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# A BILL FOR AN ACT

RELATING TO GEOTHERMAL RESOURCES.

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

PART I

SECTION 1. The legislature finds that geothermal development in Hawaii was formerly regulated in state and local jurisdictions by using a system of subzones and permitting that was initially established by Act 296, Session Laws of Hawaii 1983. The system of geothermal regulation using subzones was repealed by Act 97, Session Laws of Hawaii 2012.

The legislature further finds that there is a need for an appropriate framework to regulate geothermal development. This regulation should be based on former regulatory methods, the experience of geothermal operations in the county of Hawaii during the past several decades, and additional contemporary considerations.

The legislature further finds that geothermal energy is a firm source of indigenous, renewable energy that could be made available at low costs. Geothermal energy uses significantly less land than other forms of renewable energy. Specifically,



1 researchers at the Hawaii groundwater and geothermal resources  
2 center at the university of Hawaii have found that geothermal  
3 energy in Hawaii produces about one megawatt of power per acre  
4 of land, compared to solar, which requires five to ten acres per  
5 installed megawatt, and wind, which requires between thirty to  
6 one hundred acres per installed megawatt. In addition, while  
7 the output of solar- and wind-generated energy fluctuates  
8 seasonally and throughout the day, geothermal energy is  
9 significantly more stable.

10       However, the legislature also finds that geothermal  
11 energy's impacts to the environment and public health and safety  
12 must also be taken into consideration to protect the public from  
13 potentially dangerous incidents. In 1991, a geothermal well at  
14 the Puna Geothermal Venture experienced a blowout, resulting in  
15 the release of about a ton of hydrogen sulfide in a short  
16 period. After releases of hydrogen sulfide gas at the same  
17 plant in 2013, the Environmental Protection Agency conducted an  
18 inspection of the plant, which found violations of the federal  
19 Clean Air Act. The Environmental Protection Agency concluded  
20 that the company failed to take necessary steps to prevent  
21 accidental releases of hydrogen sulfide and also found



1 violations with respect to the company's storage, use, and  
2 handling of pentane, a flammable substance used in the plant's  
3 turbines. These incidents have caused understandable concern in  
4 the communities surrounding the geothermal plant.

5 To alleviate these concerns, the legislature finds that the  
6 State must adopt a strong and transparent regulatory framework  
7 that includes a requirement that geothermal developments satisfy  
8 the State's environmental review process under chapter 343,  
9 Hawaii Revised Statutes, and conduct a public hearing before a  
10 development is approved. These steps would help to ensure that  
11 public health and safety are protected; that the cultural,  
12 social, and economic impacts of the development are understood  
13 before any construction is commenced; and that conflicts with  
14 the communities surrounding the proposed development are  
15 minimized.

16 The legislature further finds that the county of Hawaii  
17 completed a *Geothermal Public Health Assessment*, and on March 17,  
18 2014, Attorney General Opinion No. 14-1, "Management and  
19 Disposition of Geothermal Resources on DHHL Lands", concluded  
20 that the department of Hawaiian home lands is entitled to one  
21 hundred per cent of geothermal royalties from its lands.



1 The purpose of this Act is to:

2 (1) Establish a geothermal resources development permit  
3 procedure;

4 (2) Prohibit hydraulic fracturing; and

5 (3) Encourage the counties to implement the  
6 recommendations of the final report of the geothermal  
7 public health assessment working group.

8 SECTION 2. Chapter 196D, Hawaii Revised Statutes, is  
9 amended by adding a new section to be appropriately designated  
10 and to read as follows:

11 "§196D- Geothermal resources development permits. (a)

12 A permit for geothermal resources development within an urban,  
13 rural, or agricultural district, as provided under section 205-2,  
14 may be issued by the appropriate county authority.

15 (b) A permit for geothermal resources development within a  
16 conservation district may be issued by the board.

17 (c) A permit for geothermal resources development within  
18 the Hawaiian home lands may be issued by the Hawaiian homes  
19 commission, in technical consultation with the board.



1        (d) In addition to the requirements of this section, each  
2 county may adopt ordinances and rules to enhance protection of  
3 the environment and of public health and safety.

4        (e) After accepting a duly filed and completed application  
5 on forms to be furnished by the appropriate county authority, as  
6 well as supporting data as may be required by the appropriate  
7 county authority, the permitting entity shall conduct a public  
8 hearing on the island where the geothermal resources development  
9 is proposed; provided that the public hearing shall be conducted  
10 in geographic proximity to the area that may be affected by the  
11 proposed geothermal development. For purposes of the public  
12 hearing:

13        (1) The permitting authority may summon witnesses, compel  
14 discovery and disclosure of evidence, administer  
15 oaths, and require testimony from witnesses;

16        (2) The notice of public hearing shall be published on  
17 three separate days in a newspaper of general  
18 circulation in the county where the public hearing is  
19 held; provided that the first publication of notice  
20 shall be not less than twenty days prior to the date  
21 set for the hearing. The notice shall be mailed to



1           all owners of land within three thousand feet of the  
2           proposed geothermal resources development. Copies of  
3           the notice shall be submitted to the department of  
4           land and natural resources, department of business,  
5           economic development, and tourism, department of  
6           Hawaiian home lands, and planning commission and  
7           planning department of the county in which the  
8           proposed geothermal development is located; and

9           (3) Unless an extension is agreed to by the applicant and  
10           the permitting authority, the permitting authority  
11           shall issue a final decision not later than six months  
12           after the conclusion of the public hearing. If the  
13           decision is appealed, a contested case proceeding  
14           under section 91-9 shall be initiated.

15           (f) An applicant for a geothermal resources development  
16           permit shall satisfy the environmental review requirements of  
17           chapter 343 and shall include a detailed analysis of the  
18           following:

19           (1) The potential for the production of geothermal energy  
20           in the area proposed by the applicant;



- 1        (2) The prospects of the utilization of geothermal energy  
2            in the area;
- 3        (3) The potential geologic hazards posed by the proposed  
4            development;
- 5        (4) Cultural, social, and economic impacts of the proposed  
6            development;
- 7        (5) Health, safety, and nuisance impacts on the  
8            surrounding land;
- 9        (6) The compatibility of geothermal development and  
10           potentially related industries with present uses of  
11           surrounding land;
- 12       (7) The compatibility of geothermal development with the  
13           county general plan and county land use policies in  
14           the county where the proposed development is located;
- 15       (8) The potential economic benefits to the State and  
16           county anticipated to be derived from the proposed  
17           development;
- 18       (9) Alternative methods of electricity development in the  
19           same proposed quantity and area, including the  
20           comparative impacts and benefits; and



1        (10) Emission monitoring and emergency response measures  
2                    that are appropriate for the area and surrounding  
3                    properties in which the proposed development is  
4                    located.

5        (g) A geothermal resources development permit may be  
6 issued if the permitting entity finds that:

7            (1) The environmental review required under subsection (f)  
8                    is complete and satisfactory;

9            (2) The applicant is in compliance with applicable zoning  
10                    ordinances and county plans; and

11           (3) The proposed geothermal resources development would  
12                    not:

13                    (A) Have unreasonable adverse health, environmental,  
14                    or socioeconomic effects on residents and  
15                    surrounding property; or

16                    (B) Unreasonably burden public agencies in providing  
17                    roads, streets, sewers, water, drainage, school  
18                    improvements, and police and fire protection;

19 provided that the permitting entity may prescribe mitigating  
20 actions to be taken by the applicant to address any effects or  
21 burdens, including the establishment of an appropriate buffer



1 zone between the proposed geothermal resource development and  
2 abutting land, as a condition of permit approval."

3 SECTION 3. Chapter 344, Hawaii Revised Statutes, is  
4 amended by adding a new section to be appropriately designated  
5 and to read as follows:

6 "§344- Hydraulic fracturing prohibited. Hydraulic  
7 fracturing is prohibited."

8 SECTION 4. Section 182-6, Hawaii Revised Statutes, is  
9 amended to read as follows:

10 "§182-6 Exploration. Any person wishing to conduct  
11 geothermal or mineral exploration on state lands or reserved  
12 lands shall apply to the ~~[board,]~~ appropriate county authority,  
13 as defined in section 196D- , which which shall issue  
14 exploration permits ~~[upon terms and conditions as it shall by~~  
15 ~~rule prescribe.]~~ in accordance with section 196D- . During  
16 and as a result of the exploration, no minerals of types and  
17 quantity beyond that reasonably required for testing and  
18 analysis shall be extracted and removed from the state lands or  
19 reserved lands. Upon termination of the exploration permit, all  
20 exploration data, including but not limited to the drill logs  
21 and the results of the assays resulting from the exploration,



1 shall be turned over to the board and kept confidential by the  
2 board. If the person does not make application for a mining  
3 lease of the lands within a period of six months from the date  
4 the information is turned over to the board, the board in its  
5 discretion need not keep the information confidential.

6 This section shall be construed as authorizing the board to  
7 issue an exploration permit for geothermal resources as well as  
8 minerals."

9 SECTION 5. Section 196D-3, Hawaii Revised Statutes, is  
10 amended by adding six new definitions to be appropriately  
11 inserted and to read as follows:

12 "Appropriate county authority" means the county planning  
13 commission unless another agency or body is designated by  
14 ordinance of the county council.

15 "Board" means the board of land and natural resources.

16 "Geothermal resources" shall have the same meaning as in  
17 section 182-1.

18 "Geothermal resources development" shall have the same  
19 meaning as in section 182-1.



1        "Permitting entity" means the appropriate county authority  
2 issuing a permit for geothermal resources development under  
3 section 196D- ."

4        SECTION 6. Section 196D-4, Hawaii Revised Statutes, is  
5 amended by amending subsection (a) to read as follows:

6        "(a) The department is designated as the lead agency for  
7 the purposes of this chapter and, in addition to its existing  
8 functions, shall establish and administer the consolidated  
9 permit application and review process provided for in this  
10 chapter, except as provided under section 196D- , which shall  
11 incorporate the permitting functions of those agencies involved  
12 in the development of the project which are transferred by  
13 section 196D-10 to the department to effectuate the purposes of  
14 this chapter."

15        SECTION 7. Section 196D-5, Hawaii Revised Statutes, is  
16 amended by amending subsection (a) to read as follows:

17        "(a) [~~The~~] Except as provided in section 196D- , the  
18 department shall serve as the lead agency for the consolidated  
19 permit application and review process established pursuant to  
20 section 196D-4(b) and as set forth in this section for the  
21 project. All agencies whose permitting functions are not



1 transferred by section 196D-10 to the department for the  
2 purposes of the project are required to participate in the  
3 consolidated permit application and review process."

4 SECTION 8. Section 196D-10, Hawaii Revised Statutes, is  
5 amended by amending subsection (a) to read as follows:

6 "(a) Those functions identified in paragraphs (1) and (2)  
7 insofar as they relate to the permit application, review,  
8 processing, issuance, and monitoring of laws, and rules and to  
9 the enforcement of terms, conditions, and stipulations of  
10 permits and other authorizations issued by agencies with respect  
11 to the development, construction, installation, operation,  
12 maintenance, repair, and replacement of the project, or any  
13 portion or portions thereof, are transferred to the  
14 [~~department.~~] counties under section 196D-\_\_\_\_\_. With respect to  
15 each of the statutory authorities cited in paragraphs (1) and  
16 (2), the transferred functions include all enforcement functions  
17 of the agencies or their officials under the statute cited as  
18 may be related to the enforcement of the terms, conditions, and  
19 stipulations of permits, including but not limited to the  
20 specific sections of the statute cited. "Enforcement", for  
21 purposes of this transfer of functions, includes monitoring and



1 any other compliance or oversight activities reasonably related  
2 to the enforcement process. These transferred functions  
3 include:

4 (1) Such functions of the land use commission related to:  
5 district boundary amendments as set forth in section  
6 205-3.1 et seq.; and changes in zoning as set forth in  
7 section 205-5; and

8 (2) The permit approval and enforcement functions of the  
9 director of transportation or other appropriate  
10 official or entity in the department of transportation  
11 related to permits or approvals issued for the use of  
12 or commercial activities in or affecting the ocean  
13 waters and shores of the State under chapter 266."

14 SECTION 9. Section 343-5, Hawaii Revised Statutes, is  
15 amended by amending subsection (a) to read as follows:

16 "(a) Except as otherwise provided, an environmental  
17 assessment shall be required for actions that:

18 (1) Propose the use of state or county lands or the use of  
19 state or county funds, other than funds to be used for  
20 feasibility or planning studies for possible future  
21 programs or projects that the agency has not approved,



1           adopted, or funded, or funds to be used for the  
2           acquisition of unimproved real property; provided that  
3           the agency shall consider environmental factors and  
4           available alternatives in its feasibility or planning  
5           studies; provided further that an environmental  
6           assessment for proposed uses under section  
7           205-2(d)(11) or 205-4.5(a)(13) shall only be required  
8           pursuant to section 205-5(b);

9           (2) Propose any use within any land classified as a  
10           conservation district by the state land use commission  
11           under chapter 205;

12           (3) Propose any use within a shoreline area as defined in  
13           section 205A-41;

14           (4) Propose any use within any historic site as designated  
15           in the National Register or Hawaii Register, as  
16           provided for in the Historic Preservation Act of 1966,  
17           Public Law 89-665, or chapter 6E;

18           (5) Propose any use within the Waikiki area of Oahu, the  
19           boundaries of which are delineated in the land use  
20           ordinance as amended, establishing the "Waikiki  
21           Special District";



- 1           (6) Propose any amendments to existing county general  
2 plans where the amendment would result in designations  
3 other than agriculture, conservation, or preservation,  
4 except actions proposing any new county general plan  
5 or amendments to any existing county general plan  
6 initiated by a county;
- 7           (7) Propose any reclassification of any land classified as  
8 a conservation district by the state land use  
9 commission under chapter 205;
- 10          (8) Propose the construction of new or the expansion or  
11 modification of existing helicopter facilities within  
12 the State, that by way of their activities, may  
13 affect:
- 14           (A) Any land classified as a conservation district by  
15 the state land use commission under chapter 205;
- 16           (B) A shoreline area as defined in section 205A-41;  
17 or
- 18           (C) Any historic site as designated in the National  
19 Register or Hawaii Register, as provided for in  
20 the Historic Preservation Act of 1966, Public Law  
21 89-665, or chapter 6E; or until the statewide



1 historic places inventory is completed, any  
 2 historic site that is found by a field  
 3 reconnaissance of the area affected by the  
 4 helicopter facility and is under consideration  
 5 for placement on the National Register or the  
 6 Hawaii Register of Historic Places; and

7 (9) Propose any:

8 (A) Wastewater treatment unit, except an individual  
 9 wastewater system or a wastewater treatment unit  
 10 serving fewer than fifty single-family dwellings  
 11 or the equivalent;

12 (B) Waste-to-energy facility;

13 (C) Landfill;

14 (D) Oil refinery; [~~or~~]

15 (E) Power-generating facility[~~-~~]; or

16 (F) Geothermal resources development, pursuant to  
 17 section 196D- (f)."

18 PART II

19 SECTION 10. The legislature finds that geothermal  
 20 resources development can affect public health, safety, and  
 21 well-being. The county of Hawaii funded a study of geothermal-



1 related issues that resulted in a Geothermal Public Health  
2 Assessment Study Group's *Final Report, Geothermal Public Health*  
3 *Assessment* (2013). By preparing baseline studies that measure  
4 the parameters explored and described in the text and  
5 recommendations of the *Final Report*, future studies can more  
6 easily establish the magnitude of such effects.

7 The *Final Report* refers to the prevention of air and water  
8 pollution and excessive noise from geothermal development and  
9 states that related monitoring systems and protocols must be  
10 competent. Establishing competent monitoring systems and  
11 emergency response plans will help assure that the health and  
12 welfare of citizens will be protected.

13 Further, geothermal development may affect water wells  
14 downstream from the development area as well as the coastal  
15 basal brackish groundwater and the ocean near the geothermal  
16 plant. By establishing a baseline pursuant to recommendations  
17 of the *Final Report*, future water studies should be able to  
18 establish the magnitude and possible responsibility for  
19 environmental impacts from geothermal development.



1 Recommendation 8 of the *Final Report* is that the county  
2 should require future geothermal developers to fund and assure  
3 baseline studies prior to development.

4 The purpose of this part is to recommend and encourage each  
5 permitting entity to implement, by its rules or otherwise,  
6 certain recommendations of the *Final Report*, such as the  
7 creation of baseline studies as well as competent monitoring  
8 resources and protocols, prior to new geothermal drilling or  
9 development, that the permitting entity finds appropriate for  
10 its jurisdiction. Further, because geothermal resources  
11 development and exploration may present industrial levels of  
12 noise in or adjacent to residential areas, the permitting  
13 entities also are urged to assure that any permitted noise does  
14 not exceed levels that are appropriate in view of nearby  
15 residential properties and zoning.

16 SECTION 11. This Act shall apply to any geothermal  
17 resources producer operating within the jurisdiction of a  
18 permitting entity as of the effective date of this Act. The  
19 geothermal resources producer may continue to operate pursuant  
20 to existing permits until ninety days after a permitting entity  
21 with jurisdiction adopts rules governing geothermal resources



1 development pursuant to this Act and chapter 91, Hawaii Revised  
2 Statutes. If, during the ninety-day period, the geothermal  
3 resources producer submits an application to the permitting  
4 entity in compliance with this Act and the rules, the geothermal  
5 resources producer may continue to operate within the limits of  
6 existing permits until action on the application has been  
7 completed.

8 PART III

9 SECTION 12. There is appropriated out of the general  
10 revenues of the State of Hawaii the sum of \$ or so  
11 much thereof as may be necessary for fiscal year 2021-2022 and  
12 the same sum or so much thereof as may be necessary for fiscal  
13 year 2022-2023 as a grant-in-aid, pursuant to article VIII,  
14 section 5 of the Constitution of the State of Hawaii, to the  
15 county of Hawaii to administer geothermal resources development  
16 permits pursuant to this Act.

17 The sums appropriated shall be expended by the department  
18 of land and natural resources for the purposes of this Act.



1 PART IV

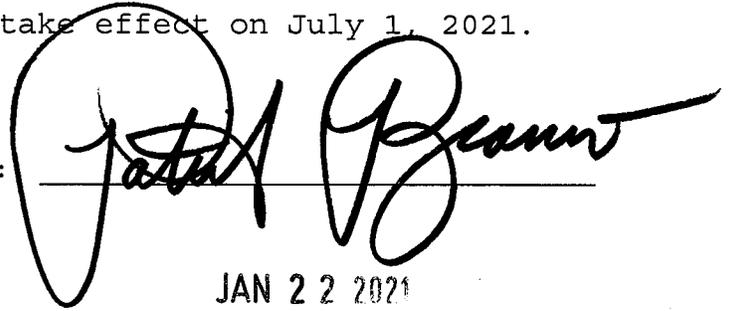
2 SECTION 13. This Act does not affect rights and duties  
3 that matured, penalties that were incurred, and proceedings that  
4 were begun before its effective date.

5 SECTION 14. Statutory material to be repealed is bracketed  
6 and stricken. New statutory material is underscored.

7 SECTION 15. This Act shall take effect on July 1, 2021.

8

INTRODUCED BY:



A handwritten signature in black ink, appearing to read "Jason A. Beaman", is written over a horizontal line. The signature is stylized and cursive.

JAN 22 2021



# H.B. NO. 411

**Report Title:**

Geothermal Energy; Permits; Hawaii County; Appropriation

**Description:**

Establishes a geothermal resources development permit system. Prohibits hydraulic fracturing. Appropriates funds to the county of Hawaii as a grant-in-aid to administer the permit system.

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

