



## U.S. ARMY OFFICE OF ENERGY INITIATIVES

SECURING ARMY INSTALLATIONS WITH ENERGY  
THAT IS RESILIENT, AFFORDABLE, AND SUSTAINABLE

# Advanced Energy Group Washington 20Q1 Stakeholder Challenge: Resilience, Critical Infrastructure & Microgrids

Mr. Michael McGhee, P.E.  
Executive Director  
U.S. Army Office of Energy Initiatives  
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Overall Classification of this Brief: UNCLASSIFIED

**AMERICA'S ARMY:**  
Globally Responsive, Regionally Engaged





*"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**

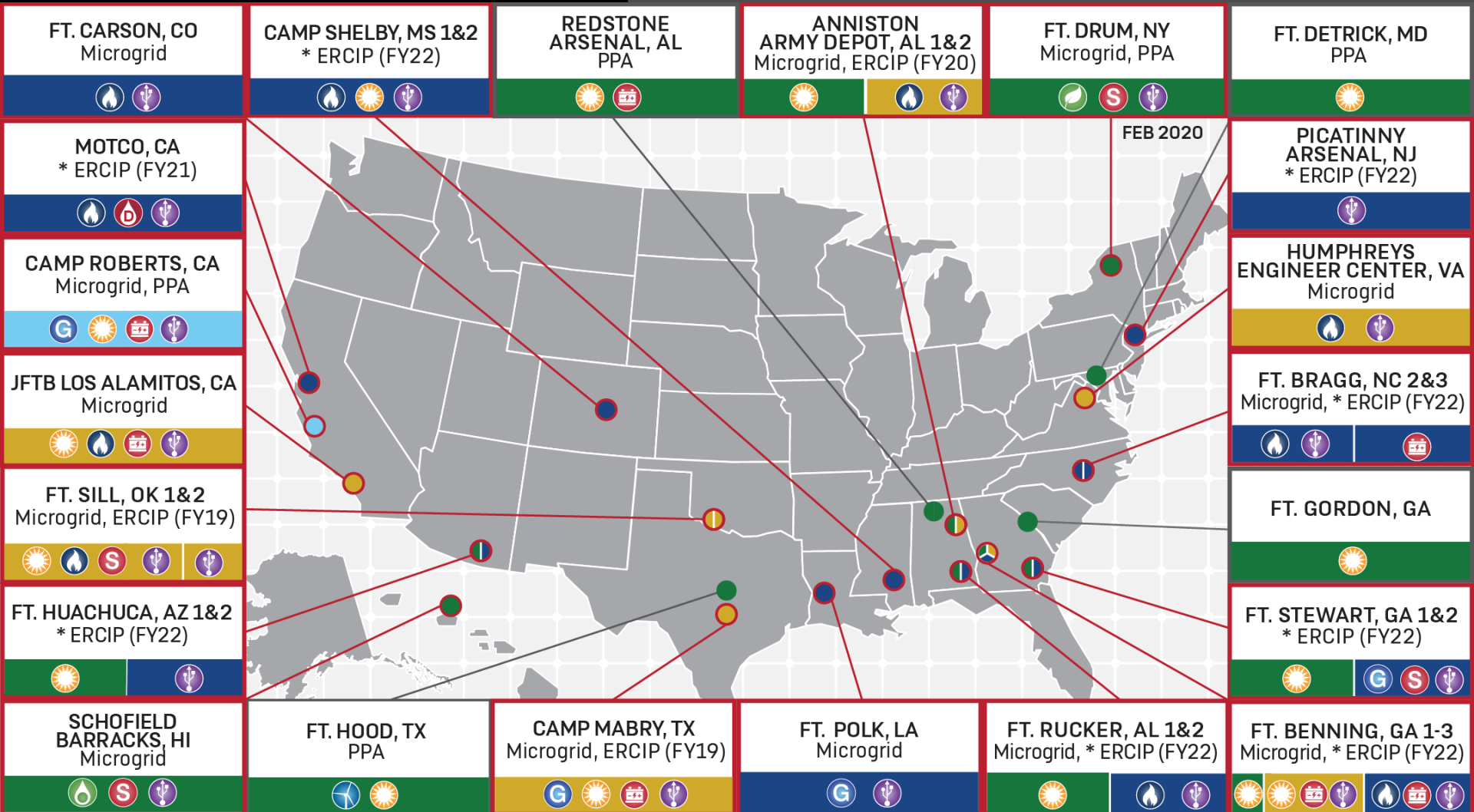
- Improve Mission **Readiness**
  - Energy and water resources are critical mission enablers required to train, sustain, and deploy a globally responsive Army
- **Modernize Energy Systems**
  - New capabilities emerging from advances in distributed energy, smart grids, and storage technologies
- **Reform Army Business Practices**
  - Attract private sector capabilities and capital to ensure Army energy systems are equipped with best capabilities to withstand modern threats





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# Current Energy Projects Portfolio



**Renewable and Alternative Energy Key**

- Battery Storage
- Biofuel
- Biomass
- Controls
- Diesel
- Generation
- Natural Gas
- Solar
- Storage / Supply
- Wind

**Islandable Capability**

PPA - Power Purchase Agreement

ERCIP - Energy Resilience and Conservation Investment Program

\* Proposed ERCIP Project

**Project Status**

- Phase 1: Assessment
- Phase 2: Validation
- Phase 3: Contracts and Agreements
- Phase 4: Construction
- Phase 5: Operational



## 50 MW Multi-fuel Plant / 30-Day Microgrid

- Hawaiian Electric constructed, owns and operates the generation plant to provide three installations with 100% of energy requirements during a grid outage
- Located above the tsunami inundation zone, the plant is equipped with “blackstart” capability; 5 days of fuel storage onsite and 30 days of fuel storage on the island
- The project serves customers of the Oahu power grid during normal operations



ATTACHMENT A - JFTB Los Alamitos - Map Delineating the Parcels



**Notional**

## Islandable Energy Resilience Project

- The project will enhance energy resilience by providing “islandable” capability to power the base’s critical missions for a minimum of 14 days during an electrical grid outage
- During normal operations, the developer will sell power/services from the project to off-base customers via the electrical grid
- The project may also enhance grid reliability by alleviating transmission line congestion or providing other electrical grid quality-enhancing services



Regarding resilience and the decarbonization of Greater DC by 2050, there must first be an agreed-to methodology for assigning prioritization/duration for resiliency scenarios as a foundation for planning. **Sample Methodology:**

Prioritization	Duration	Examples
1. Critical and uninterruptable activities	Continuous	Core government functions: Communications, police, transportation
2. Critical, initially uninterruptable, but relocatable activities	Event + X hrs/days	Some medical facilities, school populations
3. Critical but periodically interruptible activities	Periodic, X hours at a time for Y days	Heating/cooling centers, food/medicine storage,
4. Important long-term activities	Activated X hrs/days after event	Mass gathering/care facilities



# ARMY ENERGY

#PowerToWin



Michael F. McGhee, P.E.  
Executive Director, U.S. Army Office of Energy Initiatives  
O: 703-697-4100  
E: [michael.f.mcghee.civ@mail.mil](mailto:michael.f.mcghee.civ@mail.mil)