



# Hawai'i Natural Energy Institute Research Highlights

## Energy Policy & Analysis

### Energy Transition Initiative Partnership Program (ETIPP)

**OBJECTIVE AND SIGNIFICANCE:** The Energy Transition Initiative Partnership Program (ETIPP) is a three-year effort established and funded in late 2020 by the U.S. Department of Energy to provide analysis, technical assistance, and policy guidance to address high energy costs, reliability, and inadequate infrastructure challenges faced by island and remote communities. In December of 2020, HNEI was selected via a competitive solicitation as one of the first five regional ETIPP partners to provide technical assistance and support community engagement. The long-term objectives are two-fold: 1) solve critical questions and issues of importance by communities engaged in energy transitions; and 2) support replicable energy transition technical assistance and knowledge sharing to inform and support energy transitions throughout the United States.

**BACKGROUND:** By understanding local energy and infrastructure challenges, goals, and opportunities, ETIPP's partner network is intended to empower communities to proactively identify and implement strategic, holistic solutions tailored to their needs. ETIPP provides technical assistance opportunities for remote, island, and islanded communities. Selected communities receive support for a project scoping phase (approximately one to two months), followed by 12- to 18-month-long energy planning and analysis projects that:

- Prioritize community energy values, goals, challenges, and opportunities;
- Identify and advance the ability to implement strategic, whole-systems solutions; and
- Foster high-impact, replicable community energy transition approaches.

By participating in ETIPP, communities can expect to receive substantial in-kind support from the national labs and regional partners in the form of technical expertise on energy analysis, planning and implementation, and program guidance and education from the regional partners.

**PROJECT STATUS/RESULTS:** During 2021, HNEI conducted outreach to identify qualified applicants interested in receiving technical assistance and was a key member of the evaluation team that selected two projects in the Hawai'i region out of the 11 projects selected nationally for Cohort 1; one in Honolulu

proposed by Hawaiian Electric Company (HECO), and one in Kaua'i, proposed by the County of Kaua'i.

The HECO project is intended to identify locations within its distribution service territory in Honolulu for hybrid microgrid development, a first in the United States by a utility. Hawai'i is prone to severe weather conditions which have the potential to cause long-duration power outages. Hawai'i has identified hybrid microgrids as one method to improve resilience. Under this project, Hawaiian Electric will work with the National Renewable Laboratory and its project team, including Sandia National Laboratory and HNEI, to develop criteria for evaluating hybrid microgrids less than 3MW on the island of O'ahu, and create a map identifying potential locations given a set of criteria prioritized by stakeholders.

The County of Kaua'i's "Electric Vehicle and Multi-Modal Transportation Transition" project supports the island's effort to eliminate fossil fuel use in the ground transportation sector by 2045. The team is focused on three main tasks to support development of convenient mobility options:

1. Develop a shared transportation mobility data plan to collect information on movement patterns of both residents and visitors and assess detailed transportation demand around the Island;
2. Analyze and plan the role of emerging mobility technologies in conjunction with Kaua'i's existing transit plans to support a broader array of transportation choices for visitors and residents on the island; and
3. Devise plans for electric vehicle charging infrastructure to improve the mobility and accessibility needs of residents and visitors on the island and expand charging access for those who are not willing, able, or prepared to shift away from single occupancy vehicles at this time.

*Funding Source:* U.S. Department of Energy

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*Last Updated:* November 2021