

FREQUENTLY ASKED QUESTIONS (FAQ)

Renewable Hawaii, Inc. (RHI) Renewable Energy Request for Project Proposals Release #2 (RE RFPP 2) – Islands of Oahu, Maui, Molokai, Lanai, and Big Island of Hawaii

Q1: I am currently negotiating a renewable energy power purchase agreement (PPA) with Hawaiian Electric Company, Inc. (HECO) for a project in the HECO, Hawaii Electric Light Company (HELCO), and/or Maui Electric Company (MECO) service territories. How will the RE RFPP 2 affect my project?

A1: You may continue to negotiate with HECO for a PPA or commence negotiations with HECO for a PPA with an Applicable Utility at any time. All IPP project proposals submitted to HECO will be treated similarly, without predisposed priorities or separate treatment, whether those proposals are received through the normal Public Utility Regulatory Policies Act (PURPA) process (see Hawaii Administrative Rules Title 6, Chapter 74) or as a result of RHI's RE RFPP 2 process.

Q2: Will RHI invest in a project with pricing terms that are above the utility's avoided cost?

A2: No. RHI is interested in investing in viable projects that are at or below avoided cost, offer the best investment value for RHI, and support the attainment of renewable energy goals for the State of Hawaii. In judging which projects to invest in, RHI will review and evaluate the cost of the project, background of the respondent and its principals and associated team, the proposed resource and technology, permits and approvals, project flexibility and viability, project financing, project schedule, operation and maintenance plans, environmental factors, and plans for community support.

Q3: Will RHI invest in renewable projects on Kauai or on the mainland?

A3: No. The intent of this RE RFPP 2 is to solicit proposals for potential projects that are located on the islands of Oahu, Maui, Molokai, Lanai, and the Big Island of Hawaii, in accordance with the scope and priorities described in the RE RFPP 2.

RHI previously released a RE RFPP for the island of Oahu on May 22, 2003 (subsequently closed on August 22, 2003), for Maui County (islands of Maui, Molokai, and Lanai) on September 4, 2003 (subsequently closed on December 4, 2003), and for the Big Island of Hawaii on January 22, 2004 (subsequently closed on April 22, 2004).

Q4: Will production of energy from my renewable project be subject to performance standards or to curtailment?

A4: Yes. The electric utility systems serving the islands of Oahu, Maui, Molokai, Lanai and the Big Island of Hawaii are not interconnected with each other.

As a result of the lack of interconnection, and the relatively small size of the systems, HECO, MECO, and HELCO require that new generation meet applicable performance standards related to power quality and system reliability, and may exercise their rights to curtail or interrupt as-available energy deliveries, pursuant to the terms and conditions of the PPA negotiated with the independent power producer (IPP). For example, during low load periods, base loaded generation is backed down to minimum load levels consistent with the operating characteristics of the units, minimum dispatch constraints in firm PPAs and the need to maintain operating reserves (to address sudden load reductions, or sudden increases and/or fluctuations in as-available energy output). The difference between the system load, and the minimum load levels of base loaded generation (and any other generation that must be on line to ensure system stability and reliability), generally will determine the amount of as-available energy that can be accepted by the utility's system at any time.

The utilities cannot predict in advance the degree to which curtailment will be necessary, since that will depend on factors such as the number and size of as-available energy and firm capacity projects added, and the utilities' future minimum system loads. Some degree of curtailment may be anticipated, however, particularly on the Big Island. HELCO currently receives as-available energy deliveries from a number of renewable energy producers, and curtails the output of producers from time-to-time, primarily during minimum load periods in accordance with the curtailment mechanisms stated in its PPAs with the producers.

Respondents' specific questions regarding minimum load constraints and IPP dispatch should be directed to HECO, MECO, and HELCO for consideration during the PPA negotiation process.

Q5: Are there any transmission and distribution constraints that may limit the amount of energy into the utility system?

A5: Yes. Utility transmission and distribution systems have various constraints that may limit the amount of energy that could be accepted into the utility's grid. Transmission and distribution lines have maximum MVA ratings, which can limit the amount of power flowing through the lines. Injecting more energy than the lines can carry under the equipment rating may cause the lines to overload, with potential line sagging or line failure.

During PPA negotiations between the respondent and utility, the respondent may be requested to provide a preliminary single-line diagram or rough schematic describing the anticipated electrical interconnection for the proposed project.

There may also be limitations on the amount of intermittent generation on the transmission and distributions systems. Injecting large amounts of fluctuating, intermittent power in one location may result in voltage fluctuations, potentially damaging sensitive electrical equipment or resulting in power outages.

As part of the process of negotiating a PPA, the respondent will coordinate directly with the utility to conduct an interconnection requirements study (IRS) in a timely manner. The study will be conducted by utility transmission planners or contracted

to previously approved outside consultants under the terms of an IRS letter agreement negotiated prior to the IRS. The cost of the IRS shall be the sole responsibility of the respondent. Depending on the renewable technology and location of the project, the cost of an IRS could total \$60,000 or more.

In addition, the PPA negotiated with HECO, MECO, or HELCO will require that other interconnection costs (generally, the costs of transmission and distribution facilities and service required to deliver power from the proposed project to the utility's interconnection point) shall be the sole responsibility of the respondent.

Respondents' specific questions regarding transmission and distribution system design considerations should be directed to HECO, MECO, and HELCO for consideration during the separate PPA negotiation process.

Q6: If RHI enters into a Memorandum of Understanding (MOU) and Conditional Investment Agreement (CIA) for equity investment in my project, will RHI participate in the PPA negotiations or other activities?

A6: No. The successful respondent will have sole responsibility to complete all actions and agreements to meet the commercial date of operation, including obtaining all permits, approvals, and land leases, and negotiating and executing a PPA directly with HECO, MECO, or HELCO.

Q7: If my project is not suitable for RHI investment, can I still pursue a PPA with the utility?

A7: Yes. As a qualifying facility, the respondent may pursue a PPA directly with the applicable utility at any time irrespective of any discussions or negotiations with RHI.

Q8: If I have a question on the RE RFPP 2, when will I get a response?

A8: All questions should be directed in writing to the RE RFPP 2 Contact. Responses will be provided to respondents in a timely manner in a uniform and consistent basis, to the extent possible. Respondents should regularly check the RHI website for posted RE RFPP 2 and Frequently Asked Questions updates and announcements.

Q9: What are the potential generation capacities (in MW) that can satisfy the renewable energy requirements specified in Section I-B of the RE RFPP 2?

A9: Assuming a capacity factor (percentage of hours in a 8,760-hour year that a facility produces energy at its rated capacity) of 83% for a firm generation facility and 35% for a non-firm (as-available) generation facility, the generation potentials for the 2010, 2015, and 2020 renewable energy requirements specified in Section I-B of the RE RFPP are estimated to be:

- 2010 (246,000 MWh): 34 MW of firm generation or 80 MW of as-available generation;

- 2015 (928,000 MWh): 128 MW of firm generation or 303 MW of as-available generation; and
- 2020 (1,729,000 MWh): 238 MW of firm generation or 564 MW of as-available generation; and

The renewable energy requirements stated above are applicable on a consolidated basis for the islands of Oahu, Maui, Molokai, Lanai, and the Big Island of Hawaii.

Q10: How will RHI determine whether a project proposal will be at or below avoided cost?

A10: RHI will not know absolutely whether a project proposal will be at or below avoided cost during the initial screening and detailed evaluation process, but should have adequate basis for a general determination such that the CIA with the respondent can be executed. RHI may seek additional information from respondents to help in its determination of the proposed project's cost in relation to the Applicable Utility's avoided cost. One or more calculations of avoided cost, with and without the respondent's proposal, will be made by HECO, MECO, or HELCO during the separate PPA negotiation process. (The utility generally performs one calculation for a completed proposal free of charge.) RHI's investment is completed, in general, only after execution of the PPA with the utility, approved by the PUC, and upon meeting all contingencies in the CIA.

Q11: How are avoided costs determined by the utility?

A11: Avoided costs for firm capacity proposals and certain as-available energy proposals are the costs that the utility would avoid by purchasing capacity and energy from a qualifying facility (QF). Avoided costs are comprised of two major components: avoided capacity costs (for firm power projects) and avoided energy costs. Typical avoided capacity costs include firm generating capital costs, generation capital working cash, transmission capital costs, transmission capacity losses, fixed operation and maintenance (O&M) costs, fixed O&M working cash, land costs, and insurance costs. Typical avoided energy costs include fuel costs, fuel working cash, fuel inventory, transmission energy losses, variable O&M costs, and variable O&M working cash.

Avoided costs generally are calculated using the differential revenue requirements (DRR) method. The DRR method uses a base plan to determine what the capacity, fuel, and O&M costs would be without the QF. An alternate plan is developed with the QF unit installed based on the QF developer's proposal and on criteria for dispatch of all units on the system, including the QF. The difference in the utility's cost between the base plan and alternate plan represents the cost that the utility can avoid by implementing the QF alternative. The dispatch of the QF (for firm power projects) in the production simulation is dependent on the energy price proposal (determines economic dispatch), duty cycle (determines how QF would be operated), and location (determines interconnection requirements, voltage support, transmission losses).

The use of the DRR method to calculate avoided costs for HECO, HELCO and MECO is explained in the applicable utility's system cost data filing filed with the

State of Hawaii Public Utilities Commission (PUC) on July 1, 2002. The base plan used by the utility to calculate avoided costs will be based upon the latest information available at the time the calculation is performed, which may be different from the utility's system cost data filing. HECO filed updated information regarding its base plan in December 2002 (Integrated Resource Plan 1998-2017: 2002 Evaluation Report).

For as-available energy purchases, the utility also files short-term avoided energy costs with the PUC on a quarterly basis.

Respondents' specific questions regarding utility avoided cost calculations should be directed to HECO, MECO, and HELCO for consideration during the separate PPA negotiation process.

Q12: What is the "quarterly avoided energy cost" filing?

A12: The quarterly avoided energy cost filing is a report that HECO, HELCO and MECO file each quarter with the PUC. The report provides the rates during that quarter at which the utilities will purchase as-available energy during on-peak and off-peak hours. The latest quarterly avoided energy costs for HECO, HELCO, and MECO may be obtained by request of the RE RFPP 2 Contact.

Q13: When are avoided costs based on the differential revenue requirements (DRR) method and when are "quarterly avoided energy costs" used?

A13: The DRR method is used when purchase rates are tied to the utility's long-run avoided capacity and/or avoided energy costs. They may apply to long-term power purchase agreements for firm capacity and associated energy, or to as-available energy agreements, where pre-determined fixed formula purchase rates are desired. Quarterly avoided energy costs generally are used for short-term power purchase agreements or for as-available energy power purchase agreements, where rates of purchase are determined at the time the energy is delivered.

Respondents' specific questions regarding utility avoided cost calculations should be directed to HECO, MECO, and HELCO for consideration during the separate PPA negotiation process.

Q14: Will RHI entertain proposals for wind projects on the Big Island?

A14: Yes. However, due to the intermittent nature of wind and the limited wind penetration acceptable on the HELCO system, the power generated from wind projects must be managed to meet the requirements of the HELCO electric grid operation, including performance standards specified in the PPA with the Applicable Utility. This will avoid placing a strain on the existing transmission system and allow the system operator to maintain control of system frequency and power fluctuations.

In addition, proposers may want to consider energy storage to mitigate their risk for curtailment (see Q4).

HELCO is currently involved in several projects that may be able to increase the penetration of wind on the system. For instance, HELCO is involved in an electronic shock absorber project that may help mitigate the impacts of power output fluctuations from wind farms. HELCO is involved in a project that will provide the necessary tools to assess the impacts of wind generation from multiple wind farm sites on the HELCO system.

Q15: Is MECO's Waena Generating Station site available for commercial renewable energy development?

A15: Yes. Approximately 33 acres at MECO's Waena Generating Station on the island of Maui can be used for commercial alternative energy use. RHI will consider investment in commercial renewable energy projects at this site subject to MECO's review and evaluation for compatibility with the other planned facilities at this site. Inquiries about a respondent's proposed renewable energy project and its compatibility with other planned facilities at the Waena Generating Station site should be directed to the RE RFPP 2 Contact (your inquiry will be directed to the proper utility contact).

Q16: Will RHI take the project information from submitted proposals and keep for its own renewable energy development?

A16: No. The intent of this solicitation is to seek commercial renewable energy development for possible passive, equity investment. RHI is not using this RE RFPP process to gain information for its own renewable energy development.

In parallel, RHI is working with landowners and developers to develop other potential renewable energy projects in Hawaii and that could require RHI passive, equity investment.