent resolution;  
15          (B) The office of planning and sustainable  
16                development shall submit for introduction to the  
17                legislature a concurrent resolution for review of  
18                the proposed extension of fossil fuel generation;  
19                and



1           (C) The legislature may grant no more than three  
2                           consecutive three-year extensions to this  
3                           deadline.

4           (b) To achieve the energy objectives, it shall be the  
5 policy of [~~this~~] the State to ensure the short- and long-term  
6 provision of adequate, reasonably priced, reliable, and  
7 dependable energy services to accommodate demand[-] and reduce  
8 reliance on imports, and that electrical energy facilities shall  
9 be renewable capable.

10           (c) To further achieve the energy objectives, it shall be  
11 the policy of [~~this~~] the State to:

12           (1) Support research and development as well as promote  
13 the use of a diversified portfolio of renewable energy  
14 sources;

15           (2) Ensure that the combination of energy supplies and  
16 energy-saving systems is sufficient to support the  
17 demands of growth[+] while considering the dispatch of  
18 renewable generation and life cycle greenhouse gas  
19 emissions;

20           (3) Base decisions of least-cost supply-side and  
21 demand-side energy resource options on a comparison of



- 1           their total costs and benefits when a least-cost is  
2           determined by a reasonably comprehensive,  
3           quantitative, and qualitative accounting of their  
4           long-term, direct and indirect economic,  
5           environmental, social, cultural, and public health  
6           costs and benefits[+], that may offset costs;  
7           including accounting for the benefits of renewable  
8           energy that reduces the consumption of fossil fuels;
- 9           (4) Promote all cost-effective conservation of power and  
10          fuel supplies through measures, including:
- 11          (A) Development of cost-effective demand-side  
12             management programs;
- 13          (B) Education;
- 14          (C) Adoption of energy-efficient practices and  
15             technologies; and
- 16          (D) Increasing energy efficiency and decreasing  
17             energy use in public infrastructure;
- 18          (5) Ensure, to the extent that new supply-side resources  
19          are needed, that the development or expansion of  
20          energy systems uses the least-cost energy supply  
21          option and maximizes efficient technologies[+],



1 subject to the consideration of non-fossil fuel long-  
2 term, direct and indirect economic, environmental,  
3 social, cultural, and public health costs and  
4 benefits, that may offset monetary costs;

5 (6) Support research, development, demonstration, and use  
6 of energy efficiency, load management, and other  
7 demand-side management programs, practices, and  
8 technologies;

9 (7) Promote alternate fuels and transportation energy  
10 efficiency;

11 (8) Support actions that reduce, avoid, or sequester  
12 greenhouse gases in utility, transportation, and  
13 industrial sector applications;

14 (9) Support actions that reduce, avoid, or sequester  
15 Hawaii's greenhouse gas emissions through agriculture  
16 and forestry initiatives;

17 (10) Provide priority handling and processing for all state  
18 and county permits required for renewable energy  
19 projects;

20 (11) Ensure that liquefied natural gas is used only as a  
21 cost-effective transitional, limited-term replacement



1 of petroleum for electricity generation and does not  
2 impede the development and use of other cost-effective  
3 renewable energy sources; [and]

4 (12) Promote the development of indigenous geothermal  
5 energy resources that are located on public trust land  
6 as an affordable and reliable source of firm power for  
7 Hawaii[-];

8 (13) Ensure that the development or expansion of energy  
9 systems recognizes and emphasizes the need to increase  
10 the proportion of firm renewable energy generation to  
11 a minimum of 33.33 per cent of renewable energy for  
12 each island, to reliably replace fossil fuel  
13 generation; and

14 (14) Ensure that the development or expansion of energy  
15 systems recognizes and emphasizes the need to ensure  
16 grid reliability by limiting the proportion of any one  
17 source of renewable energy as defined in section  
18 269-91, except for geothermal generated energy, to a  
19 maximum of forty-five per cent of energy generation on  
20 each island.

21 (d) As used in this section:



1       "Firm renewable energy" means renewable energy that is  
2 available and capable of being continually producing energy  
3 twenty-four hours per day, three hundred sixty-five days per  
4 year, on the demand of the energy system operator at its rated  
5 capacity, subject only to routine maintenance and emergency  
6 repairs.

7       "Intermittent renewable generation" means the generation of  
8 renewable energy that does not qualify as firm renewable  
9 energy."

10       SECTION 4. Section 226-55, Hawaii Revised Statutes, is  
11 amended to read as follows:

12       "**§226-55 Functional plans; preparation; update.** (a) The  
13 state agency head primarily responsible for a given functional  
14 area shall prepare and periodically update the functional plan  
15 for the area. In the preparation or update of the functional  
16 plan, the state agency head shall work in close cooperation with  
17 the advisory committee, respective officials, and people of each  
18 county. In the formulation of the initial or updated functional  
19 plan, the preparing agency shall solicit public views and  
20 concerns. The formulation and revision of a state functional  
21 plan shall conform to the provisions of this chapter and shall



1 take into consideration the county general plans. Functional  
2 plans and any revisions thereto shall be accepted by the  
3 governor to serve as guidelines for funding requests and  
4 implementation by state and county agencies.

5 (b) The functional plan shall identify priority issues in  
6 the functional area and shall contain objectives, policies, and  
7 implementing actions to address those priority issues. Actions  
8 may include organizational or management initiatives, facility  
9 or physical infrastructure development initiatives, initiatives  
10 for programs and services, or legislative proposals.

11 (c) For each functional plan, the lead state agency, with  
12 the concurrence of the governor, shall establish an advisory  
13 committee, where an advisory body which meets the criteria set  
14 out hereunder is not already in existence, whose membership  
15 shall be composed of at least one public official from each  
16 county; members of the public; experts in the field for which a  
17 functional plan is being prepared; and state officials. The  
18 advisory committee shall advise the lead state agency in  
19 preparing, implementing, monitoring, and updating the functional  
20 plan to be in conformance with the overall theme, goals,  
21 objectives, policies, and priority guidelines contained within



1 this chapter. The draft functional plan shall be submitted to  
2 relevant federal, state, and county agencies for review and  
3 input. The advisory committee shall serve as a temporary  
4 advisory body to the state agency responsible for preparing each  
5 respective functional plan. The terms of members from the  
6 public and experts in the field for which a functional plan is  
7 prepared shall be for four years. Each term shall commence on  
8 July 1 and expire on June 30. No member from the public or  
9 expert in the field shall be appointed consecutively to more  
10 than two terms. These appointments shall not be subject to  
11 senate confirmation[7] and shall be exempt from sections  
12 26-34(a) and 78-4(a) regarding the appointment to boards and  
13 commissions.

14 (d) The office of planning and sustainable development  
15 shall update the energy state functional plan to include a  
16 diversified renewable energy portfolio and firm renewable energy  
17 for electricity generation to enhance the State's energy  
18 security, resilience, and sustainability. The updated energy  
19 state functional plan shall be integrated into any future  
20 updated functional plans. The updated energy state functional  
21 plan shall be submitted to the legislature no later than twenty



1 days prior to the convening of the 2023 legislative session.  
2 The office of planning and sustainable development shall submit  
3 an annual report to the legislature regarding progress to the  
4 energy state functional plan. The energy state functional plan  
5 may be updated every five years.

6 (e) Any agency that does not comply with this plan shall  
7 seek approval of the office of planning and sustainable  
8 development for the noncompliance. Any disputes shall be  
9 appealed to the governor.

10 (f) The office of planning and sustainable development  
11 shall submit a report to the legislature no later than twenty  
12 days prior to the convening of each regular session. This  
13 report shall contain detailed information regarding the status  
14 of the plan and related policies."

15 SECTION 5. Section 226-103, Hawaii Revised Statutes, is  
16 amended as follows:

17 1. By amending subsection (a) to read:

18 "(a) Priority guidelines to stimulate economic growth and  
19 encourage business expansion and development to provide needed  
20 jobs for Hawaii's people and achieve a stable and diversified  
21 economy:



- 1           (1) Seek a variety of means to increase the availability
- 2                   of investment capital for new and expanding
- 3                   enterprises.
- 4           (A) Encourage investments [~~which~~] that:
- 5                   (i) Reflect long-term commitments to the State;
- 6                   (ii) Rely on economic linkages within the local
- 7                               economy;
- 8                   (iii) Diversify the economy;
- 9                   (iv) Reinvest in the local economy;
- 10                  (v) Are sensitive to community needs and
- 11                               priorities; and
- 12                  (vi) Demonstrate a commitment to provide
- 13                               management opportunities to Hawaii
- 14                               residents; and
- 15           (B) Encourage investments in innovative activities
- 16                   that have a nexus to the State, such as:
- 17                   (i) Present or former residents acting as
- 18                               entrepreneurs or principals;
- 19                   (ii) Academic support from an institution of
- 20                               higher education in Hawaii;
- 21                   (iii) Investment interest from Hawaii residents;



- 1 (iv) Resources unique to Hawaii that are required  
2 for innovative activity; and  
3 (v) Complementary or supportive industries or  
4 government programs or projects.
- 5 (2) Encourage the expansion of technological research to  
6 assist industry development and support the  
7 development and commercialization of technological  
8 advancements.
- 9 (3) Improve the quality, accessibility, and range of  
10 services provided by government to business, including  
11 data and reference services and assistance in  
12 complying with governmental regulations.
- 13 (4) Seek to ensure that state business tax and labor laws  
14 and administrative policies are equitable, rational,  
15 and predictable.
- 16 (5) Streamline the processes for building and development  
17 permit and review and telecommunication infrastructure  
18 installation approval and eliminate or consolidate  
19 other burdensome or duplicative governmental  
20 requirements imposed on business, where scientific



1 evidence indicates that public health, safety, and  
2 welfare would not be adversely affected.

3 (6) Encourage the formation of cooperatives and other  
4 favorable marketing or distribution arrangements at  
5 the regional or local level to assist Hawaii's  
6 small-scale producers, manufacturers, and  
7 distributors.

8 (7) Continue to seek legislation to protect Hawaii from  
9 transportation interruptions between Hawaii and the  
10 continental United States.

11 (8) Provide public incentives and encourage private  
12 initiative to develop and attract industries [~~which~~]  
13 that promise long-term growth potentials and [~~which~~]  
14 that have the following characteristics:

15 (A) An industry that can take advantage of Hawaii's  
16 unique location and available physical and human  
17 resources.

18 (B) A clean industry that would have minimal adverse  
19 effects on Hawaii's environment.



- 1 (C) An industry that is willing to hire and train  
2 Hawaii's people to meet the industry's labor  
3 needs at all levels of employment.
- 4 (D) An industry that would provide reasonable income  
5 and steady employment.
- 6 (9) Support and encourage, through educational and  
7 technical assistance programs and other means,  
8 expanded opportunities for employee ownership and  
9 participation in Hawaii business.
- 10 (10) Enhance the quality of Hawaii's labor force and  
11 develop and maintain career opportunities for Hawaii's  
12 people through the following actions:
- 13 (A) Expand vocational training in diversified  
14 agriculture, aquaculture, information industry,  
15 renewable energy and related industries, and  
16 other areas where growth is desired and feasible.
- 17 (B) Encourage more effective career counseling and  
18 guidance in high schools and post-secondary  
19 institutions to inform students of present and  
20 future career opportunities.



1 (C) Allocate educational resources to career areas  
2 where high employment is expected and where  
3 growth of new industries is desired.

4 (D) Promote career opportunities in all industries  
5 for Hawaii's people by encouraging firms doing  
6 business in the State to hire residents.

7 (E) Promote greater public and private sector  
8 cooperation in determining industrial training  
9 needs and in developing relevant curricula and  
10 on-the-job training opportunities.

11 (F) Provide retraining programs and other support  
12 services to assist entry of displaced workers  
13 into alternative employment."

14 2. By amending subsection (f) to read:

15 "(f) Priority guidelines for energy use and development:

16 (1) Encourage the development, demonstration, and  
17 commercialization of renewable energy sources.

18 (2) Initiate, maintain, and improve energy conservation  
19 programs aimed at reducing energy waste and increasing  
20 public awareness of the need to conserve energy.



1 (3) Provide incentives to encourage the use of energy  
2 conserving technology in residential, industrial, and  
3 other buildings.

4 (4) Encourage the development and use of energy conserving  
5 and cost-efficient transportation systems.

6 (5) Provide incentives to encourage the development of  
7 grid resources to replace fossil fuel generation."

8 SECTION 6. The Hawaii natural energy institute shall  
9 conduct a study to update the minimum percentage of firm  
10 renewable generation for each island and the maximum proportion  
11 of any one renewable energy source on each island. This study  
12 may be updated every five years. The Hawaii natural energy  
13 institute shall submit to the legislature a report on the study  
14 twenty days prior to the convening of the regular session of  
15 2023.

16 SECTION 7. There is appropriated out of the energy systems  
17 development special fund established pursuant to section  
18 304A-2169.1, Hawaii Revised Statutes, the sum of \$200,000 or so  
19 much thereof as may be necessary for fiscal year 2022-2023 for  
20 the Hawaii natural energy institute to conduct the study as  
21 required by this Act.



1           The sum appropriated shall be expended by the University of  
2 Hawaii for the purposes of this Act.

3           SECTION 8. There is appropriated out of the general  
4 revenues of the State of Hawaii the sum of \$200,000 or so much  
5 thereof as may be necessary for fiscal year 2022-2023 for the  
6 office of planning and sustainable development to update the  
7 energy state functional plan.

8           The sum appropriated shall be expended by the office of  
9 planning and sustainable development for the purposes of this  
10 Act.

11           SECTION 9. Statutory material to be repealed is bracketed  
12 and stricken. New statutory material is underscored.

13           SECTION 10. This Act shall take effect on July 1, 2022.



**Report Title:**

Office of Planning and Sustainable Development; Hawaii Natural Energy Institute; Hawaii State Planning Act; Renewable Energy; Grid Resources Balancing; Appropriation

**Description:**

Establishes a state energy policy that requires at least 33.33 per cent of renewable energy to be generated by firm renewable energy. Establishes requirements for the State to maintain a diversified renewable energy portfolio. Amends statutory provisions to achieve firm renewable energy generation for each island. Excepts geothermal energy production from limitations on energy production from a single renewable energy source. Prohibits fossil fuel generation after December 31, 2045, except in circumstances where unavailability of renewable fuels would require limited use of fossil fuels to maintain grid reliability. Requires the Office of Planning and Sustainable Development to update the energy state functional plan. Requires the Hawaii Natural Energy Institute to conduct a study on the minimum percentage of firm renewable energy. Appropriates funds. (CD1)

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

