



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.

INCREASING THE ABILITY TO TRANSITION TO 100% RENEWABLE ENERGY IN KAUA'I

The goal of Enabling High Penetration of Renewables with Synchronous Condenser Conversion Technology (SCCT) on the island of Kaua'i is to increase the capability of the Kaua'i Island Utility Cooperative (KIUC) electrical system to effectively transition to 100% renewable energy. The high-priority SCCT project addresses the needs of both the transmission and distribution system and uses assets in one sector to provide services to the others in a manner that reduces upgrade or expansion requirements, improves communications across sectors, and allows for more complete optimization of grid operations. This project deploys a technology application and activities to provide grid-forming capabilities of an existing generator to integrate a high-penetration of distributed renewable generation. The SCCT project will convert an existing, but stand-by, generator at the Port Allen power station to use as a synchronous condenser providing grid voltage regulation service to further the capability of the system to accommodate 100% dispatch of renewable generation sources. A project goal is to reduce the likelihood and consequences of disruptive events by enhancing renewable resource adequacy and assuring continuity of the delivery of electrical service.

Anticipated Outcomes and Benefits

- › Additional, island-wide opportunities for renewable resource contributions and operation under conditions of 100% renewable energy sources.
- › Decarbonization of the grid by fully displacing fossil fueled generation that would otherwise be deployed for system inertia.
- › Better utilization of energy storage facilities and combination systems of solar/storage/pumped hydro and the pending West Kaua'i Energy Project.
- › Grid-forming control technology with a regionally located synchronous condenser.
- › Roughly \$150 to \$300 saved per hour of operation.
- › Creation and/or retention of high-quality, good-paying, family-supporting jobs with employer-sponsored benefits.
- › Technical training, upskilling and reskilling opportunities for current employees.
- › A signed memorandum of agreement between KIUC and the IBEW Local Union 1260 that requires the use of local union workers on the project.
- › Collaboration between HSEO's 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 Hawai'i to connect residents with workforce opportunities.

PROJECT DETAILS

- › **Project:**
Enabling High Penetration of Renewables with Synchronous Condenser Conversion Technology (SCCT)
- › **Applicant/Selectee:**
Hawai'i State Energy Office (HESO) and Hawai'i Department of Business, Economic Development, and Tourism
- › **GRIP Program:**
[Grid Innovation Program](#) (Bipartisan Infrastructure Law, Section 40103(b))
- › **Federal cost share:**
\$1,675,000
- › **Recipient cost share:**
\$1,675,000
- › **Project Location:**
Hawaii
- › **Project type:**
Grid Resilience

HELPFUL LINKS

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