



FACT SHEET

GRID RESILIENCE AND INNOVATION PARTNERSHIPS PROGRAM

Established by the Bipartisan Infrastructure Law, the U.S. Department of Energy's Grid Deployment Office is administering a historic \$10.5 billion investment via the Grid Resilience and Innovation Partnerships (GRIP) program to enhance grid flexibility, improve the resilience of the power system against growing threats of extreme weather and climate change, and ensure American communities have access to affordable, reliable, clean electricity when and where they need it.

EXPANDING RENEWABLES DISPATCH AND RELIABLE GRID OPERATION IN KAUAʻI

The Utility Solar Grid Forming Technology (USGFT) project will deploy an innovative technology for expanded renewables dispatch and reliable island grid operation. It adds battery storage and advanced, grid-forming inverters to two existing solar power plants. This will create a hybrid power supply with enhanced dispatchability and greater resource availability, and it will provide important ancillary services including frequency regulation, reactive power and voltage control, and operating reserves. The grid regulation service will provide significant regional and community benefits by furthering the capability of the system to accommodate 100% dispatch of renewable generation sources and support a more reliable and resilient island grid.

The USGFT project will include both existing solar power production facilities owned and operated by Kauaʻi Island Utility Cooperative (KIUC), KRS1 and KRS2. Both facilities will install an advanced grid-forming inverter and 12 MW battery energy storage system. KRS1 is a 12 MW solar generation facility located near Anahola in the northeast region of the island. The second site, KRS2, is also a 12 MW solar installation near Kōloa in the southern region of the island. Application at each provides incremental improvement in system operations. The USGFT project is beneficial to both the transmission and distribution system of Kauaʻi. Installation of the equipment at the two locations will provide useful diversity of the grid-forming technology within the integrated electric system of Kauaʻi.

The project will demonstrate an installation of grid-forming technology that can be replicated in local and regional grids across the country with similar constraints while advancing electric system decarbonization by reducing fossil generation and adding significant value to existing, legacy solar installations.

Anticipated Outcomes and Benefits

- › Increased reliability and resilience on the transmission and distribution system by reducing the frequency, scale, and duration of disruptions that would otherwise destabilize the system.
- › Significant community benefits through enhanced use of existing renewable resources, the opportunity for additional renewables, reduced frequency and impact of power disruptions, and increased availability of clean electrical energy for beneficial uses.
- › Immediate estimated economic savings of \$300,000 by replacing grid services provided by fossil fuels with renewable energy, and long-term economic benefits from reduced reliance on fossil fuels that are subject to price volatility.
- › A KIUC commitment to create and/or retain high-quality, good-paying, family-supporting jobs with employer-sponsored benefits.
- › A signed memorandum of agreement between KIUC and IBEW Local Union 1260 that requires the use of local union workers on the project.
- › Technical training, upskilling, and reskilling opportunities for current employees.
- › Collaboration between Hawaiʻi State Energy Office's (HSEO) Clean Energy Wayfinder Program and local leaders to develop accessible information about the project for broad dissemination, as well as collaboration between the Clean Energy Wayfinder Program and Good Jobs Hawaiʻi to connect residents with workforce opportunities.

PROJECT DETAILS

- › **Project:**
Utility Solar Grid Forming Technology (USGFT)
- › **Applicant/Selectee:**
Hawaiʻi State Energy Office (HSEO)
and Hawaiʻi Department of Business,
Economic Development, and Tourism
- › **GRIP Program:**
Grid Innovation Program (Bipartisan
Infrastructure Law, Section 40103(b))
- › **Federal cost share:**
\$16,250,000
- › **Recipient cost share:**
\$16,250,000
- › **Project location:**
Kauaʻi, HI
- › **Project type:**
Grid Resilience

HELPFUL LINKS

- › [Grid Resilience and Innovation Partnerships Program](#)
- › [About the Grid Deployment Office](#)