

Catalyzing RE Project Development

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REopt Screenings Catalyze Development of Hundreds of Megawatts of Renewable Energy

The National Renewable Energy Laboratory's (NREL) REopt tool is a first step in the renewable energy project development process. REopt is used to develop an enterprise-level strategy to meet renewable energy goals. REopt quickly and efficiently screens potential opportunities across a wide portfolio of sites, examines scenarios and sensitivities, and prioritizes opportunities for further study and investment. REopt has been used to evaluate opportunities at thousands of sites in the federal government and private sector and has helped organizations to focus limited resources on projects with the highest chance of success.

The mission of the National Park Service (NPS) is to protect our natural and cultural resources for future generations. The use of renewable energy at our facilities is a key strategy to meet this mission. NREL's REopt tool has allowed us for the first time in our history to better understand opportunities at NPS facilities to deploy renewable energy."

**Shawn Norton,
National Park Service**

NREL's REopt analysis has helped the Forest Service evaluate the suitability of renewable energy options for 120 facilities. The REopt analysis was a big step forward in moving toward our energy management goals."

**Myra Williamson,
U.S. Forest Service**

Army and Navy RE Development

The U.S. Army and Navy used the REopt screening process to develop a portfolio of on-site, cost-effective projects to contribute to their energy goals. The agencies invested in project development at many of the sites identified in REopt, and this ultimately led to procurement actions for approximately 260 MW of RE on Federal lands.

REopt Screenings Lead to RE in Procurement at Army and Navy Bases

Action	Army	Navy
Bases screened by REopt	180	91
Cost-effective projects identified by REopt	4,000 MW	919 MW
Projects that received follow-on project development investment by agency	900 MW	306 MW
Projects resulting in procurement action (RFPs, requests for information)	99 MW ¹	163 MW ²
Projects under construction	18 MW ³	22 MW ⁴

1. Fort Benning, Fort Drum, Fort Huachuca, Fort Irwin, Tooele Wind
2. Joint Base (JB) Pearl Harbor Hickam, Naval Base (NB) Guam, JB Anacostia Bolling, Marine Corps Base (MCB) Lejeune, NB Ventura County, NWS Seal Beach, NWS Earle, Hawaii distributed PV
3. Fort Huachuca
4. MCB Lejeune, Hawaii distributed PV

The Army sees high value from REopt findings when it came to deactivating projects. It used the results as an authoritative source to lay down a project and move on. The Army views walking away from bad deals to be just as valuable if not more so than signing a good deal."

**Katy Christiansen
NREL staff on assignment to Army Office of Energy Initiatives**

Case Study: U.S. Army Fort Huachuca

NREL's REopt screening for the US Army Office of Energy Initiatives identified Fort Huachuca as a top candidate for photovoltaics. After conducting a more detailed evaluation of the site, the U.S. Army awarded a contract to Tucson Electric Power (TEP) to build an 18 MW PV system in 2014 (phase 1 of 2). At the time of construction, this was the largest U.S. Department of Defense solar array on a military installation, representing about 25% of the annual installation electricity requirement of Fort Huachuca.



U.S. Army photo by Tanja Linton

Case Study: U.S. Marine Corps Camp Lejeune

NREL worked with the Navy and Marine Corps to conduct an RE screening of 91 Navy and Marine Corps bases. Marine Corps Base Camp Lejeune was identified as a top opportunity in this screening, and, following a more detailed site assessment and feasibility study, the Navy and Marine Corps developed a 13 MW (AC) solar facility at Camp Lejeune in partnership with the utility Duke Energy in 2015.



U.S. Marine Corps photo by Staff Sgt. Neill A. Sevelius

About REopt

REopt is NREL's modeling platform for energy systems integration and optimization. Formulated as a mixed-integer linear program, it is used for techno-economic analysis of renewable and conventional generation, energy storage, dispatchable loads, and energy efficiency that help clients meet cost savings and energy performance goals.