



# Hawai'i Natural Energy Institute Research Highlights

## Energy Policy & Analysis

### Moloka'i Community Energy Resilience Action Plan

**OBJECTIVE AND SIGNIFICANCE:** In 2022 and 2023, stakeholders in Moloka'i developed the Community Energy Resilience Action Plan (CERAP). The CERAP is a first of its kind initiative in Hawai'i and represents an independent, island-wide, community-led & expert-informed collaborative planning process to increase renewable energy on Moloka'i. HNEI supported the CERAP process by providing technical expertise, data, modeling capabilities, and technical reviews throughout the project.

**KEY RESULTS:** On July 7, 2023, Sustainable Moloka'i and the Moloka'i Clean Energy Hui submitted the first Moloka'i Community Energy Resilience Action Plan (Moloka'i CERAP 1.0) to the Commission (Docket #2019-0178) in collaboration with the Moloka'i community and HNEI as the lead technical partner. This community-led, island-wide plan is a road map "to achieve 100% renewable energy for Moloka'i that is feasible, respectful of Moloka'i's culture and environment, and strongly supported by the community."

**BACKGROUND:** For many years Moloka'i stakeholders and community members have expressed concerns over power system reliability, affordability, equity, and engagement. A primary concern of the community is that their priorities and values were not reflected in the planning process conducted in HECO and the Commission's conventional planning studies (PSIP and IGP).

As a result, several utility-scale renewable energy projects were proposed and ultimately cancelled due to community opposition. These projects included large utility-scale wind projects and inter-island cables connecting Moloka'i to Maui and O'ahu, as well as smaller hybrid solar and storage projects. When HECO last initiated a competitive procurement for new renewable generation, Moloka'i stakeholders requested that the Commission pause any procurement to allow for a community-based planning process to outline local priorities and objectives to achieving a 100% clean electricity.

Since 2020, the Sustainable Moloka'i and the Hui conducted a stakeholder-driven, community-led planning process to solicit input on key priorities and objectives. HNEI was selected to augment this community engagement with technical analysis.

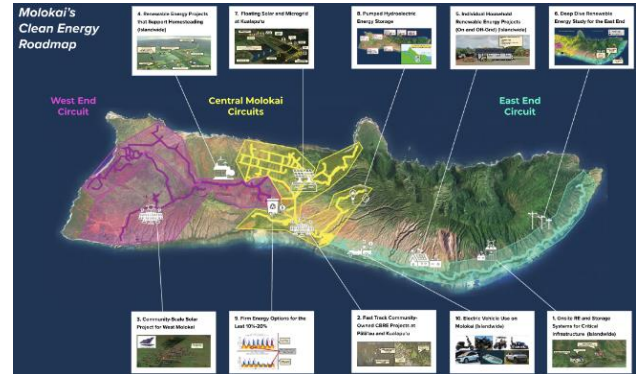


Figure 1. Moloka'i Clean Energy Roadmap.

**PROJECT STATUS/RESULTS:** Throughout the CERAP 1.0 process, HNEI advised Moloka'i stakeholders on utility-planning processes, data collection, and preliminary grid modeling. The HNEI team developed a simplified power system dispatch tool to select candidate resource portfolios and evaluate load, renewable generation, storage scheduling, curtailment, and oil consumption. The tool was developed using Excel-based formulas and dashboards to allow easy use, dissemination, and testing among Moloka'i stakeholders.

The HNEI team also met with Sustainable Moloka'i on-island in January 2023 to review project status, discuss opportunities to improve the analysis, and to better understand community objectives and power system infrastructure. After this meeting, the HNEI team helped to identify potential tax credits available in the Inflation Reduction Act, and helped scope out potential future analysis necessary to continue the CERAP planning process.

The final CERAP 1.0 report was filed with the Commission in July 2023. HNEI will continue to stay engaged in both the Commission's regulatory review, HECO's standard planning processes (IGP), and the Moloka'i Community's CERAP 2.0 analysis.

*Funding Source:* Energy Systems Development Special Fund; Office of Naval Research

*Contact:* Richard Rocheleau, [rochelea@hawaii.edu](mailto:rochelea@hawaii.edu)

*Last Updated:* November 2023