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Financing Energy Security and Resilience for Mission Critical Facilities

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OFFICE OF ENERGY INITIATIVES

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

Energy Resilience Drives OEI Priorities

“It is now undeniable that the homeland is no longer a sanctuary. ... attacks against our critical defense, government, and economic infrastructure must be anticipated”

National Defense Strategy 2018

“The Secretary of Defense shall ensure the readiness of the armed forces for their military missions by pursuing energy security and energy resilience”

10 USC 2911

■ Improve Mission Readiness

- Energy and water resources are critical mission enablers required to train, sustain, and deploy a globally responsive Army

■ Modernize Energy Systems

- New capabilities emerging from advances in distributed energy, smart grids and storage technologies

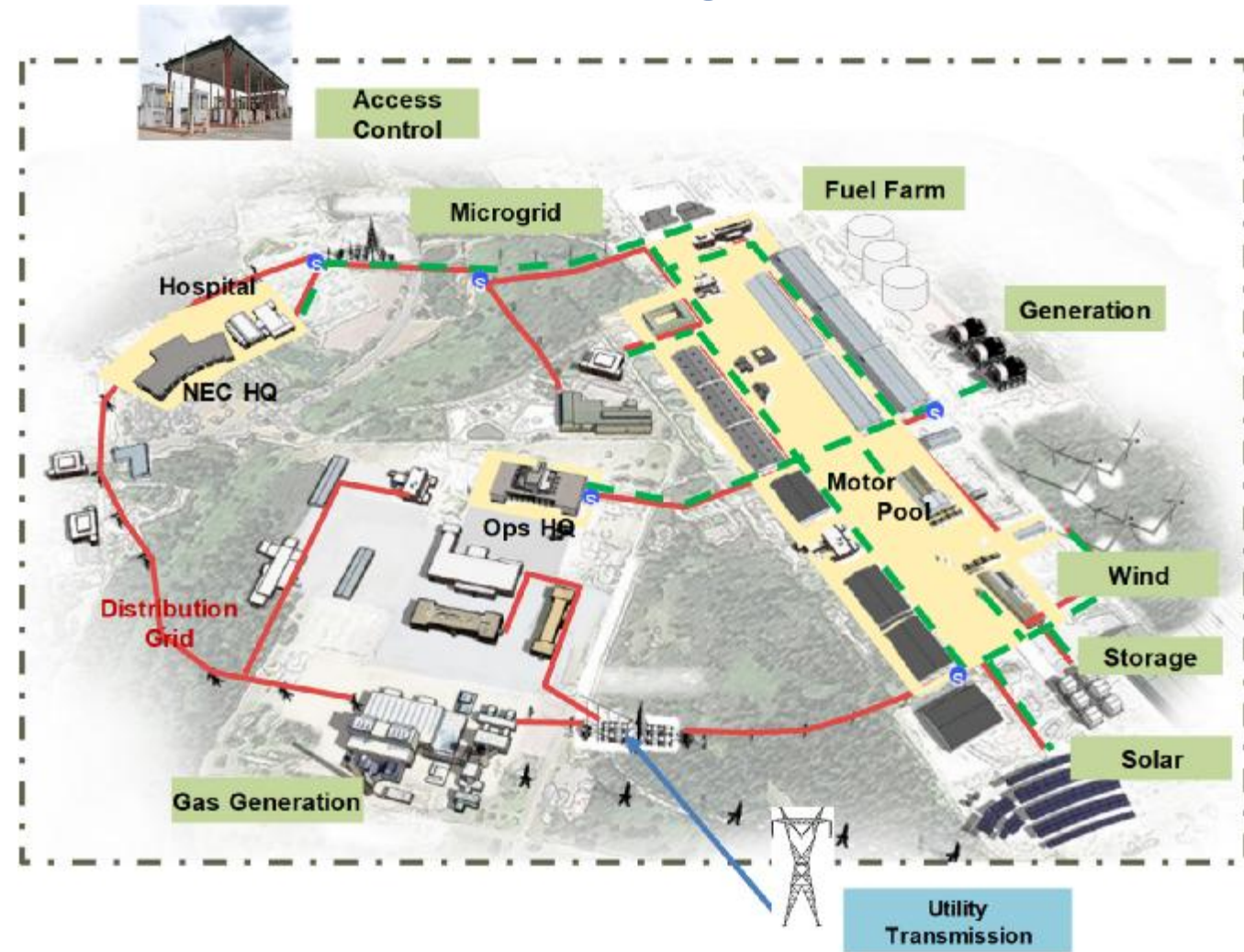
■ Reform Army Business Practices

- Attract private sector capabilities and capital to ensure Army energy systems are equipped with best capabilities to withstand modern threats



Installation Energy Resilience Concept

- Army Directive 2017-07 (Installation Energy and Water Security Policy) for Mission sustainment:
 - Assured access to resource supply (14 days supply for critical missions)
 - Reliable infrastructure condition
 - Effective system operations
- Resilient Installations Combine:
 - On-site generation
 - Renewables
 - Storage
 - Advanced controls
 - Cybersecurity
 - Campus microgrids
 - Mutual assistance for power restoration
 - Electric vehicles



The Office of Energy Initiatives

- Enhances mission readiness by adapting changes in the energy business to modernize aged installation energy systems that were not designed for the complex requirements of modern battle systems
- The Army's central office with expertise supporting commanders to identify, fund, build, and operate resilient energy capabilities to:
 - Reduce the risk of power disruption emergencies through preparedness, mitigation, and prevention activities
 - Develop response and recovery capabilities
 - Manage energy costs
- Collaborates with the private sector to attract innovation and capital

Army installations were without power for a combined 10,300 hours in 2017

Financing Energy Resilience

- Requirements are determined by energy resilience assessments with mission owners
 - Critical mission resilience capability for a minimum of 14 days
- OEI leverages private investment in resilient energy capabilities to enhance mission readiness
 - Onsite generation, storage, and controls
- Funding strategies leverage all DoD authorities
 - Leases, ERCIP, MILCON, ESPC/UESC, UP, mutual aid
- OEI continuously adapts Army business models to strengthen alliances and attract new partners in the private sector

USAG Hawaii - Utility Financed Example

Readiness Capabilities: 30 Day Contingency Power Schofield Barracks, Wheeler Army Airfield and Kunia Field Station can be powered from an on-post power plant for 30 days in an emergency

Modernized Energy System A Hawaiian Electric state-of-the-art 50 MW biofuel/multi-fuel power generation plant, fuel storage, and advanced controls

New Army Business Model Utility investments for a more resilient community provide resilient energy capabilities at no additional cost to the Army.
Hawaiian Electric provides resilience energy capabilities to the Army as consideration for leasing a secure site.

Community Benefit A critical generation facility which powers the Oahu grid during normal operations, and can restart other power plants in an emergency.
The only baseload power generation facility on Oahu located above the tsunami strike zone.

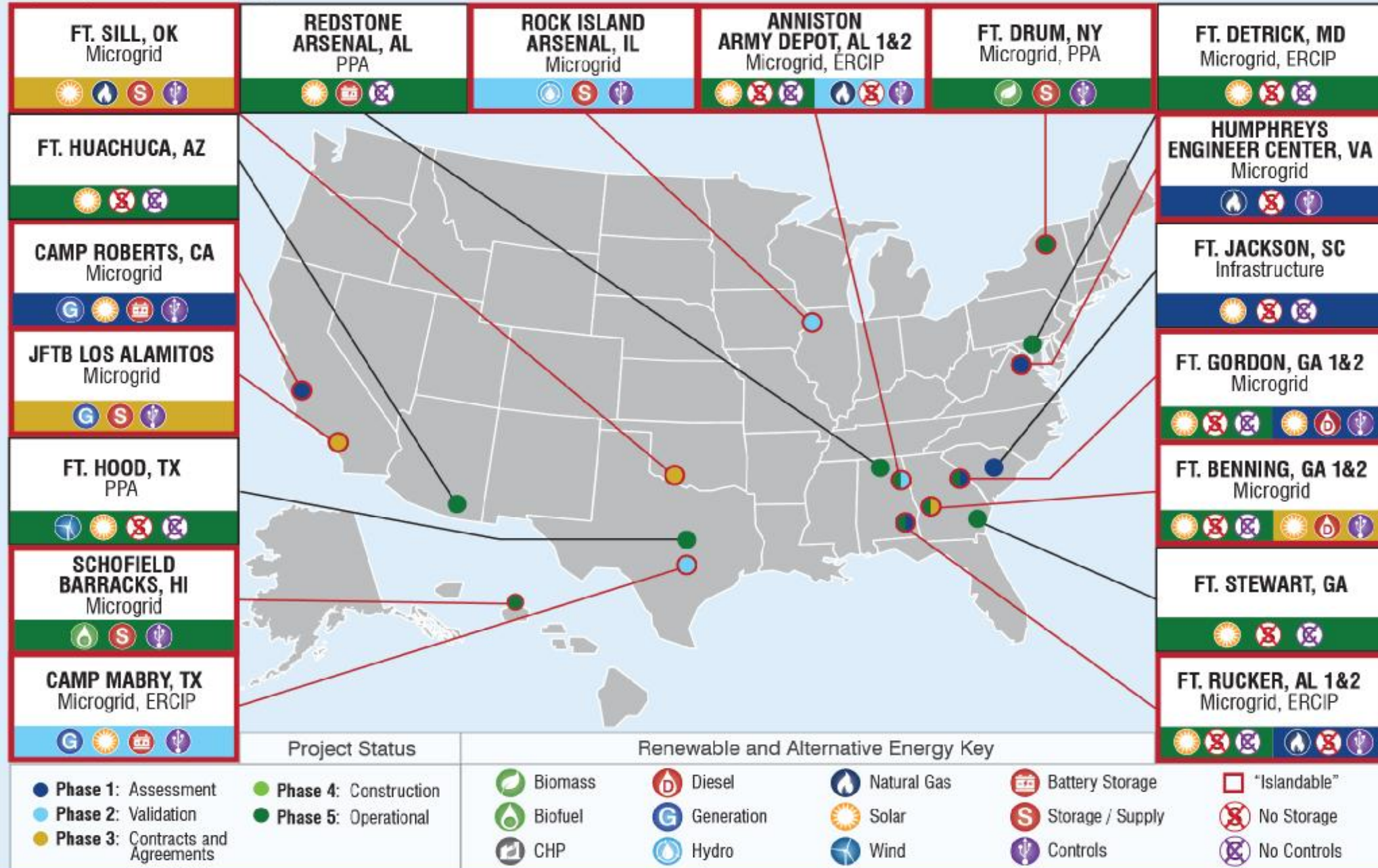
Status Operational since May 2018





Army Office of Energy Initiatives (OEI) Renewable and Alternative Energy Resilience Projects

As of July 2018



INCREASING ENERGY SECURITY AND RESILIENCE ACROSS ARMY INSTALLATIONS

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