



OFFICE OF ENERGY INITIATIVES

Securing Army installations with *energy*
that is *resilient*, *affordable*, and *sustainable*

Working with Utilities to Increase Installation Resilience

Mr. Michael McGhee

15 November 2017

Assistant Secretary of the Army (Installations, Energy & Environment)



Army Office of Energy Initiatives (OEI)



Established by the Secretary of the Army first as a task force in 2011, then as a permanent office in 2014

- Serves as central management office for Army's development, implementation and oversight of **large-scale renewable and alternative energy projects** that leverage private financing
- Secures Army installations with energy that is **resilient, affordable and sustainable**
- Focused on creating an **"islandable" capability** – energy security projects that include onsite generation, storage/supply, and controls



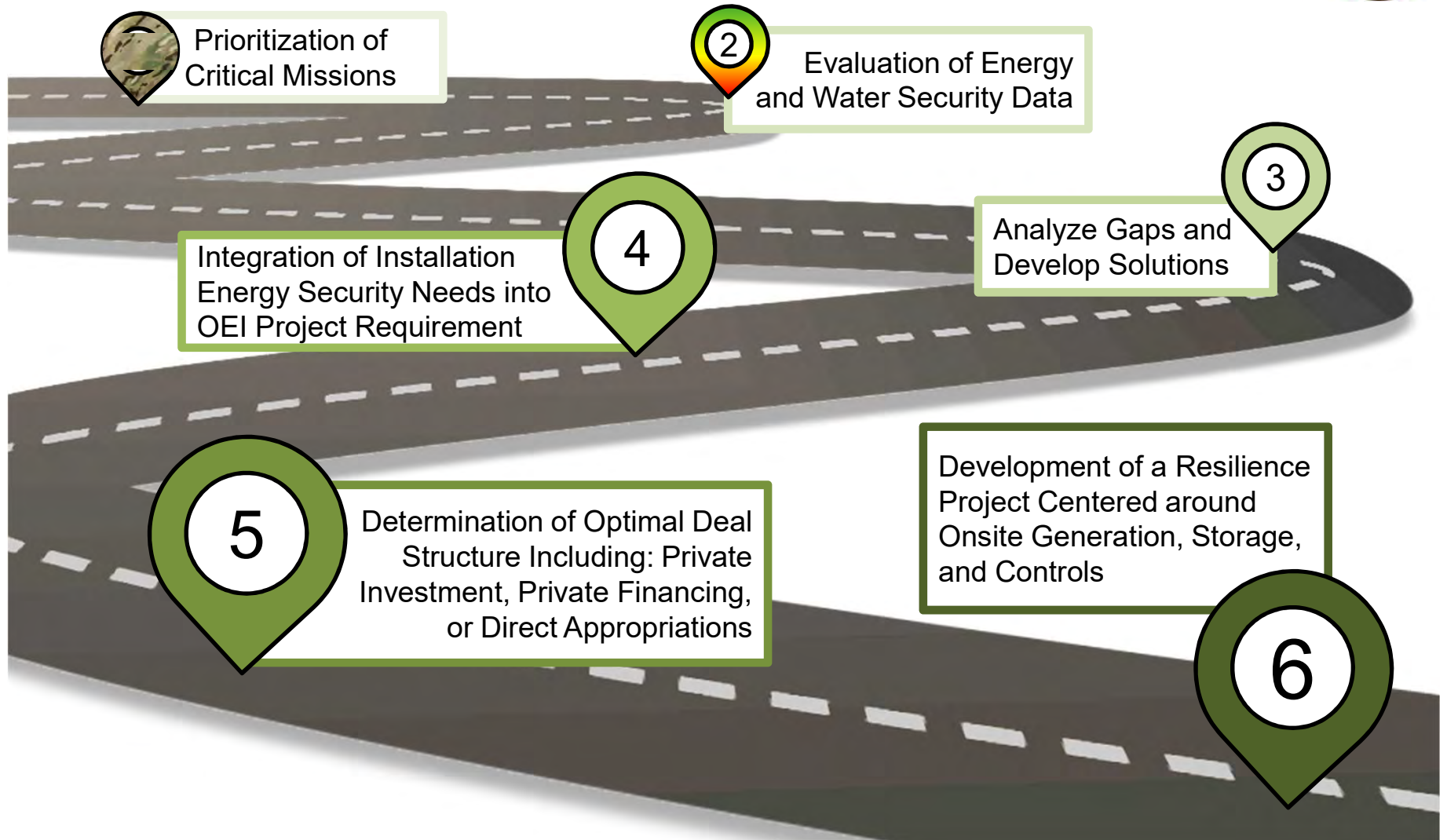
Redstone Arsenal, Alabama: 10 megawatt (MW) alternating current solar project with Army's first privately funded, commercially available battery storage solution



Fort Hood, Texas: 65 MW AC Hybrid Wind & Solar Projects; Expected to provide \$100 million in cost avoidance over the term of the 30-year contract



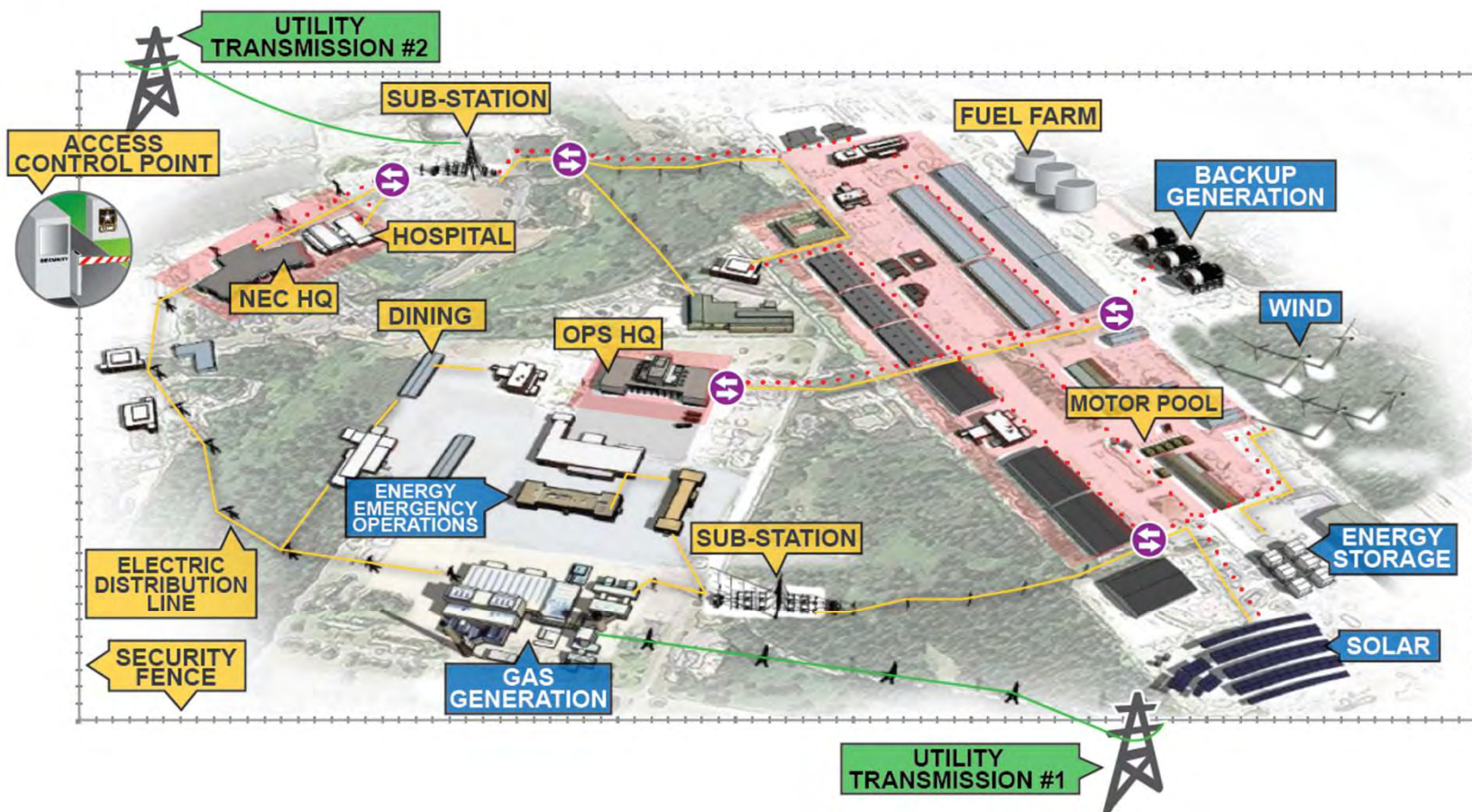
Roadmap: OEI Project Support for Installation Resilience



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Asset Integration for Increased Resilience



ARMY ASSETS	RESILIENCY ASSETS	Utility Transmission	Electrical Grid	Secure Installation Microgrid	Critical Missions	Electrical Switch
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The Value of Utility Partnerships



The Army's servicing utilities are trusted partners with critical knowledge of off-post transmission and on-post distribution systems

Utilities currently provide the Army with resilience and energy security services, including:

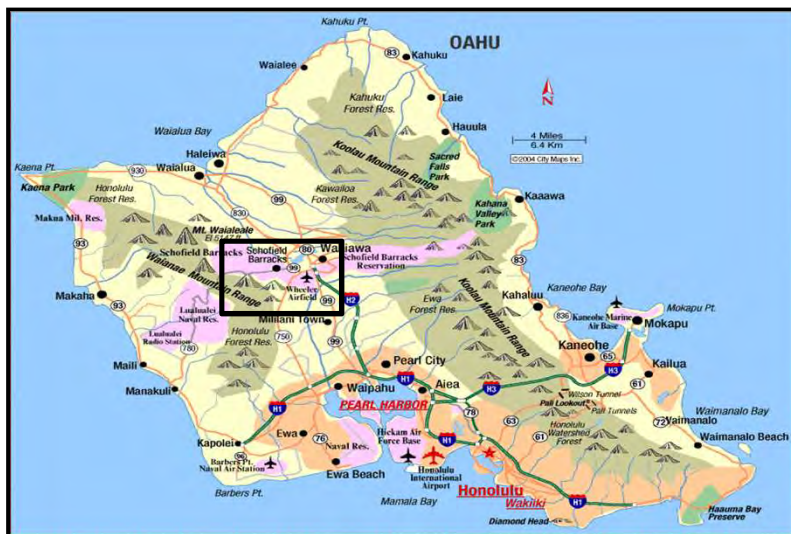
- Upgrade, replace, or add redundant supply lines
- Install SCADA system
- Replace switchgear or substation
- Install generation
- System modeling, studies, & testing
- Micro-Grids

Photo from Al Puente, NREL/PIX 01320

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Shared Resilience Benefits: Schofield Barracks, HI



Project Concept

Hawaiian Electric will construct, own, operate and maintain a 50 MW biofuel/conventional fuel power generation plant on Schofield Barracks

Army Benefit

During grid emergency, plant will provide 50 MW of “first call” and blackstart capability to three Army installations simultaneously; 5 days of fuel storage onsite, 30 days of fuel storage on island

**Under Construction,
Operational 2018**



As of September 2017

Utility Benefit

Hawaiian Electric will gain a critical generation facility above the tsunami strike zone, which during normal operations will power the Oahu grid

Community Benefit

During an outage, will provide three installations with 100 percent energy requirements and could provide power to part of the surrounding community

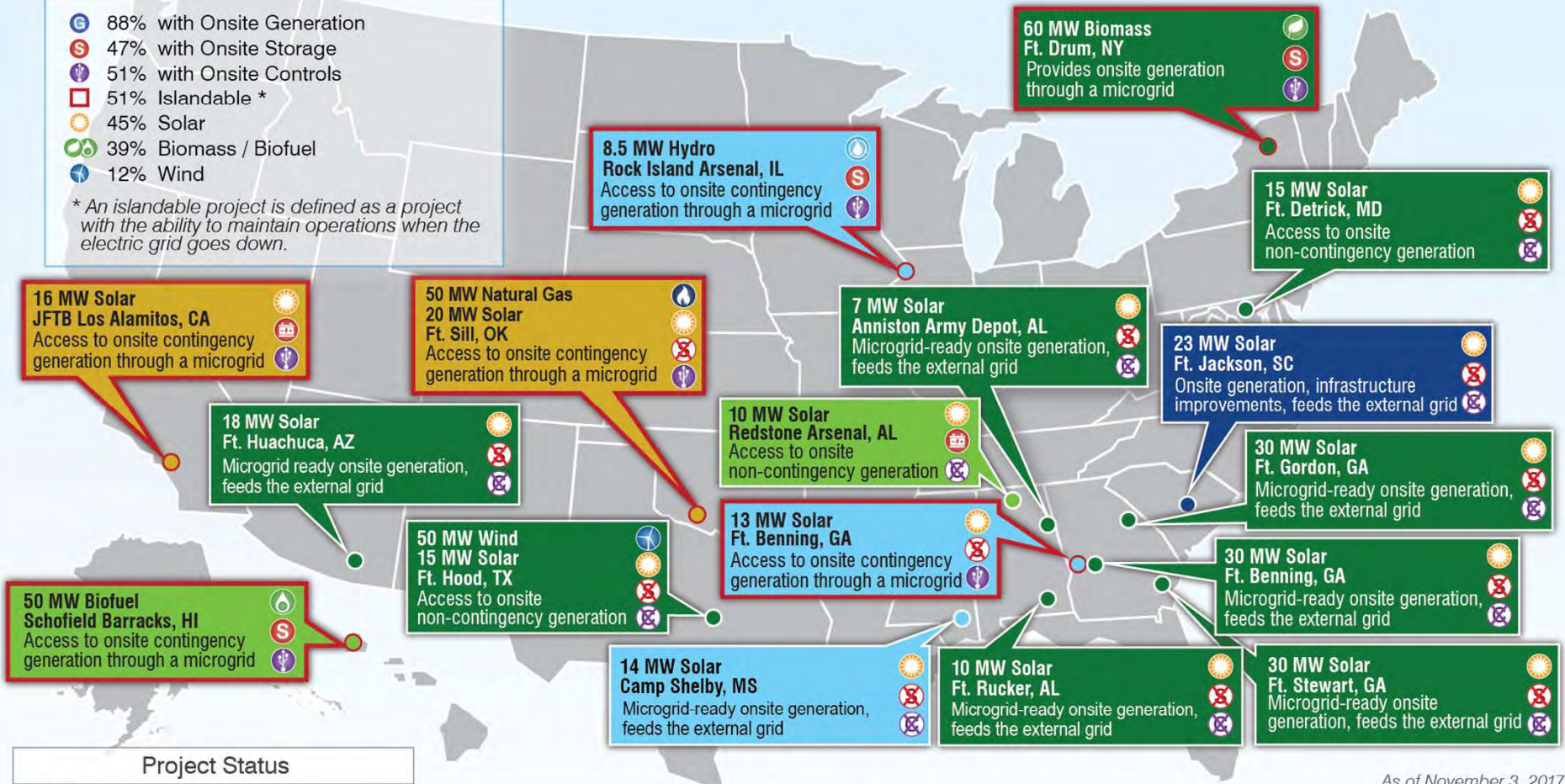
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Army OEI Renewable and Alternative Energy Security Projects

- 88% with Onsite Generation
- 47% with Onsite Storage
- 51% with Onsite Controls
- 51% Islandable *
- 45% Solar
- 39% Biomass / Biofuel
- 12% Wind

* An islandable project is defined as a project with the ability to maintain operations when the electric grid goes down.



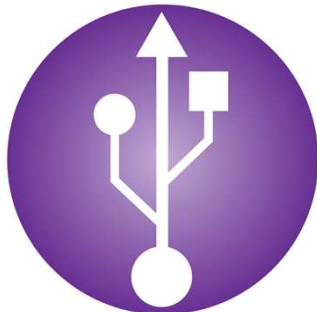
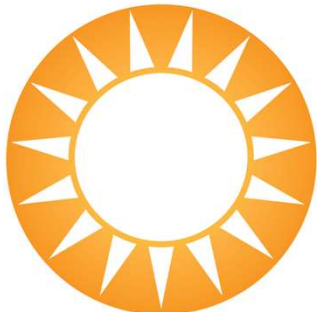
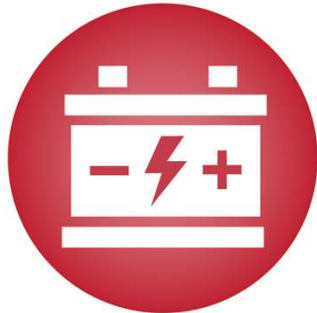
Project Status	
	Phase 1: Assessment
	Phase 2: Validation
	Phase 3: Contracts & Agreements
	Phase 4: Construction
	Phase 5: Operational

Renewable & Alternative Energy Key						

As of November 3, 2017



Contingency Microgrid RFI



Request for Information (RFI) Joint Forces Training Base Los Alamitos, CA

The Army is interested in gathering information on the feasibility of seeking competitive proposals from private, public or not-for-profit entities interested in leasing land at the Installation for the development of solar photovoltaic energy, energy storage or combination of technologies with microgrid type controls to electrically island the installation during external electrical grid outages or other threats to the security of JFTB - LA. JFTB - LA is a strategic asset for military units and other national, state and local organizations, including emergency operations for Southern California.

Responses are due by 11:59 pm Eastern on December 22, 2017. The RFI is posted on FedBizOpps:

<https://www.fbo.gov/spg/USA/COE/DACA09/SPL09-AM-17-1101/listing.html>



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