



Federal and State Approvals for

Geothermal

Hawaii Renewable Energy Permits and Approvals Guidebooks



Cover Image: Puna Geothermal Venture Power Plant, lower Kilauea East Rift Zone, Island of Hawaii. Photo Credit: U.S. Department of Interior, U.S. Geological Survey

NOTICE: This guide is designed to help people understand the permitting process, and is not a legal document. Further, the guidebook should not be relied on exclusively to determine legal responsibilities. Some permits and licenses that are not included in this guide may be necessary to a particular project. The Department of Business, Economic Development and Tourism (DBEDT) and the State of Hawaii are not responsible for delays or losses caused thereby should the processing of a permit or approval differ from that written in these Guidebooks. Additionally, these guidebooks are not meant to be a substitute for hiring a professional permitting consultant. DBEDT strongly recommends that each renewable energy developer procure its own consultant familiar with these permits and approvals to assist it through the permitting process. DBEDT also recommends contacting the relevant permitting agencies as a first step to beginning all permitting planning and processes.

Acknowledgements

The “Hawaii Renewable Energy Permits and Approvals Guidebooks” were produced as part of the Hawaii Clean Energy Initiative (HCEI), a partnership launched in 2008 between the State of Hawaii and the U.S. Department of Energy (DOE). SENTECH Hawaii created these guidebooks in close collaboration with DBEDT. Support from a number of federal, state, and county agencies made this suite of guidebooks possible.

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Section 1: Introduction

Background

The Federal and State Approvals for Geothermal Guidebook is one of 11 guidebooks created to provide the first comprehensive overview of the renewable energy permitting process in Hawaii. Seven of these guidebooks provide federal and state approvals that are resource-specific. The four other guidebooks are county-specific, and are intended to be used in conjunction with the appropriate resource-specific federal and state guidebook, as illustrated in Figure 1.

*For renewable energy developers already familiar with permitting in Hawaii, a checklist is available in **Section 6** that will assist in identifying which permits will be required depending on project specifics.*

This suite of guidebooks was created as part of the Hawaii Clean Energy Initiative (HCEI), which has set the goal of transforming Hawaii's energy use to 70% clean energy by 2030. Hawaii's dependence on imported oil creates vulnerability for the state's economy which is greatly affected by the price volatility of this finite energy source. Recognizing the detrimental effects this oil dependency has on Hawaii's environment and local economy, the state signed a Memorandum of Understanding¹ with the U.S. Department of Energy (DOE) in January 2008, which established HCEI as a partnership bringing together local business leaders, policymakers, and industry experts to guide the Hawaii's transition to a clean energy economy.²

Hawaii Energy Use in 2008³

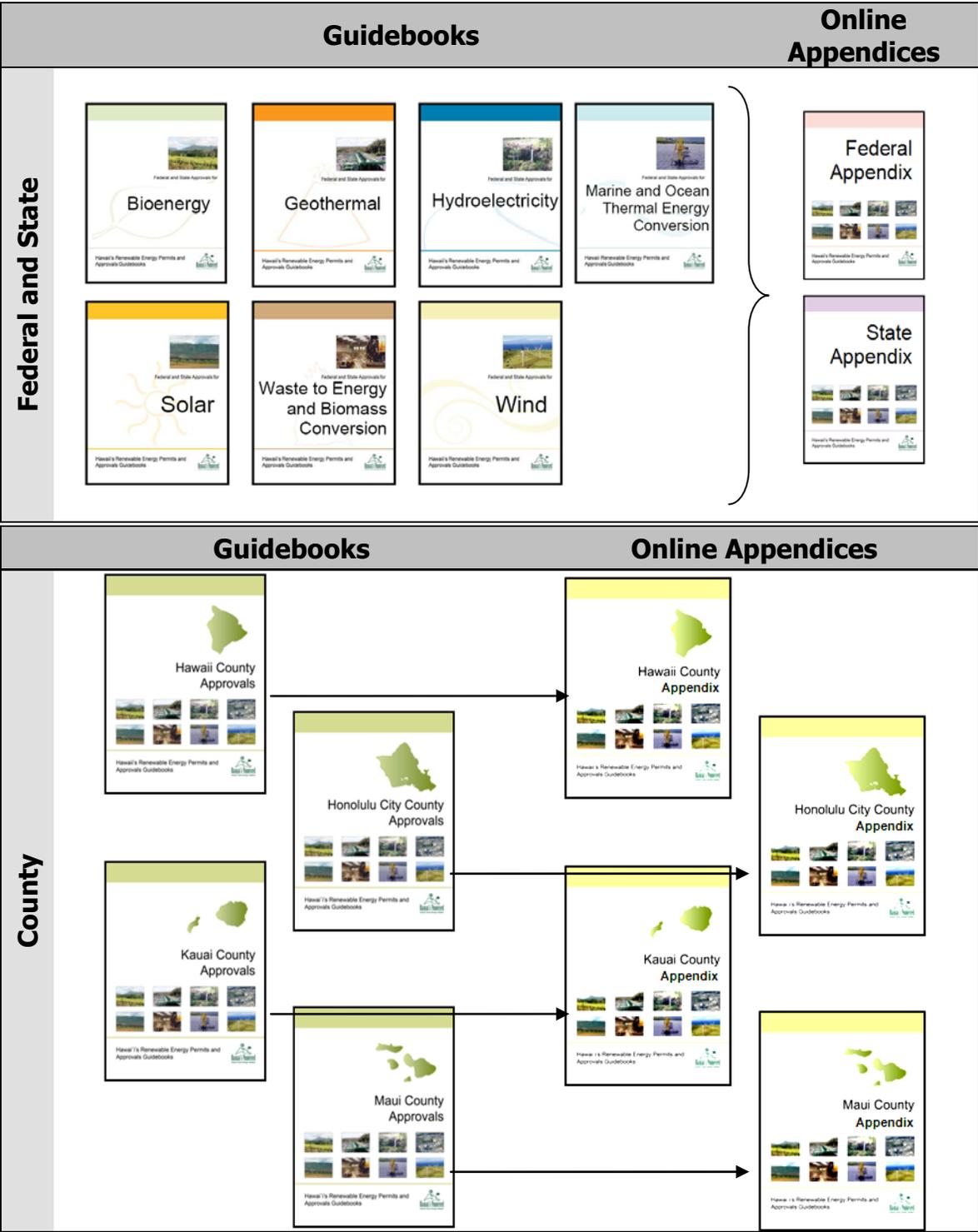
- Seventy-five percent of the net megawatt-hours of electricity generated in Hawaii were produced from oil.
- Approximately 97% of Hawaii's transportation fuels (as measured in Btu) were produced from oil.
- Hawaii imported roughly 43.1 million barrels of crude oil, costing the State more than \$4.1 billion.
- Although overall energy consumption decreased in 2008, Hawaii consumers spent an estimated \$8.4 billion for energy (about 37% more than in 2007), reflecting record high petroleum prices.

¹ Downloadable from the DBEDT website at <http://hawaii.gov/dbedt/info/energy/hcei/>

² Hawaii Clean Energy Initiative Website (2010). Retrieved on 2/10/10 from <http://www.hawaiicleanenergyinitiative.org/about.html>.

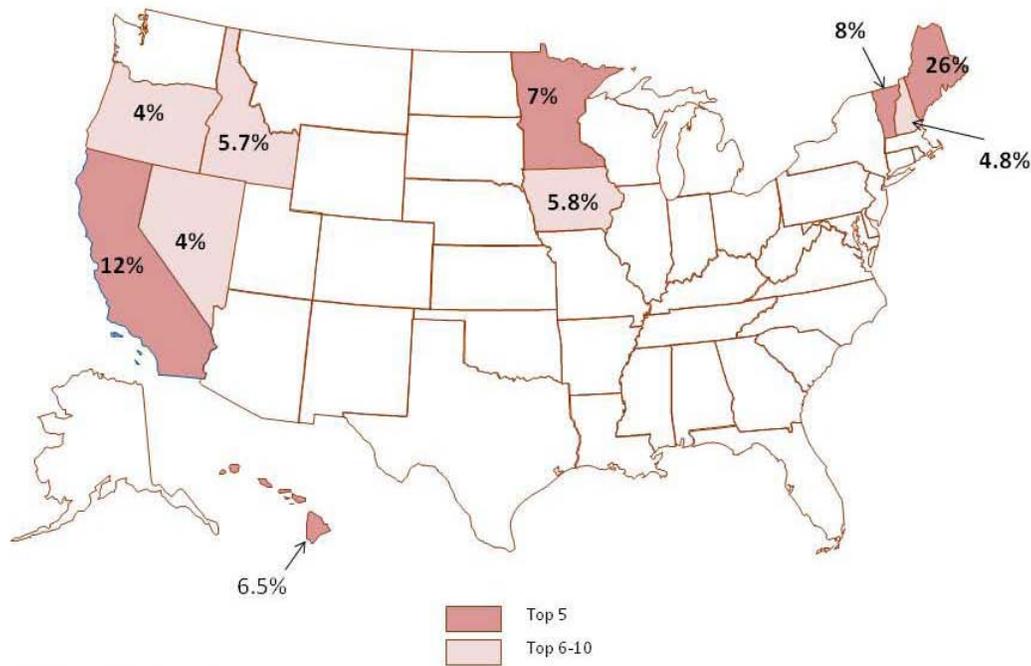
³ State of Hawaii Department of Business, Economic Development and Tourism (2009). State of Hawaii Energy Resources Coordinator Annual Report 2009. Retrieved on 2/9/10 from <http://hawaii.gov/dbedt/info/energy/publications/erc09.pdf>.

Figure 1: Overview of the *Hawaii Renewable Energy Permits and Approvals Guidebooks Suite*



Currently, Hawaii ranks 4th nationally in the percentage of total state non-hydroelectric renewable energy generated, as shown in Figure 2.⁴ This ranking is based on 2007 data, and what was 6.5% renewable energy generation then has now increased in late 2009 to be estimated at 9% of Hawaii’s electricity generation. Regardless of which year you consider, in order to reach the 70% goal set by HCEI the state has to foster rapid adoption of renewable energy and energy efficiency.

Figure 2: National Non-Hydroelectric Renewable Electricity Generation (TWh, 2007 data)



In order to reach this ambitious goal, Hawaii has identified the permitting process as an area that needs improvement to foster rapid investment and growth in clean energy technologies. Renewable energy stakeholders and developers have identified Hawaii’s permitting process as an obstacle to capital investment in the sector.⁵ The guidebooks were created out of a need to understand the entire permitting system within Hawaii—which permits are required and the processes for acquiring those permits.

Outside of these guidebooks, other major steps to streamline the permitting process have already begun. Significant legislation was passed in the 2009 Hawaii Legislature that alters the state’s permitting process. First, renewable

⁴ E. Doris, J McLaren, V Healey, and S. Hockett (October 2009). *State of the States 2009: Renewable Energy Development and the Role of Policy*. Retrieved on 11/18/09 from http://apps1.eere.energy.gov/states/state_of_the_states.cfm.

⁵ Hawaii Natural Energy Institute (2009). *Bioenergy Master Plan Draft*. Retrieved 10/29/09 from <http://www.hnei.hawaii.edu/bmpp/stakeholders.asp>

energy facilities greater than 5 MW are now able to apply for the Renewable Energy Facility Siting (REFS) process from HB2971 HD1⁶—a permitting and regulatory framework for the construction of renewable energy facilities in the state (this was formerly only offered to renewable energy facilities greater than 200 MW). Additionally, while the decision to award or deny permits is retained by the state or county agencies, new legislation allows the Energy Resource Coordinator in DBEDT to force a decision to either grant or deny permits by no later than 18 months after the approval of a complete permit application. A third step that was taken in the 2009 Legislature was the passage of Act 155, which requires DBEDT to identify Renewable Energy Zones (REZ)—areas that are rich in renewables, cost effective, and environmentally benign—and encourage development of these REZs for transmission of renewable energy. DBEDT is in the process of determining these zones, which will foster much quicker land-use permitting processes.

Guide-to-the-Guides

The permitting guidebooks were created for and intended to be used by developers planning to develop renewable energy projects in Hawaii. Renewable energy developers can use the guidebooks to understand what permits may be required for their potential project, the general time frame that will be required for permitting, and the specific statutory processes for each permit.

This Geothermal Guidebook provides information about approvals at the state and federal levels, as identified in late 2009. It is intended to be used in conjunction with the appropriate County Guidebook for your renewable energy project. For example, if your proposed geothermal project is located in Hawaii County, you should consult both this Geothermal Guidebook, as well as the Hawaii County Guidebook. Together, these two guidebooks provide a comprehensive list of federal, state, and county permits that could be required for your geothermal project.

To begin deciphering which permits will be required for a specific geothermal energy project, a checklist is provided in Section 6. Based on the required activities and the specific site of the renewable energy project, this checklist will determine which permits/approvals may be needed.

Within the checklist, the right-hand column references appendices which provide a wealth of permit-specific information. The appendices are the companion to this Guidebook, and available electronically at

⁶ Hawaii State Legislature (2010). Retrieved on 3/22/2010 from http://www.capitol.hawaii.gov/session2010/lists/measure_indiv.aspx?billtype=HB&billnumber=2971.

www.HawaiiCleanEnergyInitiative.org/Permitting. The appendices provide a “permit packet” with, when available, the following for each permit:

1. **“Process Overview” charts:** created specifically for these guidebooks (not created by the agencies themselves), these two-page summaries provide specific contact information, a broad overview of the major steps, an estimated time frame, and estimated fees that relate to the permit/approval.
2. **Application(s) and instructions:** all applications included in the appendices were current as of November 2009, however application forms are subject to change. Instructions are included where available. Contact the permitting agency before completing the application to ensure you are using the correct forms and process.
3. **Administrative Rules/ Ordinances/ Legislation:** for state level permits, legislation is generally available for the majority of permits and serves to define ambiguous terms, provide detailed information regarding the process, and preempt many other questions regarding the permit. Administrative rules define and describe the state level process for executing the legislation that requires the permit. Ordinances are the county local laws and procedures for acquiring a county permit. The rules and ordinances provided herein are not the official version of the law, and could be slightly different from the official version based on state legislative or county council amendments to the law over time. The reader is advised to consult with the most current up to date legislation or ordinances.

It is important to note that the guidebooks and appendices were created at the end of 2009. Laws, legislation, and procedures for executing the permits and approvals are dynamic and ever-changing. All *Process Overviews* were created with the intent that the applicant would contact the permitting agency directly and consult all current materials as provided by the permitting agency. Many of the permitting processes are too complex to detail all steps, but these overviews provide a broad understanding of the process.

DBEDT and the State of Hawaii are not responsible for delays or losses caused should the processing of a permit or approval differ from that written in these Guidebooks. Additionally, these Guidebooks are not meant to be a substitute for hiring a professional permitting consultant. DBEDT strongly recommends that each renewable energy developer procure its own consultant familiar with these permits and approvals to assist it through the permitting process.

Section 2: Hawaii Permitting

Categories of Permits

Permits are commonly categorized into four main groups: (1) environmental permits and reviews, (2) construction and operation permits, (3) land use permits, and (4) utility permits. The appendices that correlate to the guidebooks break the permits up into these four categories. Overviews of each category and how they are administered in Hawaii are provided below.

Environmental Permits and Reviews

An “environmental permit” refers to a permit required by an environmental law in order to emit or discharge a pollutant or engage in certain regulated activities. For example, the Clean Air Act (CAA) and Clean Water Act (CWA) require facilities to obtain a permit to discharge certain pollutants to the air or water. Permits also are used by federal and state agencies to translate general requirements in environmental laws into specific provisions tailored to the operations of individual facilities or sites. For example, the Endangered Species Act (ESA) requires private citizens to draft a Habitat Conservation Plan (HCP) that must follow a number of steps to meet statutory issuance criteria under ESA. However, specific document and processing requirements will vary depending on the size, complexity, and impacts of the HCP involved, and potentially vary by the number and type of federal agencies involved in the HCP development and review. An overview of the related processes for ESA, the Marine Mammal Protection Act (MMPA), and National Environmental Policy Act (NEPA) under the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and potential other federal agencies is shown in Figure 5.

Federal Environmental Review Process

Environmental reviews are conducted at the federal, state, and county levels. At the federal level, NEPA is the legislation that established national environmental policies in the United States. NEPA was the first major environmental law in the United States, implemented in 1970, and is often called the “Magna Carta” of environmental laws. NEPA applies to all major federal actions; federal projects, any project requiring a federal permit, receiving federal funding, or located on federal land.

Every agency in the executive branch of the federal government has a responsibility to implement NEPA. To implement NEPA’s policies, congress prescribed a procedure, commonly referred to as “the NEPA process” or “the environmental impact assessment process.”⁷ NEPA requires agencies to

⁷ Council on Environmental Quality, “A Citizen’s Guide to the NEPA”, December 2007, available at http://ceq.hss.doe.gov/nepa/Citizens_Guide_Dec07.pdf

undertake an assessment of the environmental effects of their proposed actions prior to making decisions. The cognizant federal agency documents this thought process by determining whether the project is categorically excluded from detailed environmental review, or by preparing either an environmental assessment (EA) or an environmental impact statement (EIS). When an EA or EIS is prepared, other agencies and the public will usually have an opportunity to review and comment on the proposal and the environmental analysis.

Because NEPA implementation is an important responsibility of the federal government, many federal agencies have established offices dedicated to NEPA policy and program oversight. Employees in these offices prepare NEPA guidance, policy, and procedures for the agency, and often make this information available to the public through sources such as internet websites (for example, the Citizens Guide to NEPA, available online at http://ceq.hss.doe.gov/nepa/Citizens_Guide_Dec07.pdf and in Appendix F-4). Agencies are required to develop their own capacity within a NEPA program in order to develop analyses and documents (or review those prepared by others) to ensure informed decision-making.⁸

State and local permitting processes can also involve environmental reviews similar to the NEPA process. Many state and local permits may first require that an EA or EIS be successfully completed before the permit can be reviewed. These non-federal EA/EIS processes may be coordinated with the federal (NEPA) EA/EIS or may be completed separately if not required at the federal level. If state or local permits necessitate an EA or EIS, the permitting agency may require proof of completion prior to conducting their own permitting review process.

At the state level, the Hawaii Department of Health (DOH) administers the majority of environmental permits, though other agencies also have environmental permit(s) such as the Department of Land and Natural Resources (DLNR) and the Office of Planning within the Department of Business, Economic Development and Tourism (DBEDT).

At the county level, environmental permitting varies based on the county in which the permit is required. However, every county in Hawaii requires a (1) Shoreline Setback Variance for all structures and activities in the "Shoreline Area" and (2) Special Management Area Permit for all use, activity, or operation proposed within the special management area, as defined as a "development" pursuant to Chapter 205A, Hawaii Revised Statutes, as amended. Specifics for each county's permitting requirements can be found in the county-specific guidebooks (available at www.HawaiiCleanEnergyInitiative.org/Permitting).

⁸ Council on Environmental Quality, "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act" 40 C.F.R. section 1507.2, available at www.nepa.gov.

Hawaii's Environmental Review Process

Adopted in 1974 and patterned after the NEPA requirements, Hawaii's EIS law (Hawaii Revised Statutes, HRS 343) requires the preparation of EAs and EISs for many development projects. The law requires the government to give systematic consideration to the environmental, social and economic consequences of proposed development projects prior to allowing construction to begin. The law also assures the public the right to participate in planning projects that may affect their community. The Office of Environmental Quality Control implements this law in Hawaii.

The Office of Environmental Quality Control is required by HRS 343 to publish a "periodic bulletin." This bulletin has been known in the past by various names: Environmental Quality Commission (EQC) Bulletin (1974-84) and the OEQC Bulletin (1984-96). Since 1996, it has been called *The Environmental Notice*. It includes notices of determinations on the need for an EIS; acceptance or non-acceptance of EIS's; availability of documents for review and comments; documents, public comment processes or public hearings for habitat conservation plans, safe harbor agreements, or incidental take licenses under the federal Endangered Species Act. Current and previous issues of *The Environmental Notice* are available at <http://hawaii.gov/health/environmental/oeqc/index.html>.

If a proposed action is subject to the EIS law, the environmental review process begins with the development of a draft EA. An EA is an informational document prepared by the proposing agency or the private applicant and used to evaluate the possible environmental effects of a proposed action. The EA must give a detailed description of the proposed action or project and evaluate direct, indirect and cumulative impacts. The document must consider alternatives to the proposed project and describe any measures proposed to minimize potential impacts. The public has 30 days to review and comment on a draft EA. After the draft EA has been finalized and public comments responded to, the agency proposing or approving the action reviews the final assessment and determines if any "significant" environmental impacts are anticipated.

If the agency determines that the project will not have a significant environmental impact, it issues a finding of no significant impact (FONSI). This determination allows the project to proceed without further study. Within 30 days of the notice of this finding, the public may challenge an agency's determination by filing suit in circuit court of the appropriate circuit.

If the agency determines that the action may have a significant impact, a more detailed EIS must be prepared. An EIS preparation notice is then issued and undergoes an additional 30-day comment period to define the scope of the draft

EIS. Publication of an EIS preparation notice initiates a 60 day period during which an aggrieved party may challenge the determination in court.

An EIS assesses the proposed project through research, discussion and review. It must, at a minimum, identify environmental concerns, obtain various relevant data, conduct necessary studies, receive public input, evaluate alternatives, and propose measures for minimizing adverse impacts. The EIS must be structured to disclose information in a concise manner using understandable terms. The EIS is prepared in both draft and final stages by the proposing agency or applicant. It is initially published as a draft EIS, and subjected to a 45 day review by the public and government agencies. After public comments are responded to, the draft is revised and submitted as the final EIS.

For applicant actions, the approving agency determines the acceptability of a final EIS. After a final EIS is accepted, the action may be implemented. The publication in *The Environmental Notice* of an acceptance or non-acceptance determination by either the accepting authority or the approving agency initiates a 60-day legal challenge period (see Appendix E for details). Additionally, an applicant may administratively appeal a non-acceptance determination directly to the Environmental Council.

The accepting authority must determine the acceptability of a final EIS. For renewable energy facilities that fall under HRS 201N, DBEDT is the accepting authority. For renewable energy facilities that do not fall under HRS 201N, DBEDT may still be the appropriate accepting authority (see Section 3 for a detailed description of the HRS 201N legislation). After a final EIS is accepted, the project may be constructed. The publication of either an acceptance or non-acceptance notice initiates a 60- day period during which an aggrieved party may challenge the determination by filing suit.

Construction and Operation Permits

Permits are required for small and large-scale construction and the subsequent operation of energy-related structures, buildings, water systems, road systems, etc. These permits exist in order to ensure proper design, safety, and consistency with national and local laws, codes, and standards. Failure to obtain appropriate permits can result in fines, penalties, and even the destruction of unauthorized construction.

Land Use Permits

Land use permits uphold zoning laws, which is the government's way of separating residential and business areas and ensuring that development is consistent with local and national standards and values.

In the State of Hawaii, all lands are classified into one of four categories of land use districts initially designated by the Land Use Commission (LUC). The LUC still plays a major role in regulating the land to this day. The LUC is composed of nine members (one from each of the four counties, five who are appointed at-large). Each member has as been appointed by the Governor and confirmed by the State Senate.

The four categories of land are described in Table 1 below.⁹ Maps of each island's historical land designations are available on the Land Use Commission's website (http://luc.state.hi.us/luc_maps.htm), or the state's GIS system (see Figure 3).

District Land Category	Description of Land	Jurisdiction Governing the Land	% of Hawaii's Land <small>(approximate)</small>
1. Urban	Lands characterized by "city-like" concentrations of people, structures and services. Also includes vacant areas for future development.	Counties	2.5%
2. Rural	Lands composed primarily of small farms intermixed with low-density residential lots with a minimum size of one-half acre.	LUC and County governments share jurisdiction over rural lands.	<1%
3. Agricultural	Lands for the cultivation of crops, aquaculture, raising livestock, wind energy facilities, timber cultivation, agriculture-support activities, and land with significant potential for agricultural uses. Agricultural land is graded by its perceived productivity (A, B, C, D, E, or U).	A and B lands are governed by statute. The LUC oversees all other lower productivity land (C,D, E, and U).	46%

⁹ State of Hawaii Land Use Commission website. Retrieved 11/12/09 from <http://luc.state.hi.us/about.htm>.

4. Conservation	Lands in existing forest and water reserve zones and include areas necessary for protecting watersheds and water sources; scenic and historic areas; parks; wilderness; open space; recreational areas; habitats of endemic plants, fish and wildlife; all submerged lands seaward of the shoreline; and lands subject to flooding and soil erosion. Conservation lands can be further divided into Undesignated, General, Limited, Protective, Resource, and Special subzones.	DLNR	51%
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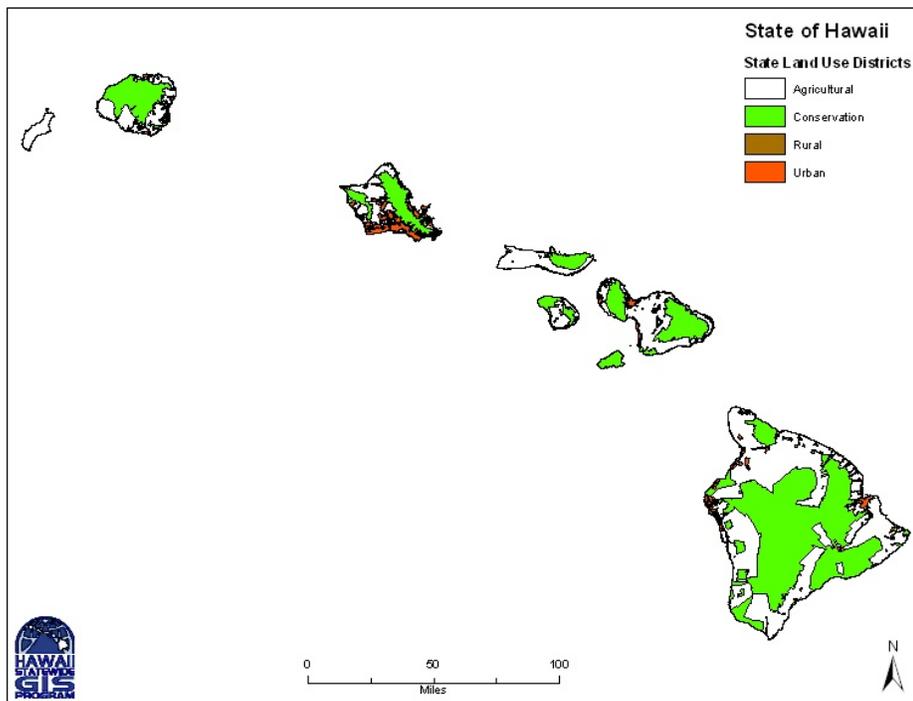
All land categories may be further classified as “shoreline”, which requires additional permitting.

The county land use system is guided by a General Plan and more specific Community Development Plans. Each county in Hawaii has its own General Plan, which has a written portion (describing goals, policies, standards, and courses of action) and maps. Because each county has different procedures for permitting, more detailed descriptions of county land use regulations are provided in the County-Specific Guidebooks and Appendices.

Siting renewable energy projects in Hawaii has been made easier with the availability of the State’s GIS tools that may be used by the public free of charge. This tool allows users to view the location of transmission lines, population centers, conservation lands, protected waters, and maps of renewable energy resources themselves. The Hawaii State Office of Planning within DBEDT is responsible for coordinating and maintaining the GIS information, and hosts the maps on their website at www.hawaii.gov/dbedt/gis/index.html. Figure 3 shows an overview of the State’s land use categories from this website.¹⁰ Maps that show more detail per island are discussed in the County-Specific Guidebooks.

¹⁰ Department of Business, Economic Development & Tourism website (2009). Retrieved on 12/20/09 from www.hawaii.gov/dbedt/gis/index.html.

Figure 3: State Land Use Districts: State GIS Program



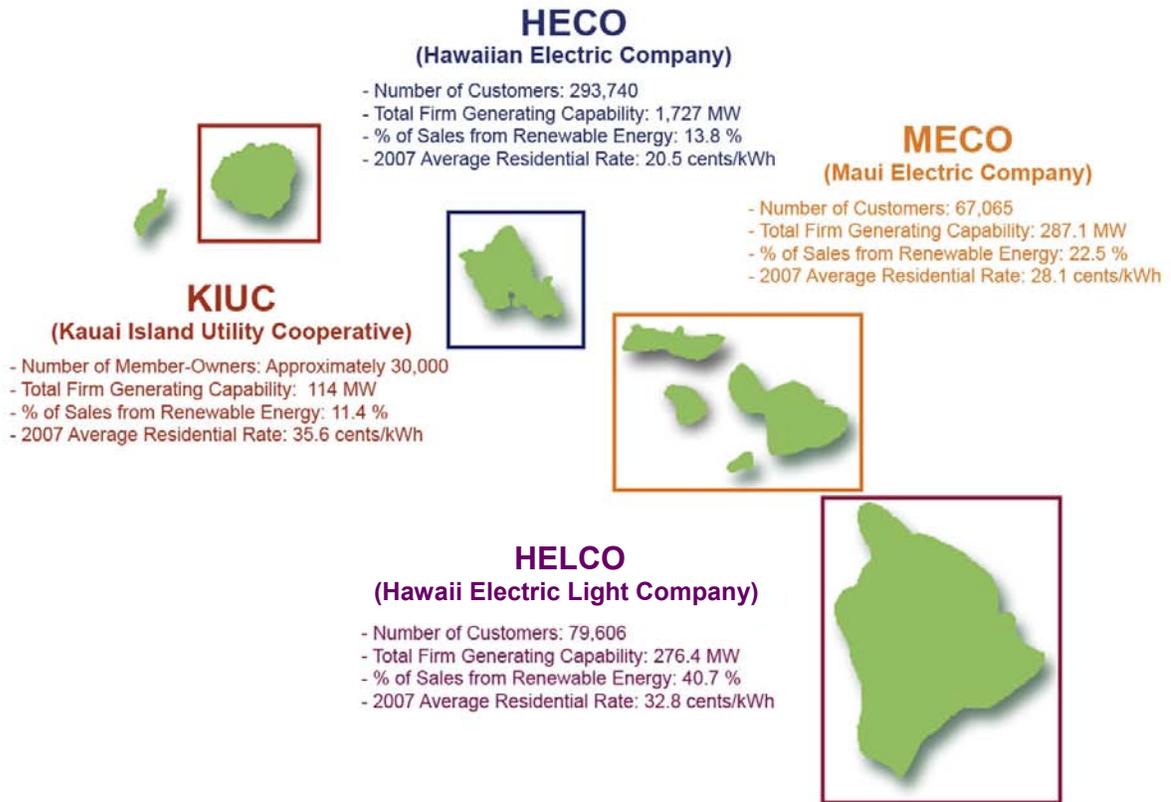
Utility Permits

A "utility permit" is required for all utility construction, reconstruction, or maintenance activities within Hawaii. Utility permits ensure that work is performed safely and appropriately. Utility permits are administered at the federal level by the Federal Energy Regulatory Commission (FERC). FERC is an independent agency that regulates interstate energy transmission, natural gas projects, and hydropower projects.

At the state level, utility permits are administered by the Public Utilities Commission (PUC), which usually requires working with the local utility. Figure 4 gives an overview of the utilities that serve the major islands in Hawaii.¹¹

¹¹ Hawaiian Electric Company (July 2009). *Power Facts*. Retrieved on 2/9/10 from http://www.heco.com/vcmcontent/StaticFiles/pdf/PowerFacts_07-2009.pdf; Kauai Island Utility Cooperative (October 2008). *Strategic Plan 2008- 2023*. Retrieved on 2/9/10 from <http://www.kiuc.coop/pdf/SP2023%202008%20Update%20Approved-2008-10.pdf>.

Figure 4: Map of Utilities in Hawaii



Although HECO owns MECO and HELCO, each island grid is currently independent and not connected to any other grid.

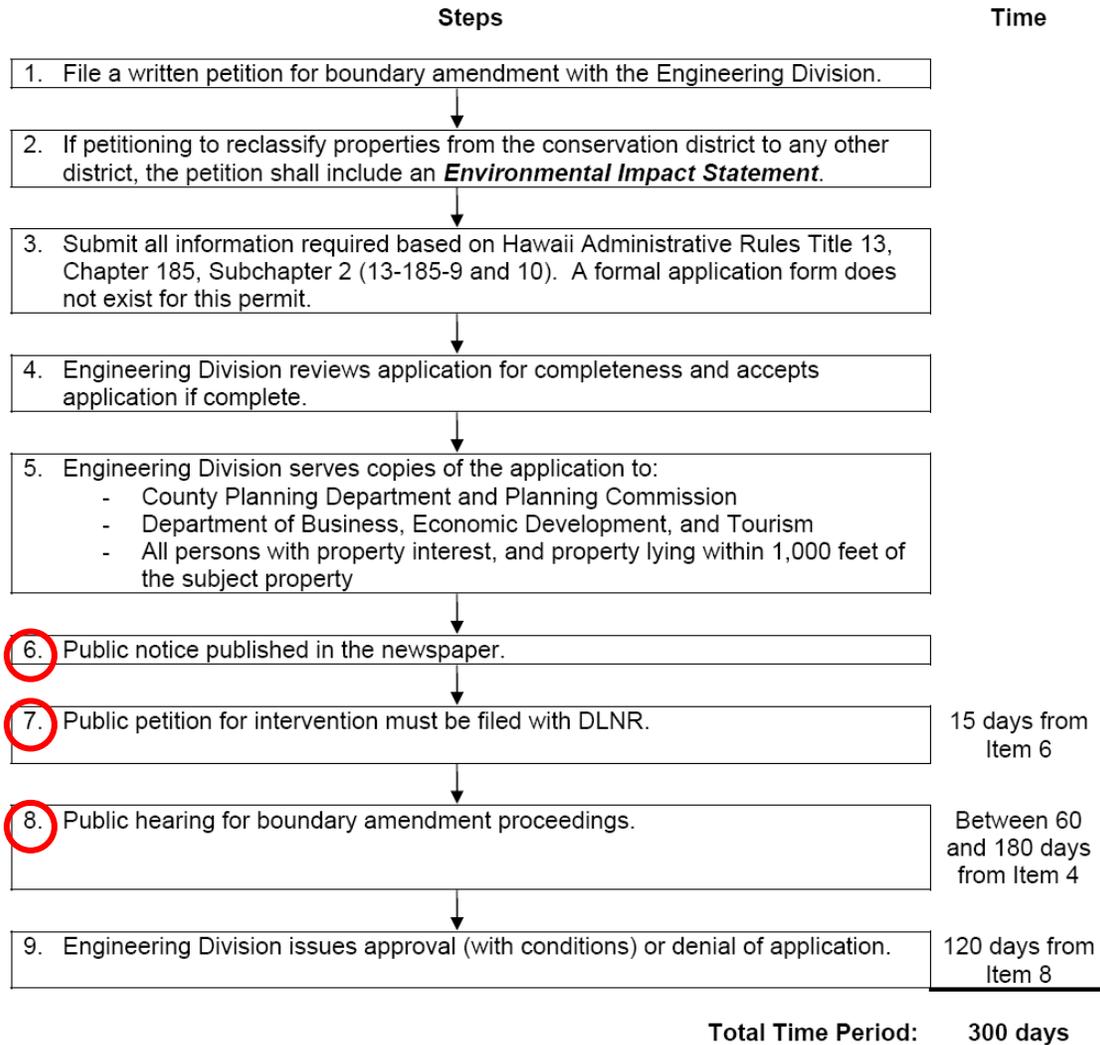
Types of Permits: Ministerial vs. Discretionary

There are two major types of permits in Hawaii: ministerial and discretionary. Ministerial permits are generally administrative, and follow a set of defined laws that determine whether or not a permit is to be issued. Ministerial permits have requirements that are quantitative, specific, and measurable. On the other hand, discretionary permits call upon a body of decision makers to use personal judgment and discretion (hence the name) to issue or deny a permit. For example, the land use approvals in Hawaii go to the County Council, Planning Commission, State Land Use Commission, or State Board of Land and Natural Resources (BLNR), and these permitting bodies have to weigh various factors in their decision-making process, so nearly all land use permits in Hawaii are considered discretionary.

What are the various factors that influence the decision-making entity in discretionary permitting? There is first the interpretation of the General Plan that influences county-level decisions. Discretionary permits may also require a public hearing process. Decisions made by a board or commission must provide a hearing process, while County Council decisions are considered legislative and do not have to follow the hearing procedures. Parties involved in the hearing include the applicant as well as any person(s) who may be affected by the application and choose to become “intervenor” to the case. Both the applicant and the intervenors have the right to appeal an adverse decision to the court. The process for the public hearing varies depending on the permit and county in which the hearing is taking place.

Figure 5 is the Geothermal and Cable System Development permit (administered by DLNR), and is provided as an example of some of the steps that may be required to complete a discretionary permit in the State of Hawaii. The steps circled in red are further described below.

Figure 5: Example of a Discretionary Permit Process: Geothermal and Cable System Development Permit (DLNR, Engineering Division)



Step #6 sites that a public notice be published within the newspaper. This notice is generally paid for by the permit applicant, and should be published (usually) within two local newspapers. Step #7 refers to intervenors who would like to be involved in the hearing because they may be affected by the application. Step #8 refers to the actual hearing, which is generally constricted to a one-day event; the length of the hearing is dependent on the parties involved, the location, and the issues surrounding the permit. The applicant may be required to pay for a public hearings officer and the meeting space; this payment is dependent on the specific permit and the county in which the permit is filed.

Section 3: Coordinating the Permitting Process

A well-coordinated permitting process is necessary to complete all permitting requirements efficiently. Starting the more time intensive and expensive permits early in the process can cut years off of the entire length of the permitting process. Consulting each permit's flow chart located in the appendices and contacting experts at the State Energy Office at DBEDT, as well as the cognizant agencies, can help to ensure all necessary permits are filed efficiently.

Coordination with the multiple federal agencies that may be involved in the federal regulatory process is particularly important. Multiple agencies can be responsible for implementing the requirements of various federal acts, such as the NEPA and the Endangered Species Act (ESA). Wherever coordination with the federal agency is particularly important, this has been included as a note or individual step within the relevant Process Overview document. An example of how the ESA Section 7 and Section 10 requirements correlate to the Marine Mammal Protection Act requirements and NEPA, along with the steps required by the cognizant federal agencies, is shown in Figure 6.

The U.S. Fish and Wildlife Service (USFWS) and the U.S. National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) are the primary federal agencies responsible for implementing ESA requirements. Background information on the ESA, including Sections 7 and 10, is provided as addendums to the USFWS and NMFS permits (Appendices F7, F8, F10, and F11).

The Renewable Energy Facility Siting Process (REFSP)

Besides doing research to understand the order of filing permits, another way of expediting the process is through the Renewable Energy Facility Siting Process (REFSP) as described in HRS 201N¹². The REFSP exists within DBEDT to allow renewable energy developers the opportunity to streamline the permitting process at a cost. If a renewable energy project qualifies for this process, it is guaranteed that the permitting process will not last longer than 18 months from the time the permitting plan is agreed upon by all parties involved (not including the time required for an EIS or EA to be completed, if required). An overview of the REFSP process is illustrated in Figure 7.

¹² Hawaii State Legislature Website (2010). *Chapter 201N: Renewable Energy Facility Siting Process*. Retrieved on 2/9/10 from http://www.capitol.hawaii.gov/hrscurrent/vol04_Ch0201-0257/HRS0201N/HRS_0201N-.htm.

Figure 6: Coordination of ESA, MMPA, and NEPA Processes

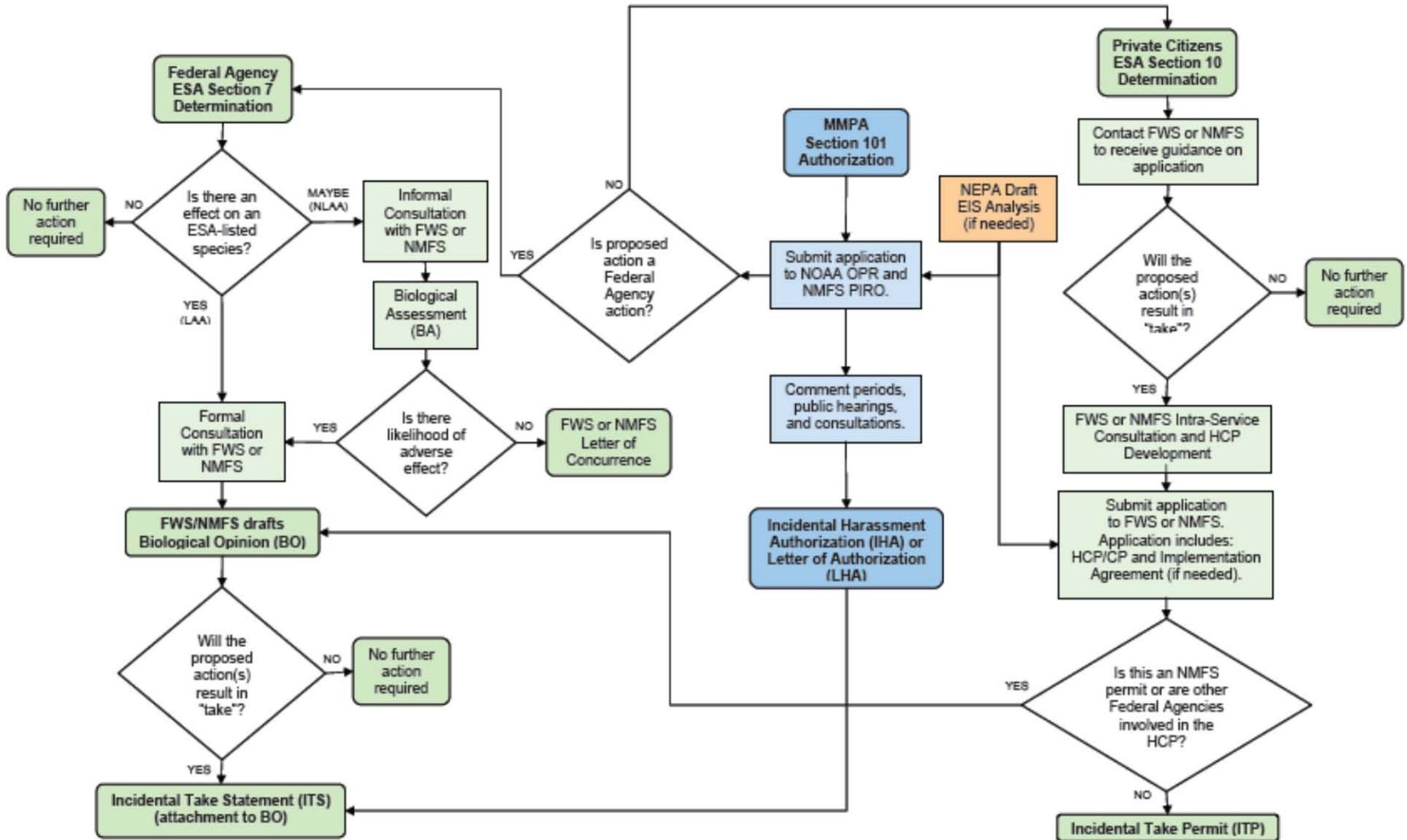
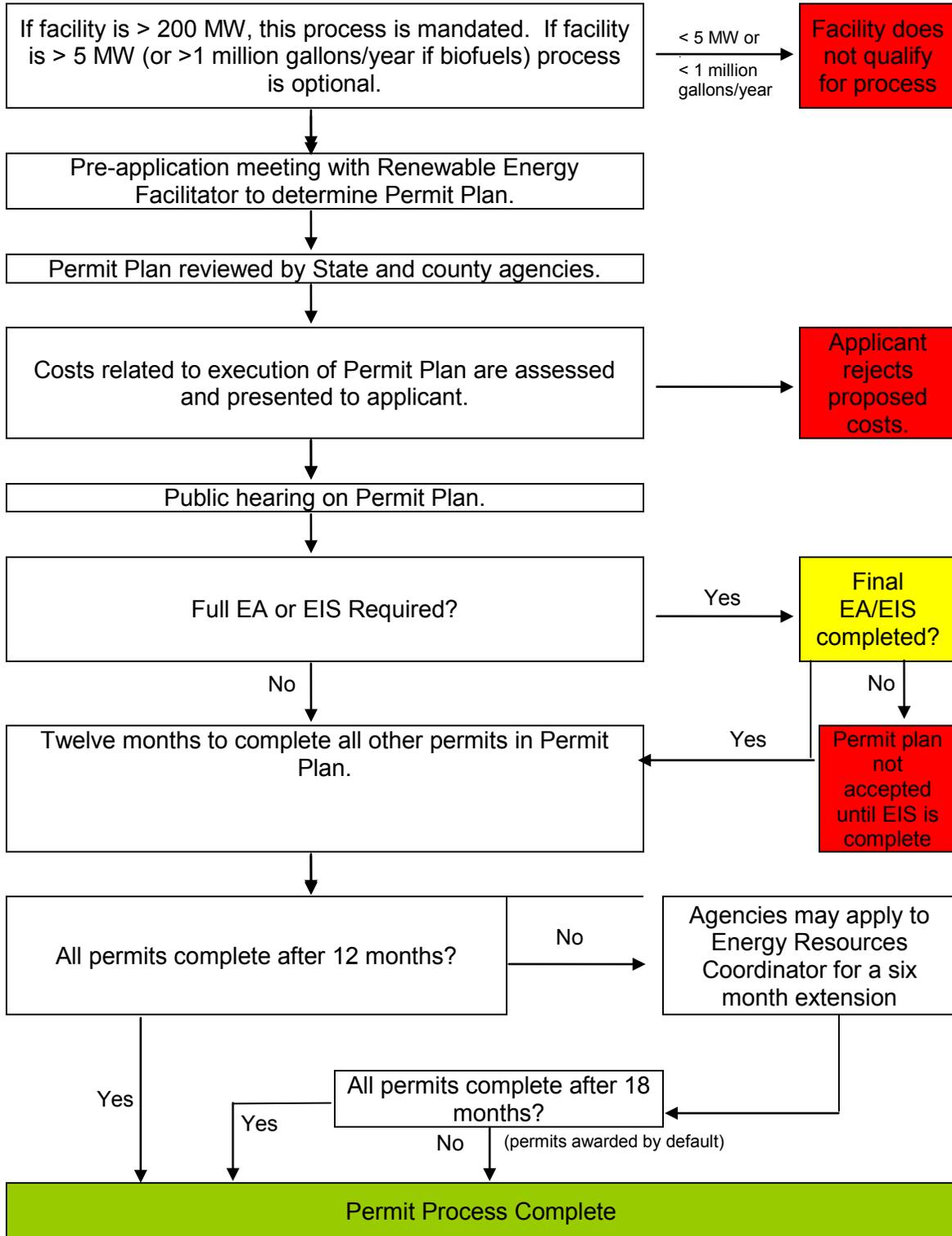


Figure 7: Renewable Energy Facility Siting Process (REFSP)



Section 4: Federal and State Agencies to Know

Geothermal permitting requires working with a number of agencies at the federal, state, and county levels. Agencies at all of these levels need to properly examine proposed projects to ensure the protection of environmental and social goods and values, while also recognizing the benefits that renewable energy projects can bring to Hawaii.

Developers should contact all relevant permitting agencies early in the project planning process. The number of agencies involved is dependent on a number of project-specific factors. The checklist in Section 6 will assist developers in determining the permits and agencies that will be required for each project.

It is important to note that in a number of instances regulatory and management responsibilities overlap or are shared among various agencies. For example, the federal government has transferred regulatory authority for some environmental permits (such as the Clean Water Act) to the state, while the state has transferred some responsibilities on to the counties. Therefore, one permit could be used to adhere to different legislation passed from all three tiers of government.

The following tables provide a quick reference to the applicable federal and state agencies and their divisions, their acronyms, and main office contact information. All county agencies are described in the County Guidebooks.

Federal Agencies		
Agency	Acronym	Contact Information
Army Corps of Engineers	USACE, ACOE, CE	
– Pacific Ocean Division	POD	USACE Honolulu District Building 230 Fort Shafter, Hawaii 96858 Phone: 808- 438-1500
Council on Environmental Quality	CEQ	

Environmental Protection Agency	EPA	U.S. EPA Region 9 Water Program 75 Hawthorne St. San Francisco, CA 94105 Phone: 415- 947-8707
Federal Aviation Administration	FAA	Honolulu Airports District Office P.O. Box 50244 Honolulu, HI 96850-0001 Phone: 808- 541-1232
Federal Energy Regulatory Commission	FERC	
– Office of Energy Projects	OEP	888 First Street, NE Washington, DC 20426
○ Division of Hydropower Administration and Compliance	DHAC	Phone: 202- 502-8700
– San Francisco Regional Office	SFRO	Phone: 415- 369-3300
Department of Interior	DOI	
– Minerals Management Service	MMS	Pacific OCS Region 770 Paseo Camarillo, 2nd Floor, Camarillo, CA 93010 Phone: 800- 672-2627
○ Offshore Energy and Minerals Management	OEMM	
– United States Coast Guard	USCG	U.S. Coast Guard Sector Honolulu General Communications Phone: 808- 842-2640

National Oceanic and Atmospheric Administration	NOAA	
– National Marine Fisheries Service	NMFS	
○ Office of Protected Resources	OPR	1315 East-West Hwy, 13th Floor Silver Spring, MD 20910 Phone: 301-713-2332
National Park Service	NPS	
– Air Resources Division	ARD	12795 W. Alameda Pkwy Denver, CO 80225 Phone: 303-969-2816
United States Fish and Wildlife	USFWS	
– Pacific Islands Fish and Wildlife Office		300 Ala Moana Boulevard Room 3-122 Honolulu, HI 96850 Phone: 808-792-9400

State Agencies		
Agency	Acronym	Contact Information
Hawaii Department of Agriculture	HDOA	1428 S. King Street Honolulu, HI 96814
– Division of Plant Industry		
• Pesticides Branch.....		808-973-9401
Hawaii Department of Health	DOH	1250 Punchbowl Street Honolulu, HI 96813
– Environmental Management Division	EMD	Phone: 808-586-4304
• Clean Air Branch.....		Phone: 808-586-4200
• Clean Water Branch.....		Phone: 808-586-4309
• Solid and Hazardous Waste Branch.....		Phone: 808-586-4226
– Hazard Evaluation and Emergency Response Office	HEER	Phone: 808-586-4249
– Office of Environmental Quality Control	OEQC	Phone: 808-586-4185

Section 5: An Overview of Geothermal Regulations in Hawaii

The permitting process for geothermal systems closely resembles that for many other developments; however there are also features unique to geothermal energy that make permitting different. For example, geothermal is the only renewable energy in Hawaii that benefits from having Geothermal Resource Subzones defined within DLNR, which affects the number of permits required by geothermal developers. Hawaii has developed geothermal energy-specific guidelines for exploration, siting, and development of geothermal systems. This section provides a broad overview of geothermal in Hawaii, then details specifics regarding the geothermal permitting process.

Hawaii's Geothermal Potential

Hawaii, as an archipelago situated above a geological hot spot in the earth's mantle that has been volcanically active for the past 70 million years, has some of the best geothermal potential in the nation.¹³ The Island of Hawaii, as the youngest island, has the greatest geothermal potential in the state. Its resources have higher temperatures than those on the other islands, although there are geothermal applications that utilize low and intermediate temperature resources as well. Because geothermal offers baseload power during off-peak times, it has often been considered for hydrogen fuel production to off-set the high fuel prices faced by the Hawaiian Islands.¹⁴ Figure 8 is a map created by Idaho National Laboratory in 2003, and shows where the geothermal resources are located on the islands.¹⁵

There is currently one geothermal electricity operation in Hawaii-- Puna Geothermal Venture (PGV). PGV is located on the east side of the Island of Hawaii and came online in 1993. This plant provides an average of 25- 30 MW of baseload power, supplying approximately 20 percent of the total electricity sold on the island in 2005. This geothermal project has placed Hawaii as the state with the third highest geothermal production in the nation, as illustrated in Figure 9.¹⁶

¹³ Fleischmann, D.J. (January 2007). *An Assessment of Geothermal Resource Development Needs in the Western United States*. Geothermal Energy Association, Washington D.C.

¹⁴ Fleischmann, D.J. (January 2007). *An Assessment of Geothermal Resource Development Needs in the Western United States*. Geothermal Energy Association, Washington D.C.

¹⁵ Idaho National Laboratory (November 2003). *Hawaii Geothermal Resources*. Retrieved 12/14/09 from <http://geothermal.id.doe.gov/maps/index.shtml/>.

¹⁶ E. Doris, J McLaren, V Healey, and S. Hockett (October 2009). *State of the States 2009: Renewable Energy Development and the Role of Policy*. Retrieved on 11/18/09 from http://apps1.eere.energy.gov/states/state_of_the_states.cfm.

Figure 8: Overview of the State's Geothermal Resources

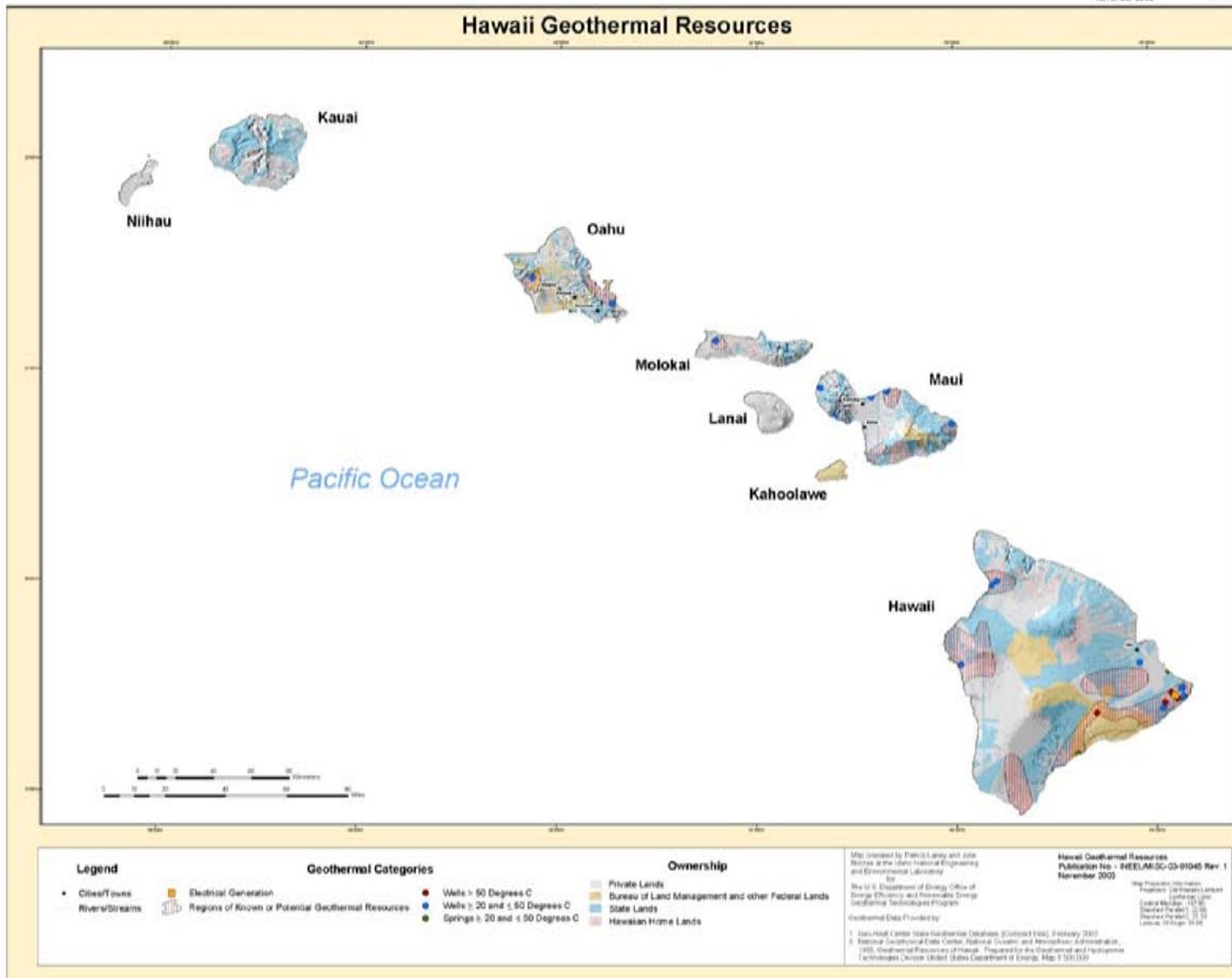
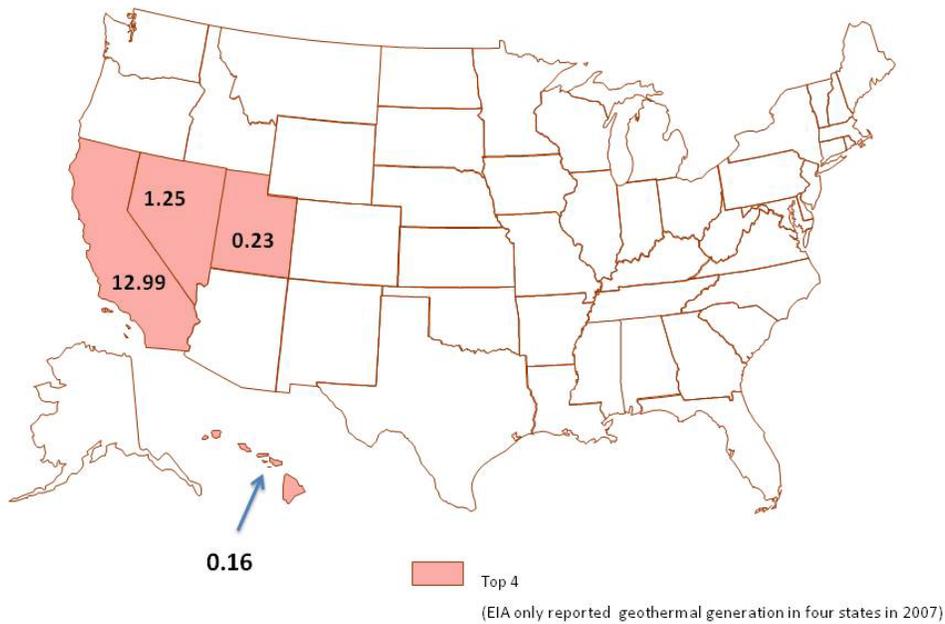


Figure 9: National Geothermal Generation (TWh, 2007)



Geothermal Resource Subzones

Geothermal resource subzones were established by the BLNR in 1984 in order to facilitate geothermal development activities in the State. The subzones are defined in Hawaii Revised Statutes 205-5.1 which gives the BLNR within DLNR the authority to designate geothermal resource subzones. Geothermal resource subzones may be on any of the four land use districts of the State (urban, rural, agriculture, and conservation).

Subzones may be initiated by the BLNR, any property owner, State mining lease applicant, geothermal mining lessee, or person with an interest in real property. The Geothermal Resource Subzone Permit (See Appendix S-41), administered through DLNR's Engineering Division, shows the process for designating an area with geothermal potential as a geothermal resource subzone. This is a discretionary permit and therefore requires a public hearing. However, based on Hawaii Administrative Rules Chapter 184, a state EIS is not required in assessing any area proposed for designation as a Geothermal Resource Subzone.

Designation of geothermal resources began in 1983 with initial county-by-county assessments of areas which have potential for geothermal development. This initial assessment is revisited and updated every five years at the discretion of the board. All geothermal resource subzones must meet the criteria listed below.¹⁷

Criteria for Designation of Geothermal Subzones

According to HAR 13-184-6

1. That the area has potential for geothermal development activities;
2. That there is a known or likely prospect for the utilization of geothermal resources for electrical energy production;
3. That any potential geologic hazards to geothermal production or use in the proposed area are examined;
4. That any environmental or social impacts of the development of geothermal resources within the proposed area be considered;
5. That the compatibility of development and utilization of geothermal resources within the proposed area is considered with other allowed uses within the area and within the surrounding lands; and
6. That the potential benefits to be derived from geothermal development and utilization in the proposed area be in the interest of the county or counties involved in the State as a whole.

Because the designation of geothermal resource subzones follows this permitting process, many other land use permits do not have to be filed separately. Depending on the land under consideration, however, the following agencies could be triggered to play a role in the geothermal resource subzone permitting process:

Agency	Land Under Consideration / Land Use Change
DBEDT, Office of Planning	Coastal Zone
DBEDT, Land Use Commission	District Boundary Amendment

¹⁷ Hawaii Administrative Rules, Title 13 (1984). Retrieved on 3/19/10 from <http://hawaii.gov/dlnr/land/administrative-rules/Chap184.pdf>.

Department of Land and Natural Resources	Closed Watershed Entry
	Conservation District Use
	State Land
	Forest Reserve
	Historic Site
	Natural Area Reserve
	Stream Channel Alteration
	Wildlife Sanctuary
Hawaii Community Development Authority	Community Development

Currently, geothermal is the only renewable energy technology in Hawaii that benefits from having Resource Subzones defined within DLNR. Under Act 155, which was passed by the Hawaii Legislature in June 2009, Renewable Energy Zones (REZs) may soon be designated for other renewable energy technologies, as DBEDT is authorized to site and encourage development and transmission for renewable rich, cost-effective, and environmentally benign areas.

Geothermal Exploration Permit (DLNR)

An exploration permit is required to conduct any geothermal exploration activities, including geophysical operations, drilling of shallow temperature test holes less than 500 feet in depth or deeper as determined by DLNR, construction of roads or trails, and other associated activities on State or reserved lands. Approved exploration permits are valid for a period of one year from the date of issuance, but may be renewed for an additional time at the discretion of DLNR. The application process for this permit is described in further detail in Appendix S-24.

Geothermal and Cable Systems Development Permitting (DLNR)

Geothermal and cable system development requires permits and approvals across federal, state, and county agencies. Many times these agencies need to act together in decision-making, which can be difficult with the submission of separate permit applications. In response to this deficiency, which had significantly hindered the permitting process for geothermal systems, the state passed legislation in 1989 to consolidate, coordinate, and streamline the permitting procedures for geothermal and cable systems development. This permitting process is depicted in detail in Appendix S-23.

It is noteworthy that under the new coordinated permitting process, DLNR is the lead permitting agency. However, DLNR selects a "Consolidated Permit Application and Review Team" from members of an interagency group that includes representatives from county, State, and federal agencies. This team is responsible for consolidating permitting requirements and minimizing duplication of efforts. The applicant designates a representative to be available to the consolidated application review team for the period of application processing.

Social Resistance to Geothermal

A discussion of Hawaii's geothermal resources would not be complete without considering the community resistance to the technology due to cultural, land, and perceived health and environmental concerns. Like many other forms of development, geothermal has faced "Not in My Backyard" (NIMBY) opposition for a number of reasons.

In Native Hawaiian culture, volcanoes are sacred. Spiritual leaders believe that harnessing geothermal energy is sacrilegious because it is viewed as effectively taking breath from the goddess of volcanoes, Pele. The formation of the Pele Defense Fund, a coalition of opponents to geothermal development, was influential during exploration efforts in the Wao Kele 'O Puna Natural Area Reserve and Puna Forest Reserve.¹⁸

Geothermal development poses a potential health threat due to the hydrogen sulfide (H₂S, a poisonous gas) that may be released in geothermal steam. At levels as low as 10 parts per billion (ppb) the gas can be detected as the smell of rotting eggs; at 50-100 parts per million (ppm) it can cause dizziness, coughing, headaches, and eye irritation; and at very high levels which do not occur from geothermal facilities, concentrations that exceed 600 ppm, the gas can be fatal.¹⁹ These health concerns prompted DOH to conduct a Health Risk Assessment in 1991 at the PGV facility. The assessment concluded that residents would not experience any adverse health effects from accidental releases of the gas, which quickly disperses into the atmosphere.²⁰ Air quality monitoring between January 1996 and April 1997 reveals that the maximum peak concentration of H₂S near the geothermal facility was 20 ppb, the maximum 1-hour concentration was 5.5

¹⁸ J. Johnson, D. Leistra, J. Opton-Himmel, M. Smith (May 2006). *Hawaii County Baseline Energy Analysis*.

¹⁹ Manning Safety Services, Inc. "H₂S Safety Information" Retrieved 12/14/09 from <http://www.h2ssafety.com/hydrogen-sulfide.asp>

²⁰ Agency for Toxic Substance and Disease Registry (December 1997). "Health Consultation: Puna Geothermal Venture." Retrieved on 12/14/2009 from <http://www.atsdr.cdc.gov/hac/PHA/puna/pgv.html>.

ppb, and most of the hourly hydrogen sulfide levels were non-detectable or less than 1 ppb.²¹

The combination of culture, health, and environmental concerns attracted much attention in the 1980's and 1990's as opposition to new developments mounted. Today, however, the continued successful operation of PGV may have assuaged many of the initial concerns voiced by original opponents to geothermal development. Completing a thorough permitting process, as well as a strong public outreach campaign will be necessary to successfully developing geothermal technologies on the islands.

Geothermal Direct Use Development in Hawaii

While attention has mainly focused on utility-scale geothermal electric projects in Hawaii, the state also has potential for low temperature, direct-use projects that cover a variety of applications such as space heating/cooling, spas and swimming pools, aquaculture, crop drying, and industrial processes. The following major steps outline the permitting process for an individual or business that is interested in tapping into Hawaii's lower temperature geothermal resources:²²

Step 1: Acquire the appropriate lands according to state and local regulations

Direct-use of geothermal resources is permitted both within and outside of Geothermal Resource Subzones, so long as all other land use regulations are followed (according to HRS 205-5.1, See Appendix S-41).

Step 2: Gain water rights

Water rights are administered by the Commission on Water Resource Management (CWRM) within DLNR. The Groundwater Control Area Permit (see Appendix S-42) is necessary for geothermal direct use projects unless the land is located outside of a Water Management Area (WMA), or if the water is being used solely for domestic consumption.

Step 3: Obtain permits for construction of well(s)

The Well Construction and Pump Installation Permit is administered by the CWRM, as described in Appendix S-25. Before starting well construction, the developer may want to review data from other wells in the area; the CWRM maintains a Well Index Database which tracks this information

²¹ Agency for Toxic Substance and Disease Registry (December 1997). "Health Consultation: Puna Geothermal Venture." Retrieved on 12/14/2009 from <http://www.atsdr.cdc.gov/hac/PHA/puna/pgv.html>.

²² Lyons, K., Washington State Extension Energy Program (2004). *A Regulatory Guide to Geothermal Direct Use Development*. Retrieved on 1/4/10 from <http://www.energy.wsu.edu/documents/renewables/hawaii.pdf>.

specifically. A “Well Information Release Request Form” from the CWRM website is necessary to receive this information.

Step 4: Obtain permits for fluid disposal through either injection or surface processes

- DOH’s Clean Water Branch and Safe Drinking Water Branch are the responsible for managing the disposal of geothermal fluid.
- Different permits are required for a direct-use geothermal project depending on the method of disposal. The following permits and the associated disposal method may be required:
 - National Pollutant Discharge Elimination System (NPDES) Permit– required for discharge of low temperature fluids to surface waters, or that might affect the water supply. See Appendix S-8.
 - Underground Injection Control (UIC) Permit—required to construct a Class V well, which is generally the category of well that is required for low-temperature geothermal fluids. This method of disposal is usually preferred. See Appendix S-11.
- In some cases, DOH will specify the preferred disposal method, which is dependent on the groundwater in the area.

Section 6: A Checklist of Approvals for Geothermal Energy Development

This section provides a checklist that can be used by a geothermal energy developer to begin to understand which permits may be required for a specific project. The checklist is designed so that the developer begins by reading the column titled "Possible activity to be performed" which describes a potential activity that may be required for a geothermal project. If the project requires the listed activity, the developer can then place a check-mark in the far left-hand column, allowing the developer to get an idea of which permits should be further researched. The permit name and department that administers the permit is also listed in the table. The far right-hand column references either the federal ("F") or state ("S") appendices (available electronically at www.HawaiiCleanEnergyInitiative.org/Permitting), which contain a wealth of information about each permit as described in Section 1. If a renewable energy developer is unsure whether a permit is required, he/she may refer to the appendix number listed, which should provide enough information to make a determination. If still unsure after referring to the appendix, contact the administrating agency listed in the Process Overview in the appendix or the State Energy Office within DBEDT.

It is important to note that certain projects may not require all permits identified in the following checklist. Due to project variability, it is also possible that certain projects will require additional permits not identified in the checklist. For projects not designated for renewable energy facility siting process assistance under HRS 201N (as described in Section 3), it is the developers' responsibility to identify and obtain all necessary permits.

As the appendices are large files, we provide each appendix as a separate file on the website; we suggest printing only the individual appendix numbers that are thought to be required for your project.

Checklist

Going through the checklist of possible activities below will help developers filter the possible permits required for a specific project.

	Permit Name; Department	Possible activity to be performed:	See Appendix Number
Federal Environmental Permits and Reviews			
	Department of the Army (DA) Permit; USACE	To conduct one of the following: (1) build structures or perform work in or affecting the course, condition, location or capacity of navigable waters, including tidal wetlands; (2) any activity that might result in a discharge of dredged or fill material into water or non-isolated wetlands or excavation in water or non-isolated wetlands; (3) transport dredged material for ocean disposal.	F-01
	EIS/ EA ; CEQ	To assess the environmental effects of proposed actions by Federal agencies or for any project requiring a federal permit, receiving federal funding, or located on federal land.	F-04
	Underground Injection Control (UIC) Permit; EPA	To perform subsurface injection of waste fluids below, into and above underground sources of drinking water (USDWs). "Injection" includes seeping, flowing, leaching, and pumping, with or without added pressure.	F-05
	Prevention of Significant Deterioration (PSD) if Impacting a National Park (recommendation to DOH Air Pollution Control Permit application); NPS	To meet the federal and State regulation National Park Service Federal Land Manager (FLM) consultation requirements regarding possible sources of air pollution that may affect Class I areas (generally within 300 km of a Class I area) or are within close proximity to Class II areas.	F-06
	Incidental Take Statement, Endangered Species Act Section 7 (a)(2); USFWS	To conduct an otherwise lawful activity that might incidentally, but not intentionally, "take" (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) an Endangered Species Act (ESA) listed terrestrial and freshwater aquatic species.	F-10
	Incidental Take Permit, Endangered Species Act Section 10(a)(1)(B); USFWS	To conduct an otherwise lawful activity that might incidentally, but not intentionally, "take" (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) an Endangered Species Act (ESA) listed terrestrial and freshwater aquatic species.	F-11

State of Hawaii Environmental Permits and Reviews			
	Air Pollution Control (APC) Permit (Covered Source Permit and Noncovered Source Permit); DOH	To construct, reconstruct, modify, or operate a stationary air pollution source.	S-03
	Biosolids Treatment Works Notice of Intent; DOH	To build a treatment works which complies with the basic wastewater treatment criteria set in Hawaii Administrative Rules (HAR) §11-62-26, and treatment works from which sludge is not covered by HAR §11-62-50(d) and HAR §11-62-40(a) 2 through 4.	S-04
	EIS/ EA ; DOH	To propose the use of State or county lands, or lands within conservation districts, shoreline area, historic sites, or in the Waikiki Special District; to propose amendments to county general plans; or to propose a wastewater system, waste-to-energy facility, landfill, oil refinery, or power generating facility according to Hawaii Revised Statutes (HRS) Chapter 343-5.	S-05
	Hazardous Waste TSD Permit; DOH	To own or operate a facility or enterprise that engages in the treatment, storage, or disposal of hazardous waste as defined by HAR §11-261-3.	S-06
	Individual Wastewater Management Permit; DOH	To apply to build, run, or operate an individual wastewater treatment facility.	S-07
	National Pollutant Discharge Elimination System Permit; DOH	To engage in any activity that might materially alter the surrounding water supply, or to operate a facility that creates a liquid discharge into State or local water supplies.	S-08
	Hawaii Emergency Planning and Community Right-To-Know-Act (HEPCRA) Chemical Inventory Reporting; DOH	To own or operate a facility in the State that stores, uses or manufactures any hazardous substance that is equal to or exceeds reporting thresholds as established by Hawaii Chemical Inventory Form (HCIF) according to Hawaii Administrative Rules (HAR) 128E-6, and the EPA's federal regulations for chemicals.	S-10
	Underground Injection Control; DOH	To apply to construct, operate, or modify an underground injection well.	S-11
	Underground Storage Tank; DOH	To construct, install, or operate an underground storage tank (UST) or tank system.	S-12
	Variance from Pollution Control; DOH	To discharge water pollutant in excess of applicable standards according to Hawaii Administrative Rules 11-62.	S-13

	Incidental Take License and Habitat Conservation Plan; DLNR	To allow the incidental take of endangered or threatened species while carrying out an otherwise lawful activity. "Take" is defined as to: harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species, including plants, animals, birds, fresh and marine water species.	S-15
State of Hawaii Construction and Operation Permits			
	Noise Permit; DOH	To engage in the construction, expansion, or demolition of buildings, houses, bridges, roadway (including improvements), utilities, reservoirs or any other activity causing excess noise in the community.	S-18
	Section 401 Water Quality Certification (WQC) Permit; DOH	To show that construction runoff on renewable energy construction site will not violate applicable water quality standards.	S-19
	Boiler / Pressure Vessel Permit; DLIR	To install, construct, reconstruct, or relate any boiler, pressure vessel or pressure system.	S-20
	Geothermal and Cable System Development Permitting; DLNR	To develop geothermal and cable system projects.	S-23
	Geothermal Exploration Permit; DLNR	To conduct any exploration activity (including geophysical operations, drilling of shallow temperature test holes less than 500 feet in depth unless deeper drilling is allowed by the board, construction of roads and trails, and vehicle travel) on State or reserved lands for evidence of geothermal resources.	S-24
	Well Construction and Pump Installation Permit; DLNR	To drill wells for the irrigation of water.	S-25
	Construction to Cross or Enter the State Energy Corridor; DOT	To perform construction to cross or enter the State Energy Corridor on Oahu.	S-26
	Construction Upon a State Highway ; DOT	To perform work upon a State Highway, such as utility service connections, overhead/ underground utility crossings, soil borings, etc.	S-27
	Operate or Transport Oversize and/or Overweight Vehicles and Loads Permit; DOT	To use vehicles or transport loads of a size or weight that exceeds the maximum dimensions established by Hawaii Administrative Rules 19-104.	S-28

	Use and Occupancy Agreement (Lane Use Permit for Construction Work); DOT	To park on a restricted section of highway under State jurisdiction for construction adjacent to and within the highway right-of-way.	S-29
State of Hawaii Land Use Permits			
	Geothermal Resource Subzone; DLNR	To designate an area with geothermal potential as a geothermal resource subzone.	S-41
	Groundwater Control Area Permit; DLNR	To establish new uses of ground water (as well as modifications of existing ground water use permits) in a designated ground water management area.	S-42
State of Hawaii Utility Permits			
	Certificate of Public Convenience/ Necessity; PUC	To provide, sell, or transmit power directly to the public as a public utility (rather than providing, selling, or transmitting that power directly to a public utility for transmission to the public).	S-49
	Power Purchase Agreement Approval; PUC	To allow the utility to purchase power from an independent power producer.	S-50
	Transmission Line Approval; PUC	To interconnect a proposed renewable energy project to the existing grid, where new transmission lines are required.	S-51
<i>Additional permits that may be required depending on project specifics:</i>			

Section 7: Conclusion

The suite of renewable energy permitting guidebooks does not attempt to make any recommendations for changing the permitting processes, but rather provides a factual reference for those interested in developing renewable energy projects in the State of Hawaii. Hopefully these guidebooks will provide a means for renewable energy developers to more easily navigate the permitting process in the State of Hawaii. More importantly, these guidebooks may provide the first step toward fostering change in the permitting process by allowing permitting agencies and renewable energy developers to work together toward the shared goals that they each stand for.

Glossary of Commonly Used Acronyms

The following list includes acronyms found in this Guidebook, as well as the related appendices.

AAA	Airport Airspace Analysis (FAA)
ACOE	U.S. Army Corps of Engineers (old acronym, new acronym is USACE)
AERU	Alternative Energy-Related Use (MMS)
ALP	Alternative Licensing Process (FERC)
APC	Air Pollution Control
AQRV	Air Quality Related Value (CAA)
ARD	Air Resources Division (NPS)
BA	Biological Assessment (ESA)
BACT	Best Available Control Technology (CAA)
BO	Biological Opinion (ESA)
BVA	Board of Variance and Appeals
CAA	Clean Air Act
CDU	Conservation District Use
CE	U.S. Army Corps of Engineers
CEII	Critical Energy Infrastructure Information
CEPOH	Corps of Engineers Pacific Ocean Honolulu (USACE)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CIZ	Change in Zoning
COE	U.S. Army Corps of Engineers
COI	Conflict of Interest
COP	Construction and Operations Plan (MMS)
CP	Conservation Plan (ESA) (same as HCP)
CP	Conditional-Use Permit
CPD	Coastal Programs Division (OCRM)
CSP	Covered Source Permit
CTA	Conservation Technical Assistance (NRCS)
CUP	County Use Permit
CWA	Clean Water Act
CWRM	Commission on Water Resource Management
CX	Categorical Exclusion (NEPA)
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DA	Department of the Army
DBA	Draft Biological Assessment

DBA	District Boundary Amendment
DBEDT	Department of Business, Economic Development and Tourism
DE	District Engineer (USACE)
DEIS	Draft Environmental Impact Statement
DERP	Defense Environmental Restoration Program (USACE)
DHAC	Division of Hydropower Administration and Compliance (FERC)
DI	Direct Implementation (EPA)
DLA	Draft License Application (FERC)
DLIR	(State of Hawaii) Department of Labor and Industrial Relations
DLNR	(State of Hawaii) Department of Land and Natural Resources
DOE	U.S. Department of Energy
DOFAW	Division of Forestry and Wildlife (within DLNR)
DOH	(State of Hawaii) Department of Health
DOI	U.S. Department of the Interior
DOT	(State of Hawaii) Department of Transportation
DOTS	Dredging Operations and Technical Support (USACE)
DPP	Department of Planning and Permitting (City and County of Honolulu)
EA	Environmental Assessment (NEPA)
EC-R	Engineering Construction - Regulatory (USACE)
EFH	Essential Fish Habitat (NMFS)
EIS	Environmental Impact Statement (NEPA)
EISA	Energy Independence and Security Act
EMD	Environmental Management Division (within DOH)
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act
EPCRA	Emergency Planning and Community-Right-to-Know Act
EQC	Environmental Quality Commission
ESA	Endangered Species Act
ESL	Easement for Use of State Lands
ESP	Environmental Stewardship Program (USACE)
EUP	Experimental Use Permit
FAFF	Flammable Finish Facility
FAQ	Frequently Asked Questions
FEBA	Fire, Explosives and Blasting Agent
FHAZ	Hazardous Materials Permit
FHWA	Federal Highway Administration

FLAG	Federal Land Managers' Air Quality Related Values Work Group
FLM	Federal Land Manager (NPS)
FONSI	Findings of No Significant Impact
FPA	Federal Power Act
FUDS	Formerly Used Defense Sites (USACE)
FWCA	Fish and Wildlife Coordination Act
FWO	Fish and Wildlife Office (USFWS)
FWS	U.S. Fish and Wildlife Service
GAP	General Activities Plan (MMS)
GCAP	Groundwater Control Area Permit
GIS	Geographic Information Systems
GP	General Permit (USACE)
HAR	Hawaii Administrative Rules
HCDA	Hawaii Community Development Authority
HCP	Habitat Conservation Plan (ESA) (same as CP)
HDOA	Hawaii Department of Agriculture
HECO	Hawaiian Electric Company
HEER	Hazard Evaluation and Emergency Response Office (within DOH)
HELCO	Hawaii Electric Light Company
HPR	Historic Preservation Review
HRS	Hawaii Revised Statutes
HSR	Historic Sites Review
IHA	Incidental Harassment Authorization (MMPA)
ILP	Integrated Licensing Process (FERC)
ITA	Incidental Take Authorization
ITL	Incidental Take License
ITP	Incidental Take Permit (ESA)
ITS	Incidental Take Statement (ESA)
IWS	Individual Wastewater System
JD	Jurisdictional Determination (USACE)
KIUC	Kauai Island Utility Cooperative
LAA	Likely to Adversely Affect (ESA)
LNM	Local Notice to Mariners (USCG)
LOA	Letter of Authorization (MMPA) (same as ITA)
LOP	Letter of Permission (USACE)
LPG	Liquefied Petroleum Gases
LUC	Land Use Commission
MBSP	Migratory Birds and State Programs (USFWS)
MCL	Maximum Contaminant Levels (CWA)
MECO	Maui Electric Company

MILCON	Military Construction (USACE)
MMPA	Marine Mammal Protection Act
MMS	Minerals Management Service (DOI)
MMSZ	Marine Mammal Safety Zone (MMPA)
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPA	Marine Protected Area (NOAA)
MPRSA	Marine Protection, Research, and Sanctuaries Act (also known as the Ocean Dumping Act)
NAAQS	National Ambient Air Quality Standards (CAA)
NARS	Natural Area Reserves System
NE	No Effect (ESA)
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards for Hazardous Pollutants (CAA)
NHPA	National Historic Preservation Act
NLAA	Not Likely to Adversely Affect (ESA)
NMFS	National Marine Fisheries Service (NOAA)
NMSA	National Marine Sanctuaries Act
NOAA	U.S. National Oceanic and Atmospheric Administration
NOI	Notification of Intent (FERC)
NOS	National Ocean Service (NOAA)
NPDES	National Pollutant Discharge and Elimination System
NPR	No Permit Required (USACE)
NPS	U.S. National Park Service
NRCS	U.S. Natural Resources Conservation Service (originally called the Soil Conservation Service)
NSP	Noncovered Source Permit
NSR	New Source Review (CAA)
NW	Nationwide (USACE)
NWP	Nationwide Permit (USACE)
NWR	National Wildlife Refuge (USFWS)
NWRS	National Wildlife Refuge System (USFWS)
OCCL	Office of Conservation and Coastal Lands (within DLNR)
OCI	Organizational Conflict of Interest
OCRM	Ocean and Coastal Resource Management (NOAA)
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
ODA	Ocean Dumping Act (MPRSA)
ODD	Ocean Disposal Database (USACE)
ODMDS	Ocean Dredged Material Disposal Sites
OE	Obstruction Evaluation (FAA)

OEMM	Offshore Energy and Minerals Management (MMS)
OEQC	Office of Environmental Quality Control (within DOH)
OMA	Operations & Maintenance, Army (USACE)
OP	Office of Planning (within DBEDT)
OPR	Office of Protected Resources (NMFS)
OTEC Act	Ocean Thermal Energy Conversion Act
OWCP	Ocean Waters Construction Permit
PAD	Pre-Application Document (FERC)
PCN	Pre-Construction Notification (USACE)
PIRO	Pacific Islands Regional Office (NMFS)
PLP	Preliminary Licensing Proposal (FERC)
PM&E	Proposed Measures and Plans to Protect, Mitigate, or Enhance Environmental Resources (FERC)
PMP	Project Master Plan
POD	Pacific Ocean Division (USACE)
POH	Pacific Ocean - Honolulu (USACE)
PPA	Power Purchase Agreement
PRD	Protected Resources Division (PIRO)
PSD	Prevention of Significant Deterioration (CAA)
PUC	Public Utility Commission
RAB	Restoration Advisory Board (USACE)
RCRA	Resource Conservation and Recovery Act
REA	Ready for Environmental Analysis (FERC)
REAU	Renewable Energy and Alternative Uses
REFSP	Renewable Energy Facility Siting Process
RFI	Request for Interest
RFP	Request for Proposals
RFQ	Request for Quotes
RHA	Rivers and Harbors Act
ROD	Record of Decision (USACE)
ROW	Right-of-Way
RPA	Reasonable and Prudent Alternatives (NMFS)
RUE	Right-of-Use and Easement
SAP	Site Assessment Plan (MMS)
SCAP	Stream Channel Alteration Permit
SD	Scoping Document (FERC)
SDWA	Safe Drinking Water Act
SHPD	State Historic Preservation Division (within DLNR)
SMA	Special Management Area
SOF	Statement of Findings (USACE)
SPGP	State Programmatic General Permit (USACE)
SSV	Shoreline Setback Variance

SUP	Special Use Permit
TDML	Total Maximum Daily Loads (CWA)
TLP	Traditional Licensing Process (FERC)
TSD	Transmission, Distribution, and Storage
UIC	Underground Injection Control
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	U.S. Coast Guard
USDW	Underground Sources of Drinking Water (CWA)
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
WCPI	Well Construction - Pump Installation
WQC	Water Quality Certification (CWA)



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