

Press Release



New Energy and Industrial Technology
Development Organization

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Japan-U.S. Collaborative Demonstration Project for World Leading Remote Island Smart Grids -NEDO Launches a Public Solicitation for a Smart Grid Project in Hawaii-

NEDO announced on February 8, 2011 that it has started to accept proposal offers for its public solicitation relating to a smart grid demonstration project in the U.S. state of Hawaii. The project will include a feasibility study and demonstration phase. The project's objective is to establish a social model using clean energy on the island of Maui, and will be jointly conducted among NEDO, the State of Hawaii, the Hawaiian Electric Company, the University of Hawaii, and the Pacific Northwest National Laboratory. The feasibility study will be carried out from April to June 2011 and the demonstration project will be carried out from July 2011 to FY 2014.

Project Overview

(I) EV Based Remote Island Smart Grid Model on Maui

In order to mitigate adverse effects on power grids, including the impact of significant changes in power frequencies caused by the fluctuating output of renewable energy, an EV management system (EVMS) will be established to control EV charging and storage batteries installed in power grids and the effectiveness of the system will be demonstrated.

(II) Smart Grid Model at a Substation with One Distribution Grid Level in Kihei (Maui County)

With the aim of improving the reliability of distribution systems, which is a common issue across the U.S., a distribution management system (DMS) compatible with higher systems will be established for mitigating the effects of voltage fluctuations from PV systems and excess loads on low-voltage transformers, and the effectiveness of the system will be demonstrated.

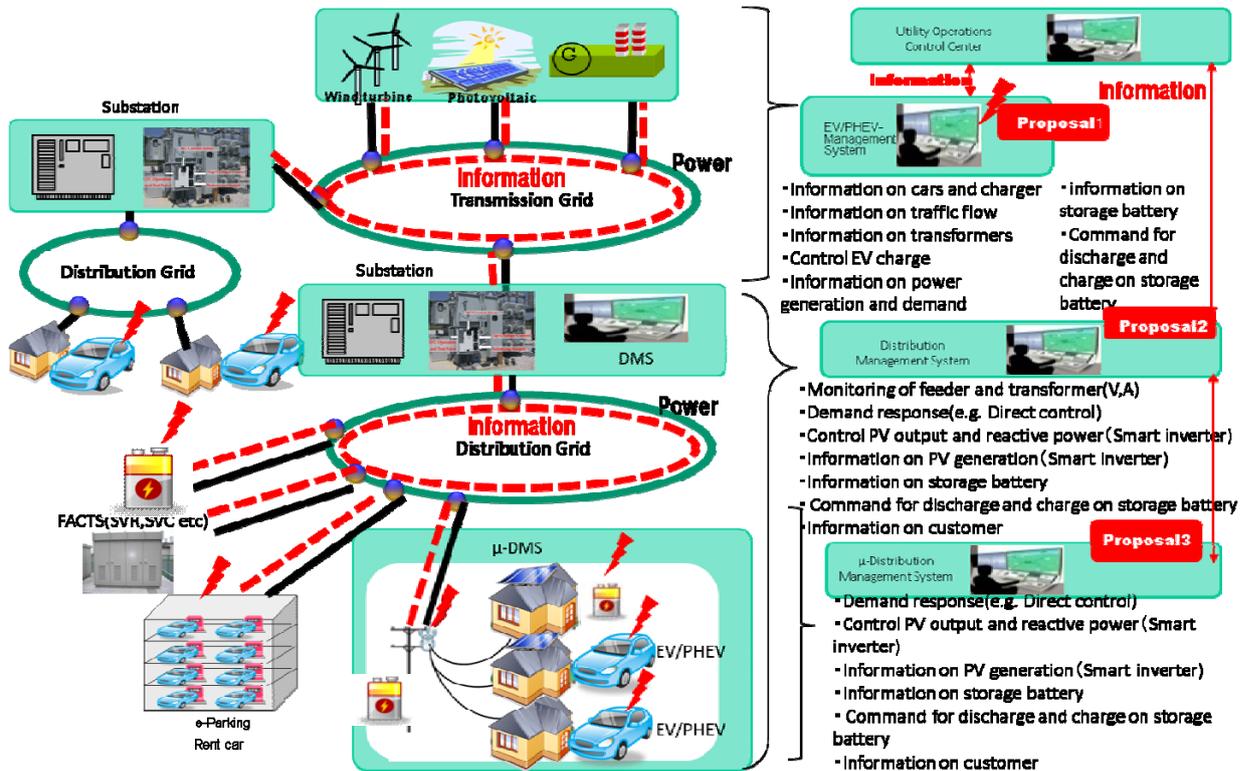
(III) Smart Grid Project for Low-voltage Transformer Level Systems

A μ -DMS compatible with DMS will be established at a level of low-voltage transformer

equipped with PV systems and EV charging for mitigating the effects of excess loads on low-voltage transformers, and the effectiveness of the system will be demonstrated.

(IV) Comprehensive Research

Comprehensive research will be collaboratively carried out with the U.S. to analyze and evaluate the effectiveness and economic efficiency of the project. Business models will also be established and assessed.



Background

Remote islands share common issues such as inefficient energy security, very high energy costs and environmental restrictions, so the need for renewable energy is greater than other areas. The introduction of renewable energy is being promoted particularly in Hawaii and a Smart Grid demonstration* is being implemented backed by a budget from the United States Department of Energy.

In light of this situation, a “Memorandum of Cooperation among the United States Department of Energy and the Ministry of Economy, Trade and Industry of Japan and the State of Hawaii and Okinawa Prefecture Creating the Hawaii-Okinawa Partnership on Clean and Efficient Energy Development and Deployment” was concluded in June 2010, in accordance with the Japan-U.S. Clean Energy Technologies Action Plan agreed to during discussions held at the Japan-U.S. summit in November 2009. Also, based on the Memorandum, NEDO and the State of Hawaii concluded a Letter of Intent in October 2010 concerning demonstration projects and research on smart grid technologies. Under these

agreements, NEDO, the State of Hawaii, the Hawaiian Electric Company, the University of Hawaii, and the Pacific Northwest National Laboratory will collaboratively conduct a demonstration project for world-leading remote island smart grids.

*A smart grid project conducted mainly by GE has already been launched on the island of Maui with a budget of US\$ 15 million.

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