

Renewable Energy Facility Permitting in Hawaii

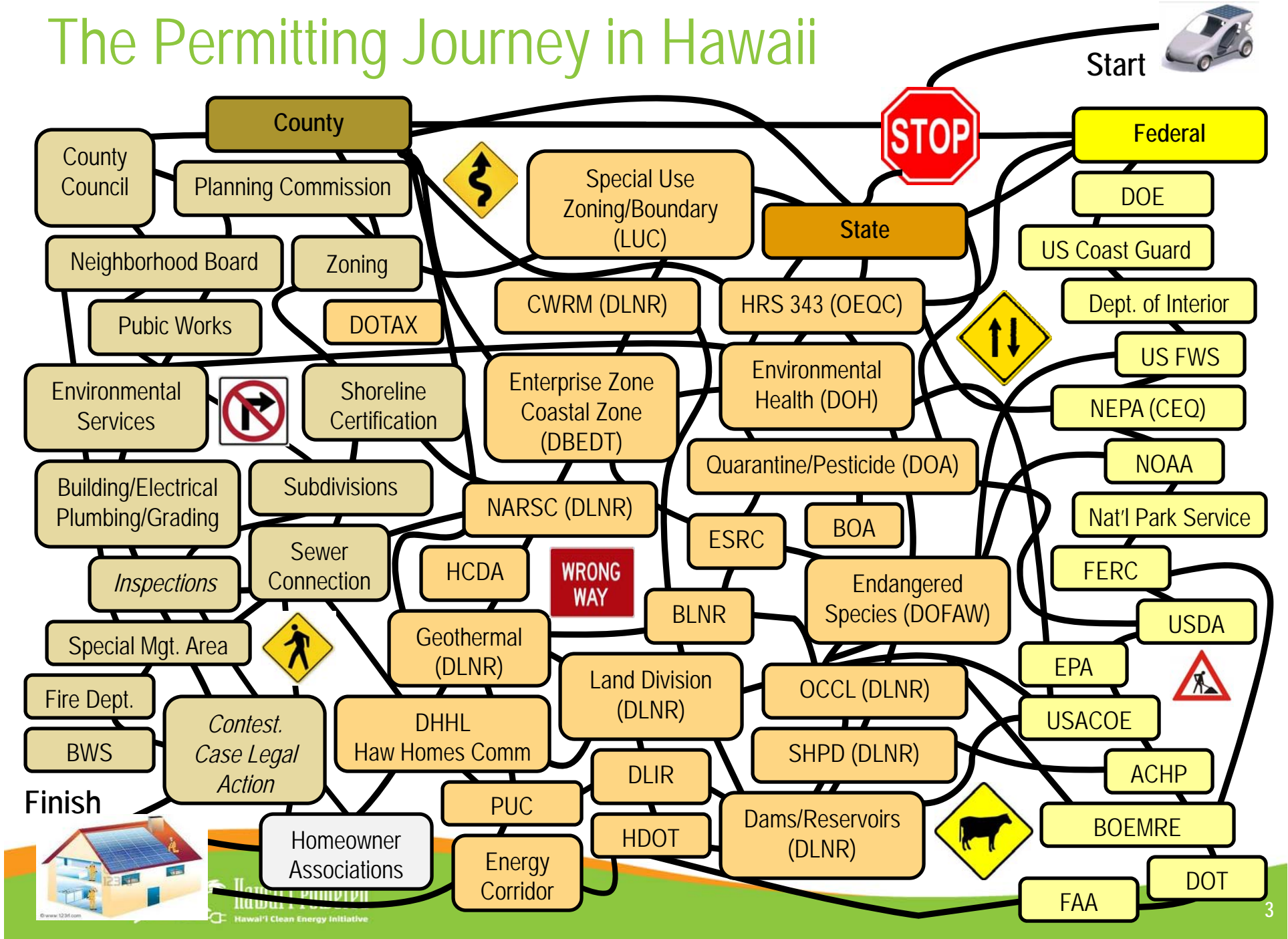
Hawaii State Energy Office
Department of Business, Economic Development, & Tourism
Cameron Black, Permitting Specialist

HCEI Electricity Working Group
May 4, 2011

Quick Overview

- Intro
- The Permitting Journey in Hawaii
- Permitting Challenges and Lessons Learned
- Navigation Tools
- Discussion

The Permitting Journey in Hawaii



Why So Many Permits?

- Many layers of permits
 - 40+ County, State, and Federal permits *could* be required (Hawaii average 15-20 permits)
- Hawaii's protected natural resources
 - Cultural, historic, archeological sites; acting practitioners, descendants, SHPD, OHA
 - More endangered species per sq. mile than any other place on the planet
 - 384 listed (threatened and endangered) species
 - Environmental protections (coastal lands, waterways/water, mountain ranges)
 - Invasive species restrictions / plant quarantine
- Land use laws
 - State Districts (Conservation, Agricultural, Rural, Urban)
 - Soil classifications (A, B, C, D, E)
 - County Districts x 4 (Zoning)
 - Special Districts (HCDA, County)
 - Agricultural Lands of Importance to the State of Hawaii (ALISH)
 - Enterprise Zones
 - State land leasing processes

Permitting Challenges and Lessons Learned

- **Agency-Applicant exchange**

- Incomplete applications
- Applicant doesn't consult w/ agency, submits incomplete application
- Applicant meets with agency, submits incomplete information
- Applicant feels misinformation was provided to them
- Agency needs additional information (applicant not notified?)
 - 📖 Submit complete application (follow directions, meeting notes)
 - 📖 Identify all impacts
 - 📖 Work with relevant groups to protect/propagate or feature protected resources
 - 📖 Know the process; be proactive
 - 📖 Follow up w/ agency (judiciously)
 - 📖 Confirm application requirements
 - 📖 One Submittal, One Review
 - 📖 Start slow, finish fast
 - 📖 Retain a good consultant/project team

Permitting Challenges and Lessons Learned

- Agency-Applicant exchange con't.
 - Complete application but more information needed
 - 📖 Finalize project design as much as possible prior to application submittal
 - Project or rule changes
 - 📖 Stay current on rule changes
- Agency-Agency exchange
 - Need to get prerequisite approvals
 - Applicant disagrees with permit conditions
 - 📖 Consider options, negotiate w/ agency
 - 📖 Establish and address main points of concern
 - Need to navigate overlaying regimes
 - Different agencies, departments, divisions, offices, boards, councils, branches, gov'ts.
 - 📖 Know the process; be proactive

Permitting Challenges and Lessons Learned

- Renewable energy technologies offer new compliance questions
 - Project triggers unexpected reviews - HRS 343 (waste-to-energy?)
 - Unclear if use is allowed in project zone
 - 📖 Find a zone that permits your project (location, location, location)
 - 📖 Adjust your project to fit the zone
 - Consider infrastructure (roads, utilities, water, circuit loads)
 - Facility may be dependent on other facility permits
 - 📖 Understand feedstock facility permits
- Public opposition or misinformation
 - Inadequate public consultation
 - Public is misinformed on project impacts
 - 📖 Start early, make the first impression
 - 📖 Instill community pride/ownership (Kahuku)
 - 📖 Incorporate their comments; take recommendations under serious consideration
 - 📖 Be sensitive to existing tenants and surrounding neighbors

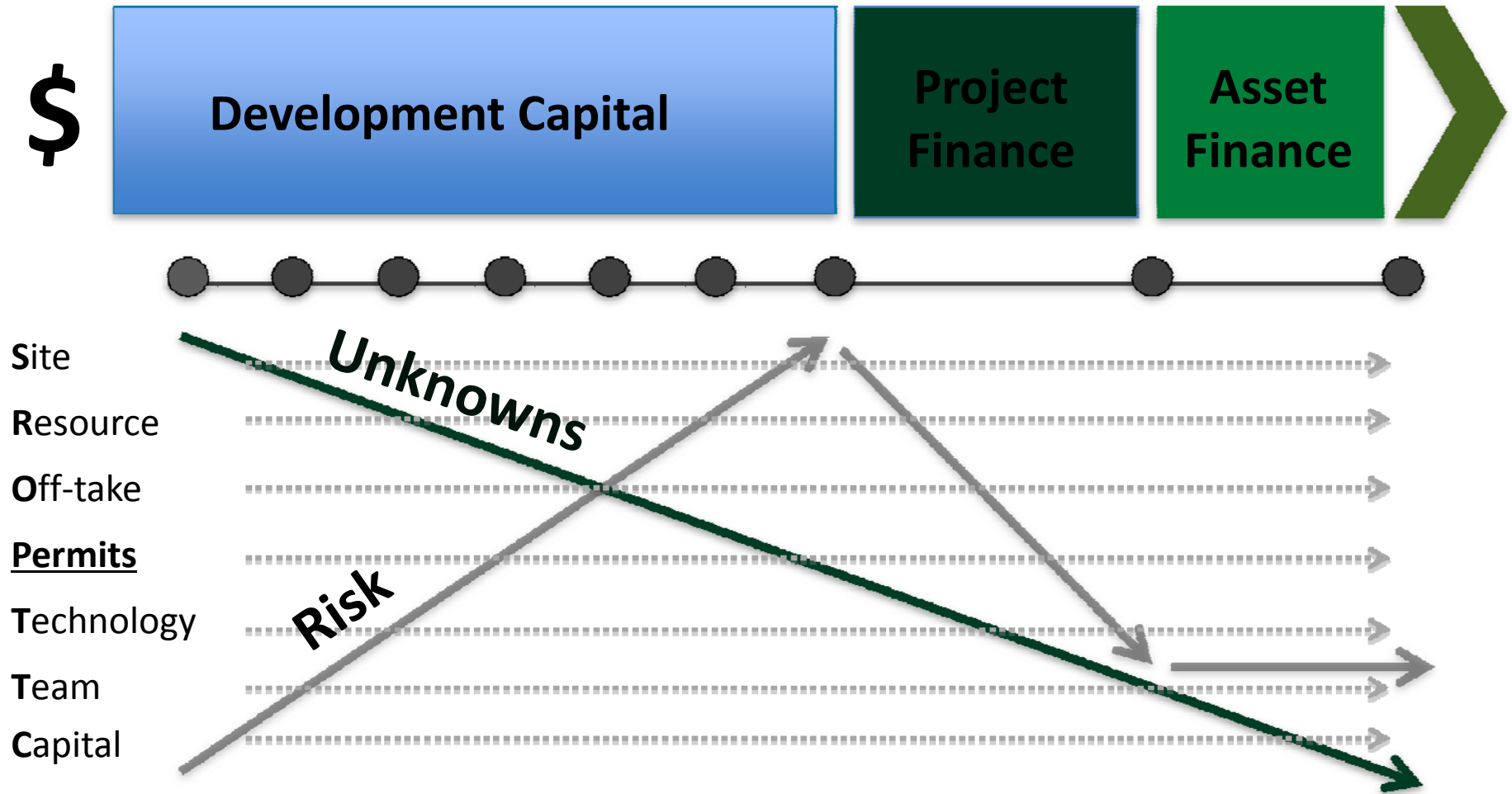
Permitting Challenges and Lessons Learned

- Residential photovoltaic/solar installations and inspections
 - Installers and inspectors not in agreement
 - 📖 Work with property owner, agency, utility, and installer/contractor
- Permits impact project financing and development – “*Ripple Effect*”
 - Uncertainty in permit timing, issuance, conditions makes investors wary
 - Soft or unanticipated costs
 - Grant reviews require federal agency review and comment (NEPA, USFWS, ACHP review)
 - Project modifications can impact PPA/off-take agreement (2nd PUC approval?)
 - 📖 Allow ample permitting time prior to construction
 - 📖 Consider contingencies or other investment conditions

Permitting Costs

- Environmental Assessment: \$30,000 - \$100,000+
- Environmental Impact Statement: \$60,000 - \$1M+
- Archeology Inventory Survey: \$8,000 - \$25,000+
- Cultural Impact Analysis: \$8,000 - \$25,000+
- Clean Water Act, Section 403: \$50,000 - \$130,000+
- Incidental Take Permit/License (Habitat Conservation Plan): \$60,000 - \$200,000+
- Conditional Use Permit: \$15,000 - \$55,000+
- Special Management Area Permit: \$20,000 - \$30,000+
- Clean Air Permit (Covered Source): \$12,000 - \$150,000+
- Noise Assessment: \$6,000 - \$10,000+
- Traffic Assessment: \$10,000 - \$18,000+
- NPDES (construction run-off): \$8,000 - \$15,000+
- Industrial Stormwater Permit: \$15,000 - \$25,000+
- Solid Waste Management Facility: \$12,000 - \$18,000+ (can be \$100,000s+)
- GET and expenses: 10%
- **TOTAL (low end): \$200,000+**

Typical Project Development



Courtesy of the National Renewable Energy Laboratory (NREL)

Navigating the Permit Journey – Existing Tools

- Priority processing for energy projects
- County clean energy and permitting initiatives
- HCEI Website (Project Permitting)
 - Renewable Energy Permitting Guidebooks and Appendices
- Other state agency websites
- Hawaii Bioenergy Master Plan (Permitting)
- Renewable Energy Facility Siting Process
- Other private and public resources
 - FAA solar airports guide
 - Hydropower guides (ACOE - coming soon)
 - Utility guides (HECO PV/NEM interconnection checklist)
 - Many, many more ...

Existing – Priority Processing for Energy Permits

- **HRS 46-19.4 – county priority permitting process for renewable energy projects**
- HRS 46-19.6 – county priority processing for building, construction, or development-related permits for projects w/ energy and environmental design building standards
- HRS 171-95 – BLNR may lease state lands to renewable energy producers without public auction
- HRS 196-1.5 (Energy Resources) – Priority permitting process for renewable energy projects
- HRS 205 – Renewable energy facilities allowed on state Agricultural Districts
 - Wind, Biofuel Processing Facilities, and limited Ag-Energy Enterprises allowed on good Agricultural lands
 - Limitation for solar on good Agricultural lands (B and C)
- HRS 205-46.5 – Priority permit processing for agricultural processing facilities
- HRS 209E-2 & 12 – Production of electric power from wind energy for sale primarily to a public utility company for resale to the public (reduction of permit fees; user fees; real property taxes; Special zoning districts; permit process reform; exemptions from local ordinances)
- **HRS 226-18 (Hawaii State Planning Act) – Priority handling and processing for all state and county permits required for renewable energy projects**
- HRS 226-103 (Economic priority guidelines) – Priority guidelines for energy use and development

County Clean Energy and Permitting Initiatives

- City and County of Honolulu
 - Oahu General Plan (1992)
 - <http://www.honoluluodpp.org/PermitInfo/>
 - Permit Register
- County of Maui
 - Draft Countywide Policy Plan (2008), Maui County Energy Alliance Plan (2009)
 - <http://www.co.maui.hi.us/index.aspx?nid=1315>
 - Permit Register
- County of Hawaii
 - Hawaii County General Plan (2005)
 - <http://co.hawaii.hi.us/forms/planforms.html>
 - Other permitting guides
- County of Kauai
 - County of Kauai General Plan (1999)
 - <http://www.kauai.gov/Government/Departments/PublicWorks/Engineering/Design&Permitting/tabid/133/Default.aspx>
 - Other permitting guides

HCEI Website (Project Permitting)

- Project Permitting link
- <http://www.hawaiicleanenergyinitiative.org>
- <http://www.hawaiicleanenergyinitiative.org/permitting/index.html>
- Online Guidebooks
 - County (4)
 - Technology (7)
- Permit Packets/Appendices
- NREL (Sentech)-DBEDT effort
 - EPA contribution

The screenshot shows the 'Project Permitting' page of the Hawaii Clean Energy Initiative website. The page features a green header with the 'Hawaii Powered' logo and the slogan 'it's up to us.' Below the header is a large banner image of palm trees with the text 'Hawaii Clean Energy Initiative'. The main content area is titled 'Renewable Energy Project Permitting in the State of Hawaii' and provides an overview of the permitting process. It includes a list of resource-specific federal and state permits with links to their respective guidebooks: Bioenergy (PDF 468 KB), Geothermal (PDF 108 KB), Hydroelectric (PDF 189 KB), Marine and Ocean Thermal Energy Conversion (OTEC) (PDF 175 KB), Solar (PDF 214 KB), Waste-to-Energy (PDF 170 KB), and Wind (PDF 181 KB). The page also includes a sidebar with navigation links, social media icons, and logos for the State of Hawaii and the U.S. Department of Energy. The URL at the bottom of the page is <http://www.hawaiicleanenergyinitiative.org/permitting/index.html> and the timestamp is 5/1/2011 5:44:35 PM.

Renewable Energy Facility Siting Process (201N)

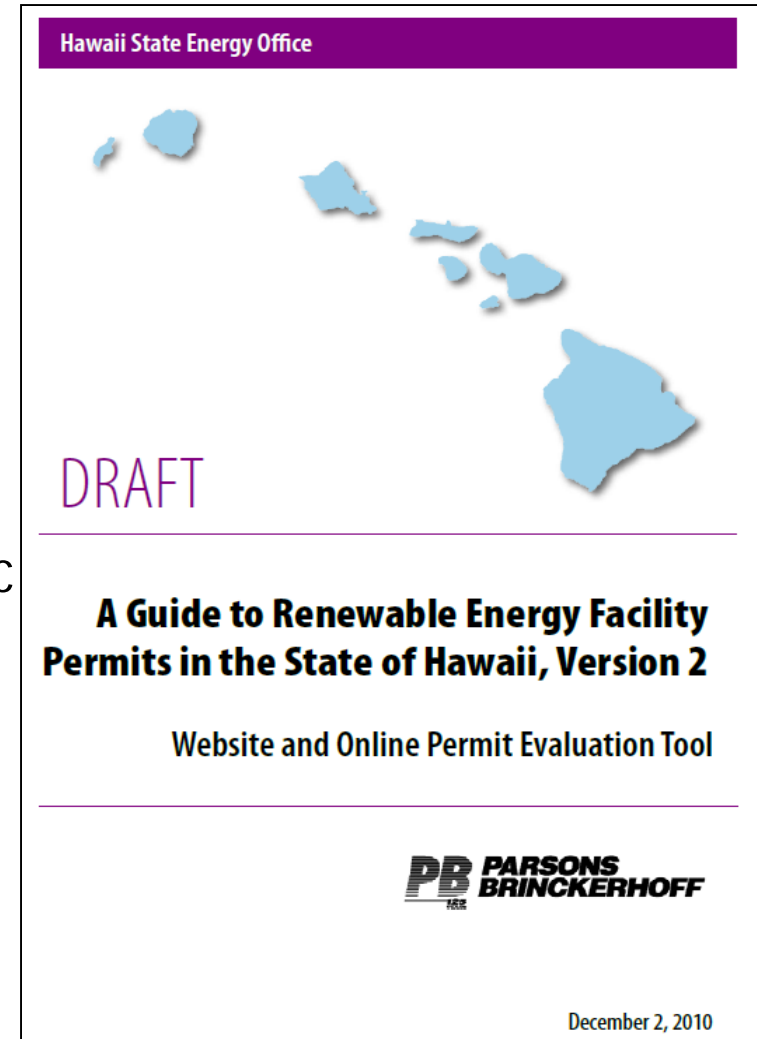
- ≥ 5 MW or 1M gal/yr biofuels to be eligible
 - Legislation to lower min. to 100,000 gal/year biofuels
- County and state permits issued within 12 mos. of HRS 343 compliance
 - Federal agency coordination
 - 18 mo. extension provided
- Energy Coordinator (DBEDT)
 - Permit Plan & Application
 - Cost Reimbursement Agreement (CRA)
 - Public notice (OEQC) and public hearing on Draft Permit Plan
- Applicant
 - CRA, commitment to participate, cooperation with permitting agencies
- Permitting Agencies
 - Agreement to participate, planning meetings, guidance
- One project now intending to use REFSP (others interested)

Navigating the Permit Journey – Coming Soon

- Guide to Renewable Energy Development & Permitting Wizard
- Department of Health ePermitting Portal
- Other efforts
 - Residential PV/solar installations
 - Combined HECO PV (NEM) interconnection checklist w/ industry checklist (HSEA) and county building division input
 - Continuity across the state
 - EV charger installation guide
 - Consistency in permit applications throughout state
 - Zoning, building codes, permit applications, policies and practices
 - GIS mapping layers (Office of Planning, NREL, HNEI)
 - Continued partnerships – Public/Public and Public/Private
 - County/State collaboration

Guide to Renewable Energy Permitting in Hawaii

- **UNDER DEVELOPMENT**
 - Expected completion: May 2011
- Helps identify all county, state, federal permits
 - When and why needed
- Development challenges in Hawaii
- Renewable technologies discussion
- Application steps, timelines, costs
- Developers, gov't, homeowners, lenders, public
- Input from government and private sector
- Live document to be updated
- DBEDT control



Renewable Energy Permitting Wizard

- **UNDER DEVELOPMENT**
 - Expected completion (Version I): Mid-2011
- Will create Permit Plan online via answers to series of project/site questions
 - Location
 - Technology
 - Surrounding environment
- Expected permits, relevant agencies, permitting sequence and prerequisites, estimated permit issuance timelines
- <http://demo1.pbid.com/evaluate/>
- Version II – Wizard Development
 - **UNDER PROCUREMENT** (expected completion Fall 2011)
 - Outreach – Industry Professionals and county representatives
 - Increase awareness, improve Wizard, highlight existing permitting issues
 - User accounts
 - NREL-DBEDT collaboration

Permitting Wizard

Hawaii Renewable Energy - Evaluate

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Permits



Energy Independence...
it's up to us.



Renewable Energy Permitting Wizard

Pre-Evaluation Evaluation Results

1. Technology and Capacity

What is your technology?

Biofuel	Solar
Geothermal	Waste to Energy/Biomass
Hydroelectric	Wave and Hydrokinetic
Ocean Thermal/Energy Conversions	Wind

What is the capacity in megawatts?

Over 5 Megawatts	Less Than 5 Megawatts
------------------	-----------------------

2. Location

What island will the facility be on, or offshore of?

Oahu	Lanai
Molokai	Hawaii
Mau	Kauai

Proceed »

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Permits



Energy Independence...
it's up to us.



Renewable Energy Permitting Wizard

Pre-Evaluation Evaluation Results

Wind Environmental

1	Does the project trigger the National Environmental Policy Act (NEPA)(is there a federal nexus?)	option 1 option 3	option 2 option 4
2	Endangered Species	Yes	No
3	Work in waters of US?	Yes	No
4	Will construction or operation affect historic or cultural resources?	Yes I don't know	No
5	What is your State Land Use designation?	Conservation	Agriculture, Rural or Urban
6	Does the proposed project conform to the land uses permitted under the county zoning designation?	Yes	No
7	Does the project trigger the Hawaii Environmental Policy Act (HEPA)?	Yes I don't know	No
8	Is the scope of the project encompassed within a class of activities that has been exempted from further HEPA requirements?	Yes I don't know.	No

Required Wind Permit Sets

State Land Use
Work near, in or over surface waters
Conservation District
test county set

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Permitting Wizard

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Permits

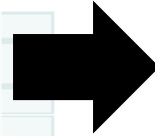


Renewable Energy Permitting Wizard

Pre-Evaluation Evaluation Results

Your Responses

Question	Response	Permit Sets	
What is your technology?	Wind		
What is the capacity in megawatts?	Over 5 Megawatts		
What island will the facility be on, or offshore of?	MauI		
Does the project trigger the National Environmental Policy Act (NEPA)(is there a federal nexus?)	option 2	State Land Use Work near, in or over surface waters	Revisit
Endangered Species	Yes	Conservation District test county set	Revisit
Work in waters of US?	Yes		Revisit
Will construction or operation affect historic or cultural resources?	Yes		Revisit
What is your State Land Use designation?	Conservation	Conservation District	Revisit
Does the proposed project conform to the land uses permitted under the county zoning designation?	No		Revisit
Does the project trigger the Hawaii Environmental Policy Act (HEPA)?	Yes		Revisit
Is the scope of the project encompassed within a class of activities that has been exempted from further HEPA requirements?	No		Revisit



Your Permits

Hawaii Renewable Energy - Evaluate

Based on your input, the following permits will be needed for your Wind Renewable Energy Project located in MauI. Please mouse over a department name for contact information. Click on the appendix number to download the permit packet.

FEDERAL PERMITS

Permit Name	Start - End (Months)	Duration (Months)	Department	Appendix Link
Bridge Permit, Rivers and Harbors Act Section 9	0 - 5	5	USCG	Appendix F-02
Department of the Army (DA) Permit	0 - 4	4	USACE	Appendix F-01
Outer Continental Shelf (OCS) Renewable Energy Project Leases, Rights-of-Use and Easement (RUEs), and Rights-of-Way (ROWs)	0 - 24	24	MMS	Appendix F-13
Marine and Harbor Activities Notice	4 - 5	1	USCG	Appendix F-03

STATE PERMITS

Permit Name	Start - End (Months)	Duration (Months)	Department	Appendix Link
Coastal Zone Management Federal Consistency Review	0 - 4	4	DBEDT, OP	Appendix S-01
Conservation District Use	0 - 8	8	DLNR	Appendix S-36
Conservation District Use Permit - State Marine Waters / Ocean Waters Construction Permit (OWCP)	0 - 8	8	DLNR	Appendix S-37
District Boundary Amendment	0 - 12	12	DBEDT, Land Use Commission	Appendix S-32
Special Use Permit - over 15 acres	0 - 9	9	DBEDT, Land Use Commission	Appendix S-33

COUNTY PERMITS

Permit Name	Start - End (Months)	Duration (Months)	Department	Appendix Link
Amendment to Special Management Area Map(s) (MauI)	0 - 4	4	Planning - Current Planning Division	MauI-3
Building Permit (Hawaii)	0 - 3	3	Public Works - Building Division	Hawaii-3
Building Permit (Kauai)	0 - 3	3	Public Works - Building Division	Kauai-3
Building Permit (MauI)	0 - 3	3	Public Works Department - Development Services Admin.	MauI-19
Building Permit (Oahu)	0 - 3	3	Planning and Permitting - Building Division	Honolulu-6

Permit Schedule

Estimated permit sequence and timeline for your Wind Renewable Energy Project located in MauI.

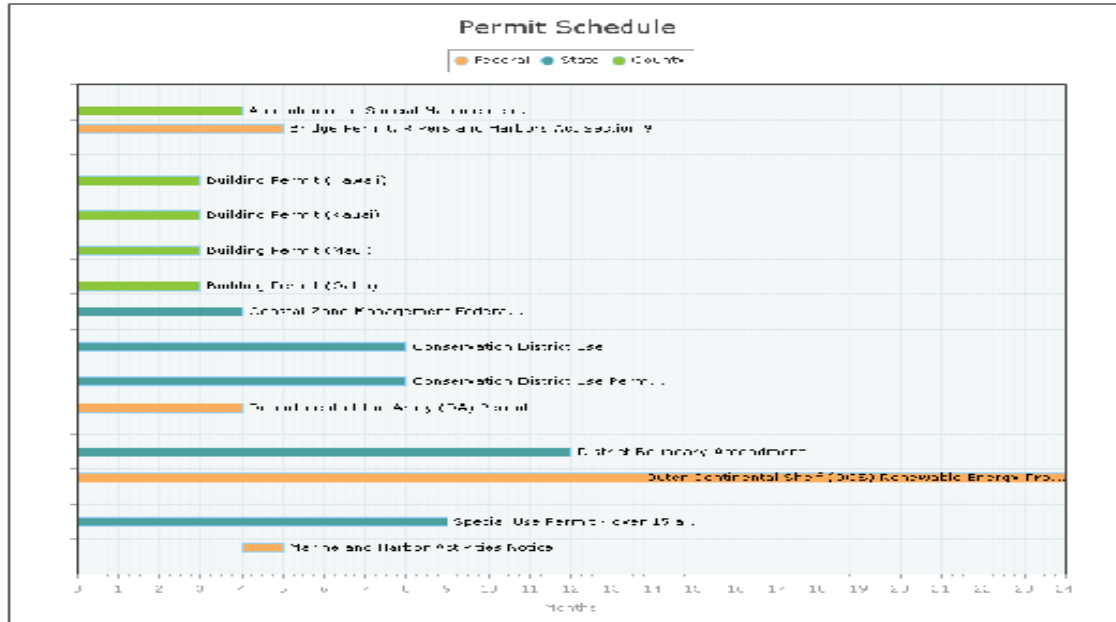
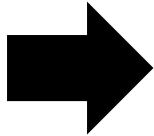
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Permitting Wizard

Hawaii Renewable Energy - Evaluate



Please note, projects may not require all permits identified in the above results. Due to project variability, it is also possible that certain projects will require additional permits not identified in the results above. The Guidebook and Self-Evaluation/Determination tool are not meant to be a substitute for hiring a professional permitting consultant, and DBEDT strongly recommends that you procure your own consultant familiar with these permits and approvals to assist you through the permitting process.

DBEDT recommends contacting the relevant permitting agencies as a first step to beginning all permitting planning and processes. Chapter 201N provides for all permits to be issued within 18 months of acceptance of a project's environmental document. **ADDITIONAL STANDARD TEXT STILL TO BE DEVELOPED.**

For additional information please contact 123.456.7890

Permits all projects will likely need: **STANDARD TEXT TO BE DEVELOPED.**

Start Over

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e-Permitting Portal Project

- **UNDER DEVELOPMENT**
 - Expected completion: Fall 2011
- All DOH Environmental Health Administration (EHA) permits/approvals online
 - Water, Air, Soil, Waste, Drinking Water, Injection Wells, Sanitation, Noise
- Easy online permit identification and application/online payment
- User accounts to store all Applicant or Project permits
 - Will store all other reports and forms required for a permit
- Instant DOH-Applicant interaction
- DOH will be able to easily modify permit applications and requirements
- Users will be able to track their permits
 - Users automatically notified of processing progress and needs
- DOH (and DBEDT) control
- Model for other state/county agencies
- <http://hawaii.gov/health/permits/environment/index.html>

e-Permitting Portal Project

Department of Health
Healthy People • Healthy Communities • Healthy Islands

DOH Home

e-Permitting Home Application Finder Submission History Help Kevin Lyons Log Out

Data Entry > Processing Information > Review > Certify and Submit > Make Payment

Underground Injection Control (UIC) - General

Injection System

Enter the number of injection wells: *

Select the source of injected fluid:

- Rainfall Runoff Water
- Aquaculture
- Filter Backwash

Use the "Ctrl" key to select multiple options.

If you selected other for source of injected fluid, please explain:

Describe the connection of the wastewater source(s) to the injection well system and the connection of the injection well within the system: *

Describe in detail the wastestream process and chemical composition of the injectant. (Attach appropriate diagrams showing how the wastestream is generated. If the wastestream is generated from various sources, provide the percent contribution from each source.):

Regarding rainfall runoff drainage injection wells, provide drainage calculations as an attachment to this application.

Select Attachment...

Save for Later Previous Section

Contact Us | Disclaimer and Terms of Use
Hawaii State Department of Health - 1250 Punchbowl Street - Honolulu, HI 96813

Department of Health
Healthy People • Healthy Communities • Healthy Islands

DOH Home

e-Permitting Home Application Finder Submission History Help Kevin Lyons Log Out

Data Entry > Processing Information > Review > Certify and Submit > Make Payment > Confirmation

Underground Injection Control (UIC) - General

Data Entry

Before your form can be submitted it needs to be validated. Please click the "Validate" button below.

Validate Continue

Your submission appears to have errors, please navigate to the highlighted sections and resolve the data issues.

Application Sections

- Introduction
- Facility
- Owner
- Contact
- Injection System
- Well
- Contractor
- Test
- Water Quality
- Validation

Save for Later Previous Section Next Section

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Hawaii State Department of Health - 1250 Punchbowl Street - Honolulu, HI 96813

Thank You

Questions and Discussion

cameron.b.black@dbedt.hawaii.gov
(808) 587-9009