



Hawaiian Electric Company

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Japan-U.S. Smart Grid project on Maui to demonstrate new technologies focused on the integration of clean energy and electric vehicles

(HONOLULU) – Energy partners from the United States and Japan will collaborate on a multimillion dollar smart grid demonstration project on Maui. The project is aimed at improving integration of variable renewable energy resources, such as solar and wind power, and preparing the electric system for widespread adoption of electric vehicles.

The organizations partnering on the project include: the U.S. Department of Energy; the Hawaii Department of Business, Economic Development and Tourism (DBEDT); the Hawaii Natural Energy Institute at the University of Hawaii; Hawaiian Electric Company; Maui Electric Company; and Japan-based New Energy and Industrial Technology Development Organization (NEDO), an entity under the government of Japan's Ministry of Economy, Trade and Industry.

NEDO recently selected six Japanese companies that will work with the U.S. project partners to develop and install smart grid technologies on Maui. NEDO will provide approximately \$37 million to support the project (3 billion yen). The companies selected by NEDO include: Hitachi, Ltd.; Hewlett-Packard Japan, Ltd.; Mizuho Corporate Bank, Ltd.; Sharp Corporation; JFE Engineering Corporation; and Cyber Defense Institute, Inc.

“With its high levels of variable renewable energy, Maui is a perfect location to test these Smart Grid technologies. Through this Japanese-U.S. partnership, we can demonstrate how these technologies can help solve Maui’s energy challenges and be used in other parts of the world, especially on other island systems such as ours,” said Richard Rocheleau, Director of the Hawaii Natural Energy Institute at the University of Hawaii.

“Like Hawaii, Japan is looking for ways to better use clean energy on smaller electric systems that serve individual islands. By pooling our resources and our expertise, we can develop solutions that will help significantly increase our use of clean energy sources,” said Robbie Alm, Hawaiian Electric executive vice president.

The project will include installation of smart controls in the Kihei area on Maui at the regional and neighborhood levels to improve integration of variable renewable energy resources, such as photovoltaic systems. These technologies include distributed control systems that will manage resources such as smart inverters to regulate output of photovoltaic systems, load control devices, and controls to manage electric vehicle charging stations and battery storage systems. This NEDO project will also collaborate with an existing U.S. Department of Energy-funded project by installing the same smart control systems within the project site in the Wailea area of Maui.

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Page 2 of 2

“A smarter electric grid is a promising solution to one of the biggest challenges in deploying more renewable energy in Hawaii. Technical innovations such as smart grid applications will increase the island grid’s capability to minimize the system reliability impact of interconnected renewable energy resources and can make Hawaii a model for other areas around the world that face similar conditions,” said Estrella Seese, Acting Energy Program Administrator, DBEDT’s’s Energy Office.

In addition, to help prepare the Maui electric grid for widespread adoption of electric vehicles, the project will use an advanced charging management system to connect Maui Electric Company system controls with charging stations island-wide, allowing Maui Electric to actively manage electric vehicle charging to balance generation and load. With this advanced system, Maui Electric can make better use of the wind and solar power on the island.

The information and experience gained from this project will be used to evaluate the performance and cost effectiveness of the deployed smart systems.

Installation of the smart grid technology is expected to begin in late 2012, with the project becoming operational in 2013. The demonstration project is scheduled to run from 2013-2015.

The project is part of the Hawaii-Okinawa Partnership on Clean and Efficient Energy Development and Deployment, which was signed by the U.S. Department of Energy, Ministry of Economy, Trade and Industry of Japan, State of Hawaii and Prefecture of Okinawa in June 2010.

The Hawaii-Okinawa partnership is intended to foster the development of clean and energy efficient technologies needed to solve global energy security and climate change challenges. Japan and the United States designated Hawaii and Okinawa as the representatives for this groundbreaking partnership due to their demonstrated leadership and experience in clean energy and energy efficiency.

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