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Title: DoD Renewable Energy Activities: NREL Project Collaboratiions Across the Services

Category: Build Your Own Session

Sub-Category: Energy

Abstract Text: Renewable energy projects are central to DoD and the Services achieving compliance with applicable legislative, administrative and Service specific energy and GHG redcution requirements. The Defense Funding Authorization Act (DFAA) has established requirements for the 25% use of both electric and thermal renewable energy by 2025. The Army and the Navy have set aggressive Net Zero Energy Installation (NZEI) site implementation goals which rely on use of renewable energy. Energy security needs will be met through microgrid implementation of which the integration of onsite renewable energy projects is an essential element.

This session will provide an update of NREL supported DoD activities including: 1)the latest in renewable energy project implementation through alternative financing mechanisms; 2)NZEI project implementation and lessons learned for each of the Services demonstration projects; 3)an overview of OSD funded microgrid planning and design project demonstrations for multiple sites; 4)an overview of emerging Waste-to-Energy (WTE)project technologies and applications including in-theater projects; and 5)a proposed enterprise level systems approach to energy management including a project management information system and use of pilot projects to facilitate system implementation.

The proposed session structure is outlined below. The presentations will be collaboratively developed with the DoD/Service project lead and NREL support lead.

Session #1: "Federal Renewable Energy Project Implementation: What's Working and Why": Robert Westby-NREL. Commercially viable RE technologies, project economic drivers, project construct scenarios and alternative financing implementation mechanisms will be presented.

Session #2: Net Zero Energy Installation (NZEI) Activities Overview: Sam Booth-NREL. The Service's demonstration sites: MCAS Miramar; the Air Force Academy;the Pahokuloa Training Area and Ft. Carson and the NDW South Potomac demonstration sites will be presented including the findings of the first draft of the replicable template for NZEI implementation.

Sessions #3: Mircogrid Planning and Design: Kim Massey-NREL Group Manager Grid Dispatch). OSD through the Marines and Air Force have provided funding to NREL for the planning and design of microgrids for MCAS Miramar and the Air Force Academy. An update will be provided on this work including the leading edge V2G demonstration and renewable integraion work at Ft. Carson.

Session #4: Waste-To-Energy (WTE)Technologies and Applicatons: Jerry Davis-NREL Senior Project Engineer. A technology overview and deployment projects will be presented including the Ft. Irwin municipal solid waste (MSW)project and a proposed 100 MW Ft. Bliss MSW/concentrating solar power(CSP) hybrid project.

Session #5: Enterprise Level Approach to Energy Management: Steve Gorin-NREL Executive Director DoD Initiative. The approach of utilizing intial pilots to build capacity with an enterprise approach to drive replication will be presented. The expected outcomes include support of top level policy development, investment prioritization, budget formulation, metrics monitoring and standardized reporting.

Session #6: Discsusion panel with all speakers