SCOPING SUMMARY REPORT

FOR THE

HAWAIʻI CLEAN ENERGY PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

DOE/EIS-0459

U.S. Department of Energy

DECEMBER 2012

ACRONYMS AND ABBREVIATIONS

BOEM	U.S. Department of the Interior's Bureau of Ocean Energy Management
CEQ	Council on Environmental Quality
DBEDT	Department of Business, Economic Development, and Tourism (State of Hawai‘i)
DOE	Department of Energy
EIS	Environmental Impact Statement
FR	Federal Register
HCEI	Hawai‘i Clean Energy Initiative
HIREP: Wind PEIS	Hawai‘i Interisland Renewable Energy Program: Wind Programmatic Environmental Impact Statement
NEPA	National Environmental Policy Act of 1969
NOI	Notice of Intent
PEIS	Programmatic Environmental Impact Statement

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1. INTRODUCTION

In 2010, the U.S. Department of Energy (DOE) announced its intent to prepare a Programmatic Environmental Impact Statement (PEIS) with the State of Hawai‘i as a joint lead agency pursuant to the National Environmental Policy Act of 1969 (NEPA) (75 Federal Register (FR) 77859; December 14, 2010). The intent was for the PEIS, known then as the Hawai‘i Interisland Renewable Energy Program: Wind Programmatic Environmental Impact Statement (HIREP: Wind PEIS), to assess the foreseeable environmental impacts that could arise from wind energy development under HIREP. In February 2011, DOE and the State of Hawai‘i held scoping meetings on four Hawaiian Islands in the cities of Honolulu, Kahului, Kaunakakai, and Lāna‘i City. A HIREP Scoping Report that summarized the scoping comments received during 2011 (http://hawaiicleanenergypeis.com/wp-content/uploads/2012/05/HIREP-Scoping-Report.pdf) was published in May 2011.

In response to the 2011 public scoping comments, as well as regulatory and policy developments since the scoping meetings, DOE consulted with the State and decided to broaden the range of energy efficiency and renewable energy activities and technologies to be analyzed in the PEIS and, accordingly, renamed it the Hawai‘i Clean Energy PEIS. The proposed action in the Hawai‘i Clean Energy PEIS is to develop guidance that DOE could use in future funding decisions and other actions to support Hawai‘i in achieving the goal established by the Hawai‘i Clean Energy Initiative (HCEI) to meet 70 percent of Hawai‘i’s energy needs by 2030 through energy efficiency and conservation (30 percent) and renewable energy generation (40 percent). Achieving the HCEI goal could involve a diverse range of activities. Accordingly, the PEIS will analyze the potential environmental impacts of activities on the islands of Hawai‘i, Kaua‘i, Lāna‘i, Maui, Moloka‘i, and O‘ahu in the following clean energy categories: (1) Energy Efficiency, (2) Distributed Renewables, (3) Utility-Scale Renewables, (4) Alternative Transportation Fuels and Modes, and (5) Electrical Transmission and Distribution.

On August 10, 2012, DOE issued an *Amended Notice of Intent to Prepare the Hawai‘i Clean Energy Programmatic Environmental Impact Statement* (77 FR 47828) and announced a public scoping period from August 10, 2012, to October 9, 2012, during which DOE would accept public scoping comments. DOE stated that it would consider scoping comments received after October 9, 2012, to the extent practicable. Thus, any scoping comments received after the completion of this scoping report will also be considered to the extent practicable during preparation of the draft EIS.

The Amended Notice of Intent (NOI) identified the State of Hawai‘i and the U.S. Department of the Interior’s Bureau of Ocean Energy Management (BOEM) as cooperating agencies in preparing this PEIS. Since publication of the Amended NOI, six additional Federal agencies have committed to participate as cooperating agencies. The complete list of cooperating agencies is presented in Table 1.

Table 1. Cooperating Agencies for the Hawai‘i Clean Energy PEIS

State of Hawai‘i
Department of the Interior: Bureau of Ocean Energy Management
Department of the Interior: National Park Service
Department of the Interior: U.S. Geological Survey
Department of Agriculture: Natural Resources Conservation Service
Department of Transportation: Federal Aviation Administration
Department of Defense: U.S. Marine Corps
Environmental Protection Agency

This Hawai‘i Clean Energy PEIS Scoping Summary Report summarizes the public scoping process and comments received during the scoping period announced in the Amended NOI. These comments were

received via U.S. mail, email, facsimile, through the PEIS website, and at public scoping meetings held September 11-20, 2012, on six Hawaiian Islands: Hawai‘i, Kaua‘i, Lāna‘i, Maui, Moloka‘i, and O‘ahu. The 2011 HIREP Scoping Report, this 2012 Scoping Summary Report, and scoping meeting transcripts are available on the Hawai‘i Clean Energy PEIS website at http://www.hawaiicleanenergypeis.com.

NEPA provides that there shall be an early and open process for determining the scope of issues to be addressed in an EIS and for identifying the significant issues related to a proposed action. The purpose of this scoping process, including the scoping meetings, was to allow the public to provide scoping comments on what the Hawai‘i Clean Energy PEIS should study, including a range of reasonable alternatives. DOE will consider the scoping comments received in 2011 as well as those received in response to the Amended NOI as it prepares the Hawai‘i Clean Energy PEIS.

DOE will also seek public comments on the draft PEIS. DOE will provide notice that the draft PEIS is available for review through announcements in the Federal Register, on the Hawai‘i Clean Energy PEIS website, and through other media. The draft PEIS will be posted on the Hawai‘i Clean Energy PEIS website and DOE NEPA website (http://energy.gov/nepa/nepa-documents). DOE will provide a minimum of 45 days for public comment on the draft PEIS, during which time DOE will also hold public hearings to receive comments on the draft PEIS. After the close of the comment period on the draft PEIS, DOE will prepare a final PEIS. In the final PEIS, DOE will consider and respond to comments it received on the draft PEIS (both written and oral comments). The availability of the final PEIS will be announced in the Federal Register by the U.S. Environmental Protection Agency and the final PEIS will be posted on the Hawai‘i Clean Energy PEIS website and the DOE NEPA website. Supporting documentation for this summary report is provided in the following appendices:

- Appendix A: Amended NOI to prepare the Hawai‘i Clean Energy PEIS published in the *Federal Register* on August 10, 2012 (77 FR 47828).
- Appendix B: Local newspaper scoping meeting notification and press release
- Appendix C: Notice of public scoping postcard
- Appendix D: Public scoping meeting presentation slides
- Appendix E: Scaled reproductions of the posters presented at the scoping meetings

The transcripts of the 2011 and 2012 public scoping meetings are posted on the Hawai‘i Clean Energy PEIS website. The other comments received in response to the Amended NOI, which are summarized in this report, are included in the Administrative Record for the Hawai‘i Clean Energy PEIS.

1.1 Background

1.1.1 DOE and State of Hawai‘i Coordination and Collaboration

DOE and the State of Hawai‘i entered into a Memorandum of Understanding (MOU) in January 2008 that established a long-term partnership to transform the way in which energy efficiency and renewable energy resources are planned and used in the State. The MOU established the HCEI, which currently includes 4 working groups (e.g., electricity, end-use efficiency, transportation, and fuels) and a steering committee. The goal of the HCEI is to meet 70 percent of Hawai‘i’s energy needs by 2030 through energy efficiency and conservation and renewable energy generation (collectively “clean energy”).

To support this goal, in 2009, Hawai‘i’s legislature established Renewable Portfolio Standards of 15 percent by 2015, 25 percent by 2020 and 40 percent by 2030. Hawai‘i also established an Energy Efficiency Portfolio Standard that calls for the statewide reduction in electricity use of 4,300 gigawatt hours via efficiency measures by 2030. Meanwhile, DOE has helped advance Hawai‘i’s clean energy

goals by providing technical research and analysis, direct staff involvement, competitive solicitations, and funding.

1.1.2 Environmental Review Process

The Hawai‘i Clean Energy PEIS will be prepared pursuant to NEPA, as amended, Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500 through 1508), and DOE NEPA implementing procedures (10 CFR Part 1021). The PEIS will also consider, among other regulatory items, the requirements of the Hawai‘i Environmental Policy Act.

DOE invited Federal, State, and local government agencies, Native Hawaiians and other organizations, and members of the public to submit comments and participate in public meetings on the scope of the PEIS - that is, the proposed action, the range of reasonable alternatives, and potential environmental impacts and other issues to be considered. DOE also invited government agencies with jurisdiction by law or special expertise to be cooperating agencies in the PEIS preparation. (As presented in Table 1, eight agencies have committed to support the PEIS as cooperating agencies.)

The PEIS will not eliminate the need for project-specific environmental review of individual projects or activities that may be eligible for funding or other support by DOE. To the extent that DOE proposes to fund or undertake particular projects or activities that may fall within the scope of the PEIS, project-specific NEPA review for such projects and activities is expected to be tiered from the PEIS and to be more effective and efficient because of the PEIS. Moreover, such projects and activities will be subject to compliance with obligations under other environmental laws such as the Endangered Species Act and National Historic Preservation Act. Additionally, the PEIS does not eliminate the need for project-specific environmental review of individual projects or activities that require environmental review under the Hawai‘i Environmental Policy Act.

1.1.3 Proposed Action

DOE’s proposed action is to develop guidance that it could use in making decisions about future funding or other actions to support Hawai‘i in achieving the goal established in the HCEI. For the purposes of this Hawai‘i Clean Energy PEIS, DOE has divided these potential future actions into five energy efficiency and renewable energy categories and will analyze, at a programmatic level, the potential environmental impacts of future DOE actions that would fall within these categories and be subject to DOE’s proposed guidance. Those categories are: Energy Efficiency, Distributed Renewables, Utility-Scale Renewables, Alternative Transportation Fuels and Modes, and Electrical Transmission and Distribution.

2. DESCRIPTION OF SCOPING PROCESS

Following publication of the Amended NOI, DOE's public scoping period began on August 10 and ended on October 9, 2012. The public scoping period provided opportunities for the public to provide input on the scope of the PEIS. DOE will consider public scoping comments received in response to the Amended NOI, as well as those that were submitted in 2011, in determining the scope of the environmental analysis and the alternatives to be considered in the PEIS.

2.1 Public Notifications

DOE announced the scoping meetings in multiple ways to notify the public and encourage participation in the PEIS process, including publishing DOE's Amended NOI in the *Federal Register*, publishing notices of public scoping meetings in local newspapers, issuing a press release, sending postcards inviting participation in the PEIS process, sending email notices, and producing the Hawai'i Clean Energy PEIS Website. In its effort to reach all potentially affected communities, DOE also conducted small "talk story sessions" with community groups and Native Hawaiian Organizations throughout the State.

2.1.1 Amended Notice of Intent

The scoping process for the Hawai'i Clean Energy PEIS began with the publication of the Amended NOI in the *Federal Register* on August 10, 2012 (77 FR 47828). The notice announced DOE's intent to broaden the scope of the HIREP: Wind PEIS to include a range of energy efficiency and renewable energy technologies. The Amended NOI announced the public scoping meetings and described how the public could submit comments during the scoping process. The Amended NOI is included as Appendix A in this report.

2.1.2 Newspaper Notifications and Press Release

DOE announced the public scoping meetings in six local newspapers. Each notice was published twice: one week before and then one or two days before each scoping meeting, as allowed per the newspaper publication schedule. Table 2 lists the newspapers and publication dates. DOE also submitted a notice of public scoping meetings to the following online publications: *Civil Beat, The Lāna'i Times, Maui Now, Office of Hawaiian Affairs, Hawai'i Reporter, Lāna'i Today, and East O'ahu Sun.*

DOE issued a press release to multiple news media outlets, including local television and radio stations. The scoping meeting announcements and press release are included as Appendix B.

Table 2. Dates of Newspaper Notifications for Scoping Meetings

Island	Newspaper	Dates of Publication	
O'ahu	*Honolulu Star Advertiser*	September 4, 2012	September 10, 2012
Kaua'i	*The Garden Island*	September 5, 2012	September 10, 2012
Hawai'i	*West Hawai'i Today*	September 6, 2012	September 11, 2012
Hawai'i	*Hawai'i Tribune Herald*	September 7, 2012	September 12, 2012
Maui	*The Maui News*	September 10, 2012	September 14, 2012
Lāna'i	*The Maui News*	September 10, 2012	September 14, 2012
Moloka'i	*The Moloka'i Dispatch*	September 12, 2012	September 19, 2012
O'ahu	*Honolulu Star Advertiser*	September 13, 2012	September 18, 2012

2.1.3 Notice of Scoping Postcard and Email Notices

In coordination with the publication of the Amended NOI on August 10, 2012, DOE mailed a notice of public scoping postcard, informing recipients of DOE's intent to prepare the PEIS and inviting recipients to participate in the scoping process (Appendix C). The postcard was mailed to those groups and individuals that had previously shown interest in the HIREP: Wind PEIS. For those individuals with a known email address, DOE instead emailed the text of the postcard.

2.1.4 Website

The Hawai'i Clean Energy PEIS Website, www.hawaiicleanenergypeis.com, serves as the central location for PEIS announcements and documents. Public comments can be submitted through the website's Comment Form, and individuals may subscribe to the mailing list to receive future announcements and news releases from DOE regarding the Hawai'i Clean Energy PEIS. In addition, the website contains comments and transcripts submitted during the 2011 scoping process; posters, the presentation, and transcripts of the public scoping meetings conducted in 2012; and a Frequently Asked Questions section.

2.1.5 Small Talk Story Sessions

Prior to the public scoping meetings, a known expert in Hawaiian culture, on behalf of DOE, conducted informal small group discussions with local community groups and Native Hawaiian organizations. These small talk story sessions were designed to provide information on the status and scope of the PEIS and encourage participation in the formal public scoping process. The groups were selected based on their previous involvement and interest in the HIREP: Wind PEIS.

2.2 Public Scoping Meetings

In addition to soliciting written scoping comments through public notifications, DOE hosted eight public scoping meetings on six islands – O'ahu, Kaua'i, Maui, Hawai'i, Lāna'i, and Moloka'i – to solicit comments for consideration in determining the scope of the Hawai'i Clean Energy PEIS. Public scoping meetings were held on:

- September 11, 2012, 5:00-8:30 p.m. on O'ahu at McKinley High School in Honolulu
- September 12, 2012, 5:30-9:00 p.m. on Kaua'i at the Kaua'i War Memorial Convention Hall in Līhu'e
- September 13, 2012, 5:00-8:30 p.m. on Hawai'i at Kealakehe High School in Kailua-Kona
- September 14, 2012, 5:00-8:30 p.m. on Hawai'i at Hilo High School in Hilo
- September 17, 2012, 5:30-9:00 p.m. on Maui at Pōmaika'i Elementary School in Kahului
- September 18, 2012, 5:00-8:30 p.m. on Lāna'i at Lāna'i High and Elementary School in Lāna'i City
- September 19, 2012, 5:30-9:00 p.m. on Moloka'i at the Mitchell Pau'ole Community Center in Kaunakakai
- September 20, 2012, 5:00-8:30 p.m. on O'ahu at James B. Castle High School in Kāne'ohe

In attendance at each scoping meeting were DOE representatives, representatives from the State of Hawai'i Department of Business, Economic Development, and Tourism (DBEDT), a representative from BOEM, and DOE contractor staff. On behalf of DOE, a recognized expert on Hawaiian culture facilitated the public scoping meetings. The facilitator's role was to ensure that the meetings began on time and progressed in an orderly and fair fashion so that all members of the public were given the opportunity to

make a formal comment. In some instances, and where the facility rules allowed, the meetings ran over the pre-established time so that all members of the public that had signed up to speak could provide their oral comments.

Table 3 summarizes scoping meeting attendance, the number of comments received, and the method in which they were received.

Table 3. Summary of Scoping Meeting Attendance and Comments Received

	O‘ahu, Honolulu	Kaua‘i	Hawai‘i, Kailua-Kona	Hawai‘i, Hilo	Maui	Lāna‘i	Moloka‘i	O‘ahu, Kāne‘ohe
Estimated Attendance	69	35	26	136	55	69	93	35
Number of Written Comments Received	11	10	2	39	2	5	8	7
Number of Speakers Providing Oral Comments	28	16	13	60	27	43	48	21

Each scoping meeting included a presentation of the NEPA process and the purpose of a PEIS; a question and answer session; and a formal commenting session, which was transcribed by a court reporter to ensure the accuracy of comments. In addition, each meeting provided the public with information about the Hawai‘i Clean Energy PEIS in the form of illustrative posters.

2.2.1 Presentations

Each scoping meeting opened with a presentation given by the DOE NEPA Document Manager. The presentation included background information on the partnership between DOE and the State of Hawai‘i, the history of HCEI, the NEPA process, the broadened scope of the Hawai‘i Clean Energy PEIS, and ways to comment on the scope of the PEIS. The presentation is included as Appendix D.

2.2.2 Question and Answer Sessions

During the 2011 scoping meetings, the public was afforded an opportunity to comment on the scope of the HIREP: Wind PEIS and to speak informally with DOE and State representatives, but there was not a structured opportunity for individuals to ask questions and receive answers from DOE or the State. Comments received subsequent to the February 2011 meetings stressed the importance of receiving immediate responses to their questions. As a result, DOE decided to hold a question and answer (Q&A) session during the Hawai‘i Clean Energy PEIS scoping meetings. Members of the public used a microphone to pose questions to a panel comprised of representatives from DOE, DBEDT, and BOEM. The facilitator explained at each meeting that the Q&A period would not be included as part of the formal record and questions should be limited to topics covered in the presentation or the general NEPA process. In several instances, members of the public made comments during the Q&A period that were more applicable to the scoping portion of the meeting. In each instance, the facilitator encouraged them to make their comments formal by submitting them in writing or by signing up to speak during the formal comment period for that meeting.

2.2.3 Oral Comments

Meeting attendees were afforded an opportunity to provide formal, transcribed comments at each scoping meeting by registering their name at each meeting venue. In some instances, the meetings ran over the published end time so that registered commenters could provide their oral comments.

Court reporters transcribed all oral comments and provided transcripts to DOE. Prior to the formal commenting session of each scoping meeting (during the presentation or Q&A period), DOE made the court reporter available to transcribe comments from individuals that wished to speak in a more privates setting. These private comments are included in the transcripts.

2.2.4 Posters

Eight illustrative posters were on display at the public scoping meetings and presented the following subjects:

- Hawai‘i Clean Energy Initiative
- Hawai‘i Clean Energy PEIS
- Hawai‘i Clean Energy PEIS NEPA Process
- Distributed Renewables
- Energy Efficiency
- Electrical Transmission and Distribution
- Alternative Transportation Fuels and Modes
- Utility-Scale Renewables

The posters used a combination of photos and text to provide background information on the NEPA process, HCEI, and the proposed energy efficiency activities and renewable energy technologies included in the broadened scope of the Hawai‘i Clean Energy PEIS. Meeting attendees could browse the posters before and during the meetings. Representatives of DOE, DBEDT, and BOEM conducted informal conversations and answered questions about the posters. Scaled reproductions of the posters presented at the scoping meetings are included as Appendix E.

3. SCOPING COMMENTS

3.1.1 Opportunity for Comments

DOE made multiple methods available to the public for submitting comments during the scoping period, as set forth in the Amended NOI (77 FR 47828; August 10, 2012). Scoping comments could be submitted as follows:

- Submitting a written comment form during a public scoping meeting,
- Providing oral comments during the formal comment portion of a public scoping meeting,
- Submitting comments via the PEIS Website at http://www.hawaiicleanenergypeis.com,
- Emailing comments to hawaiicleanenergypeis@ee.doe.gov,
- Faxing comments to DOE at (808) 541–2253: Attention: Hawai‘i Clean Energy PEIS, and
- Sending comments to DOE via U.S. mail to U.S. Department of Energy, 300 Ala Moana Blvd., P.O. Box 50247, Honolulu, HI 96850–0247, Attention: Jim Spaeth.

3.1.2 Comments Received

Table 4 provides an overview of comments received during the 2012 public scoping period, categorized by general topic. DOE will consider those comments that are relevant to the scope of the Hawai‘i Clean Energy PEIS during development of the draft PEIS. DOE also will consider relevant scoping comments received during 2011 in developing the draft PEIS (2011 scoping comments are summarized in the HIREP Scoping Report).

DOE received a total of 738 comment documents as part of the Hawai‘i Clean Energy PEIS scoping process. These included:

- 44 public comment letters/faxes;
- 84 comment documents submitted at the PEIS public scoping meetings;
- 256 oral comments transcribed at the PEIS public scoping meetings; and
- 354 public comment documents via email and the PEIS website.

DOE reviewed each scoping comment document, identified individual comments within each document, and grouped them into four broad subject areas: (1) PEIS process and structure; (2) environmental resource area; (3) island-specific concerns; and (4) technology area, (energy efficiency, distributed renewables, utility-scale renewables, alternative transportation fuels and modes, and electrical transmission and distribution). DOE then categorized comments by detailed topic areas, as shown in Table 4.

Topics cited most often in public scoping comments relate to: island energy independence and self-sufficiency; Native Hawaiian issues; cultural and historic resources; socioeconomics and communities; land use; biological resources; utility-scale wind (land based) and geothermal renewables; and undersea cable corridors.

Table 4. Summary of Hawai‘i Clean Energy PEIS Public Scoping Comments

Topic Area	Comment Summary
1. PEIS Process and Structure	
NEPA Process	Conduct full life-cycle analysis and mitigation. Old notice was too narrow, new notice is too vague because no program, project, or action is described. Moreover, it is impossible to determine the environmental impacts associated with trying to meet a goal. Amended notice is deficient because it lacks information on the “policy and regulatory changes”. Identify new local, state, or federal regulations that may be needed. Will the PEIS analyze the long-run cost of certain actions or include a cost benefit analysis. Native Hawaiian consultation. Evaluating community acceptance. Public involvement/project transparency. What happens after the PEIS is completed (monitoring).
Proposed Action and Alternatives	Explain how the alternatives will be compared and prioritized. Centralized versus decentralized analysis. Island-by-island inventory of past and present energy needs. Economic feasibility of alternatives. PEIS tiering process for federal and non-federal projects. Define clean energy. Address sustainability. Alternatives to consider (e.g., industrial hemp, cassava, types of wind turbines, power tube). Impacts of the no action alternative may be significant.
Island Energy Independence and Self-Sufficiency	The PEIS should consider the options for island energy independence and self-sufficiency. Island energy-sharing is generally viewed as supplying energy to O‘ahu.
2. Environmental Resource Area	
Native Hawaiian	Impacts to Native Hawaiian way of life, subsistence living, spirituality, heritage, land use, and traditions.
Cultural and Historic	Method for identifying, evaluating, and preserving cultural and historic resources, especially Native Hawaiian.
Environmental Justice	Impacts on low-income communities, especially concerning rate increases, job opportunities, and siting smart meters. Impacts on subsistence living, including hunting and fishing.
Socioeconomic / Community Services	Include cost-benefit analysis of alternatives, including wind/cable versus distributed solar. Compare utility-scale to smaller community-based systems. Energy costs to ratepayers. Cost effectiveness and safeguards. PEIS should require that project-specific proposals include projected utility rates based on actual down time and maintenance repair and other costs experienced nationwide for similar projects. Impacts on local jobs and community services. Tourism impacts. Insurance and property value impacts. Consideration of community plans.

Topic Area	Comment Summary
Visual	Viewshed impacts, especially resulting from wind farms, including impacts on tourism.
Land and Submerged Land Use	Define project location siting process. Identification of lands excluded from development. Footprint of wind farm alternative on Lānaʻi. Use of military land and other property on Oʻahu.
Air Quality	General comments concerning climate change and reduction of greenhouse gases in the context of reduction in fossil fuel consumption. Geothermal and biomass impacts on air quality.
Transportation (land and marine)	Industrial scale traffic and activity impacts on rural infrastructure Impacts on boat transportation. Consideration of alternative modes of transportation, such as bicycles and pedestrian walkways. Environmental benefits of reduced fossil fuel consumption.
Public Health and Safety	Public health and safety concerns related to geothermal and smart meter technologies, and a smaller number of comments concerning the undersea cable corridors and utility-scale wind. Requests to conduct independent and transparent geothermal health and safety studies.
Accidents and Intentional Destructive Acts	Include analysis of geothermal, smart meters, undersea cable corridor risk due to accidents and intentional destructive acts.
Natural Hazards	Include analysis of geothermal and undersea cable corridor risk due to natural hazards.
Geology and Soils	Geologic impacts of geothermal technologies. Agricultural impacts of biofuel and biomass technologies.
Biological Resources	Consider Hawaiʻi's unique and fragile ecosystem. Impacts of undersea cable on marine life. Impacts on whales and marine habitat. Impacts on sharks and sea turtles. Impacts on the endangered petrel colony. Impacts on native and migratory birds. Impacts on bee colonies. Impacts on Native Hawaiian traditional food sources. Effectiveness of mitigation plans. State versus federal incidental take permits.
Water Resources	Groundwater impacts from geothermal, including brine reinjection. Erosion, runoff, and sediment control from utility-scale technologies. Limited access to drinking and process water sources on Lāna'i.
Floodplains and Wetlands	Flooding impacts during heavy rains. Wetlands and potential adverse impacts to waterbirds.
Coastal Zone Management	Erosion, runoff, and sediment control from utility-scale technologies and impacts on coastal areas, such as beaches and reefs.
Hazardous Materials and Waste Management	Materials and waste from construction on Lāna'i. General comments concerning minimizing waste and ensuring proper disposal.
Utilities and Infrastructure	Impacts on rural communities.

Topic Area	Comment Summary
Recreational Resources	Impacts on recreational hunting and fishing. Park preservation. Beach access.
Noise	Noise impacts from geothermal and wind farm construction and operation.
Airspace Management	Wind turbine impacts on aviation.
Irreversible and Irretrievable Commitments of Resources	Concern for permanent environmental impacts, especially on Lānaʻi.
Cumulative and Connected Actions	Consideration of non-federal energy projects proposed. Cumulative impacts to biological resources and land use. Cumulative impacts of undersea cable corridor.
3. Island-Specific Concerns	
Lānaʻi	Opposition to a proposed wind farm on Lānaʻi. Island energy independence/self-sufficiency. Concern for Native Hawaiian way of life. Tourism impacts, especially hunting. Percentage of land that would be used for clean energy projects and continued access to the land.
Molokaʻi	Opposition to a proposed wind farm on Molokaʻi. Island independence/self-sufficiency. Environmental justice in a low-income community.
Hawaiʻi	Opposition to proposed geothermal energy development, especially due to public health and safety.
Oʻahu	Cost-effectiveness for the people of Oʻahu. Energy production on military land.
Maui	Opposition to proposed undersea cable corridor. Smart meter health impacts. Potential for utility-scale wind, geothermal, and hydroelectric on Maui.
Kauaʻi	Smart meter health impacts.
4. Technology Area	
Energy Efficiency	
Buildings (new and retrofit)	Many buildings in Oʻahu appear to be energy inefficient. New buildings should meet an energy efficiency standard. Encourage use of distributed solar on buildings. Save fuel at power plants by converting low efficiency steam units to higher efficiency gas turbines or combined cycle power plants.
Energy Conservation	Support energy conservation before all other options.
Ground Source Heat Pumps	DOE did not receive a comment on this resource area but intends to analyze the topic in the PEIS.
Initiatives and Programs (e.g., tax incentives and rebates)	Incentives and subsidies to widen the use of distributed solar and promote energy conservation. Reform residential solar panel permitting and have it be more accessible. Reward those who are actively conserving energy.

Topic Area	Comment Summary
Sea Water Cooling	DOE did not receive a comment on this resource area but intends to analyze the topic in the PEIS.
Solar Water Heating	Encourage use of solar water heating.
Distributed Renewables	
Biomass (small systems)	Concern for biomass and invasive species and agriculture impacts. Encourage use of small scale waste-to-energy.
Hydroelectric (small systems)	Encourage use of small-scale hydroelectric.
Hydrogen Fuel Cells	Encourage use of distributed hydrogen fuel cells.
Solar Photovoltaic Panels	Encourage use of distributed solar photovoltaic panels at the local distribution level (e.g., on buildings and residential homes). Increase electrical grid distributed solar photovoltaic panel thresholds.
Wind (small systems)	Encourage use of small-scale distributed wind systems.
Utility-Scale Renewables	
Biomass	Encourage use of utility-scale biomass, including use of cassava and industrial hemp. Concern for biomass and invasive species and agriculture impacts.
Geothermal	Discourage use of geothermal technology (especially commenters living near the existing Puna geothermal facility near Hilo on the Big Island). Encourage use of geothermal technology. Concerns over public health and safety impacts, especially from accidents and intentional destructive acts and natural disasters. Clarify production timeframe.
Hydroelectric	Encourage use of utility-scale hydroelectric technology.
Municipal Solid Waste (including landfill gas)	DOE did not receive a comment on this resource area but intends to analyze the topic in the PEIS.
Ocean Energy (wave and tidal)	Encourage use of ocean energy (wave & tidal) technology.
Ocean Thermal Energy Conversion	Encourage use of ocean thermal energy conversion.
Solar Photovoltaic Arrays	Encourage use of utility-scale solar PV panels.
Solar Thermal Systems	Encourage use of solar thermal systems.
Wind (land based)	Discourage utility-scale wind (especially commenters supporting Lānaʻi and Molokaʻi and island energy independence /self-sufficiency). Resources of concern related to utility-scale wind often included Native Hawaiian, cultural and historic, visual, noise, biological resources, recreational resources, socioeconomic resources, and land use.
Wind (offshore)	Encourage use of offshore wind.
Alternative Transportation Fuels and Modes	
Biofuels	Encourage use of biofuels. Concern for biofuels and invasive species and agriculture impacts.
Electric Vehicles	Encourage use of electric vehicles.

Topic Area	Comment Summary
Hybrid Electric Vehicles	Encourage use of hybrid electric vehicles.
Hydrogen	Encourage use of hydrogen.
Liquefied Natural Gas	Encourage use of liquefied natural gas. Discourage use of liquefied natural gas.
Mass Transportation	Mass transportation and fossil fuel consumption. Suggestions for alternative transportation, such as bicycles and pedestrian walkways, and reducing traffic.
Electrical Transmission and Distribution	
On Island Transmission	Transmission lines and bird impacts. Visual impacts. Socioeconomic impacts.
Land/Sea Cable Transition Sites	Size and location of land/sea cable transition sites. Marine impacts.
Undersea Cable Corridors	Power losses as a function of distance with use of undersea cable. Cost/benefit of undersea cable. Marine impacts. Cumulative impacts.
Smart Grid	Impacts from radio frequency exposure due to smart meters. Siting of smart meters and option to use analog meters. Effectiveness of digital smart meters. Fire hazards. Smart meter safety/certification process.
Energy Storage	Put more effort into the analysis of energy storage in the scope, especially beyond batteries.