



# Hawai'i Natural Energy Institute Research Highlights

International Support

## Energy Regulatory and Technical Support for Yap State, Micronesia

**OBJECTIVE AND SIGNIFICANCE:** In partnership with the Pacific Power Association (PPA) and through funding under an Asia Pacific Regional Energy System Assessment (APRESA) grant from the U.S. Office of Naval Research, HNEI's Grid System Technologies Advanced Research Team (GridSTART) is providing technical and regulatory/policy support to the Yap State Public Service Corporation (YSPSC) in the Federated States of Micronesia (FSM).

**BACKGROUND:** PPA is an inter-governmental agency whose objective is to improve the quality of power in the Pacific region through a cooperative effort among the utilities, private sector and regional aid donors. HNEI has been working with PPA since 2023, when HNEI GridSTART participated as an invited presenter at PPA's 30<sup>th</sup> annual conference in Saipan. Over the past year, GridSTART has worked with PPA to shape a partnership to deliver much needed capacity building to PPA's member utilities.



Figure 1. PPA's 30<sup>th</sup> Annual Conference in Saipan.

YSPSC is a state-owned utility that provides water, electricity and sewer services to Yap's main island (Yap Proper), as well as the state's outer islands. The peak demand on Yap Proper is approximately 1.9 MW and is served by approximately 11 megawatts (MW) of installed capacity. Approximately 10% of Yap's installed capacity comes from alternative energy sources such as solar photovoltaic (PV) and wind. This includes both utility-scale projects funded by entities such as the Asian Development Bank and smaller systems installed by customers who benefit from net energy metering (NEM) tariffs. Significant increases in penetration of variable/intermittent energy resources, battery energy storage systems (BESS) and electric vehicles (EVs) are expected on Yap in the near future, including projects procured on a bundled basis by the larger FSM government, and owned/operated by YSPSC. Significant new load demand from U.S. Department of Defense facilities under construction is anticipated.

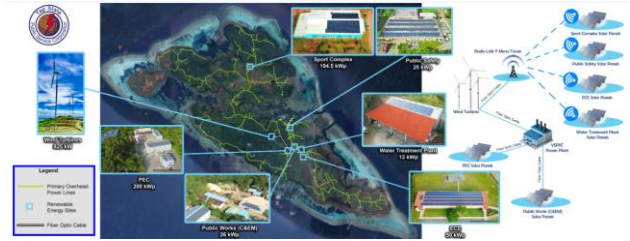


Figure 2. VRE installations on Yap Proper.

**PROJECT STATUS/RESULTS:** The first training provided by HNEI GridSTART under its partnership with PPA was conducted at YSPSC's offices in October 2024. The training consisted of two full days of slide presentations and discussions on stated topics of interest for YSPSC including:

- Hawai'i's energy transition;
- Managing high alternative energy penetrations;
- Updated grid interconnection standards;
- BESS and EVs;
- Power system resilience; and
- Competitive procurements for new generation projects.

HNEI GridSTART also provided its internally developed *Generation Mix Resource Modeling Tool* to YSPSC personnel and trained them on its use. The team visited the island's power generation and distribution facilities and engaged in further discussion with YSPSC's management to identify potential avenues for future follow-on support, which GridSTART plans to deliver to YSPSC in 2025. HNEI GridSTART also plans to conduct additional trainings for other Pacific region utilities under its partnership with PPA.



Figure 3. Rai Stone Money in Yap.

*Funding Source:* Office of Naval Research

*Contact:* Leon Roose, [lroose@hawaii.edu](mailto:lroose@hawaii.edu)

*Last Updated:* May 2025