

Operations and Contingency Base Energy

NDIA E2S2



Promoting National Security Since 1919

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DoD shares many installation energy issues – and solutions – with industry...

DoD Installations Energy Strategy

- **Reduce Energy Demand** through energy efficiency and energy conservation measures
- **Increase Energy Supply** of renewable and alternative energy sources such as solar, wind, and geothermal
- **Support Technology Innovation** to develop management systems and clean energy technologies,
- **Improve Energy Security** by addressing the threat of commercial grid disruption

Source: Department of Defense Annual Energy Management Report for FY 2010



Source: <http://www.geopoliticalmonitor.com/us-military-bases-a-global-footprint-1/>

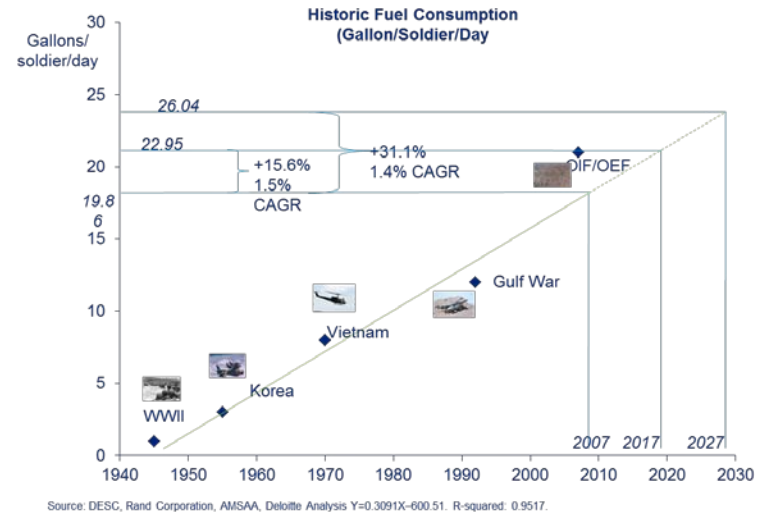
DoD can adopt commercial solutions for its installations



Source: <http://www.city-data.com/picfilesc/picc5644.php>

Operational Energy demands create unique challenges

- Our sophisticated systems depend on liquid fuels – ***and that will continue***
- Forward Operating Bases also use liquid fuels for generators
- Soldier power requirements continue to grow
- All of this energy needs to be delivered into the battle space at considerable cost & risk



Source: USMC



Key is increasing capability through improved energy performance

Systems

- Time on station
- Hours in the fight
- Increased range
- Greater lift capacity and climb rate, etc.



Bases

- Reduced exposure and vulnerability
- Greater self-sufficiency
- Greater resiliency



Raises many issues across technology, policy, organization & defense market

Technology

- Alternative fuels
- Renewable generation
- Distributed generation
- “Smart grid” technologies

Policy

- Acquisition & requirements
- Tools and methods
- Metrics, tracking, reporting
- Behavior change

Governance, Roles

- OSD – OEPP
- Services’ response
- Interactions, Working Groups
- Warfighters

“Markets” & Partnerships

- Defense & Aerospace industry
- Renewable energy vendors
- Other agencies (ARPA-E, USDA, e.g.)
- Fuels providers



PACOM DOTMLPF Solutions to Energy Capability Gaps

Installation

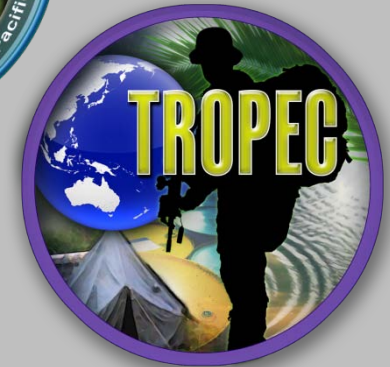
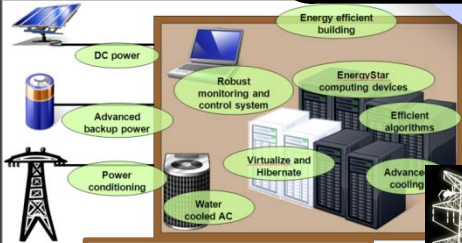
Operations

Local

Energy Strategy in Cooperation with HI

Hawaii Hydrogen Initiative (H2I)

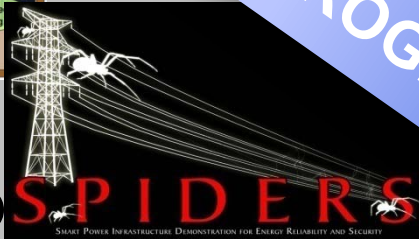
UH-PACOM MOU



PROGRESSION

Regional

AOR Installation Energy Strategy



OPLAN/
CONPLAN/Exercise
/Expeditionary
Modifications