

DoD Energy Innovation on Military Installations

November 5, 2014

Dr. James Galvin
Program Manager, ESTCP Energy & Water Program

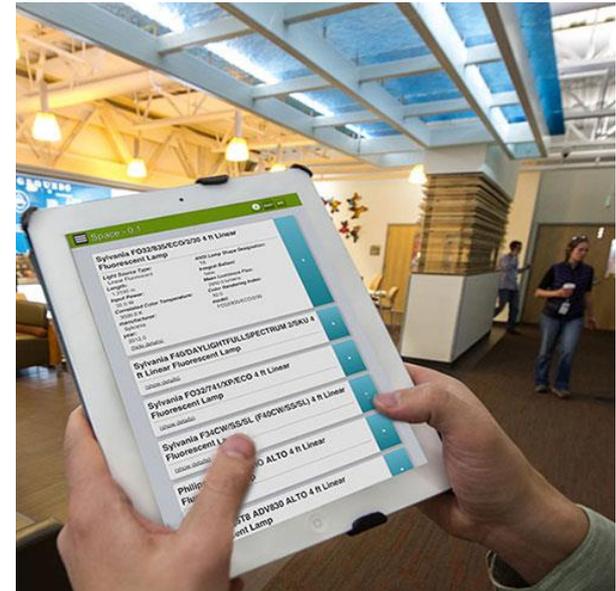


Energy Audit Demonstrations

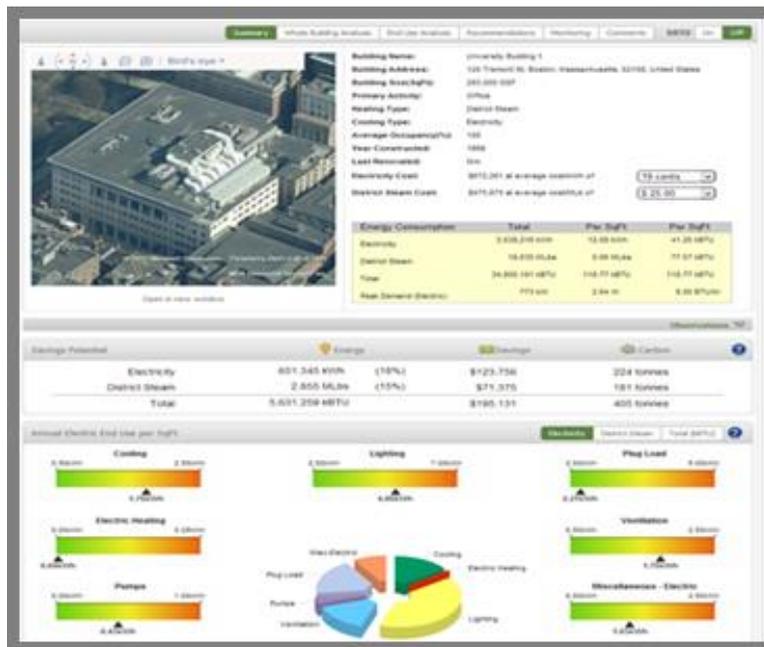


1. Traditional energy audits are expensive and time consuming.

2. Tablet-based software may improve the quality and reduce the cost of energy audits.



EW-201260

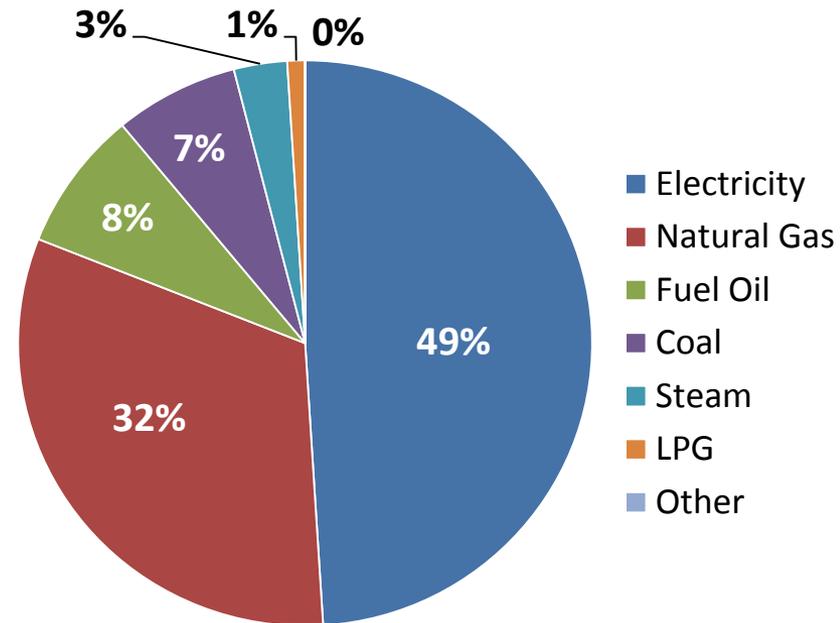
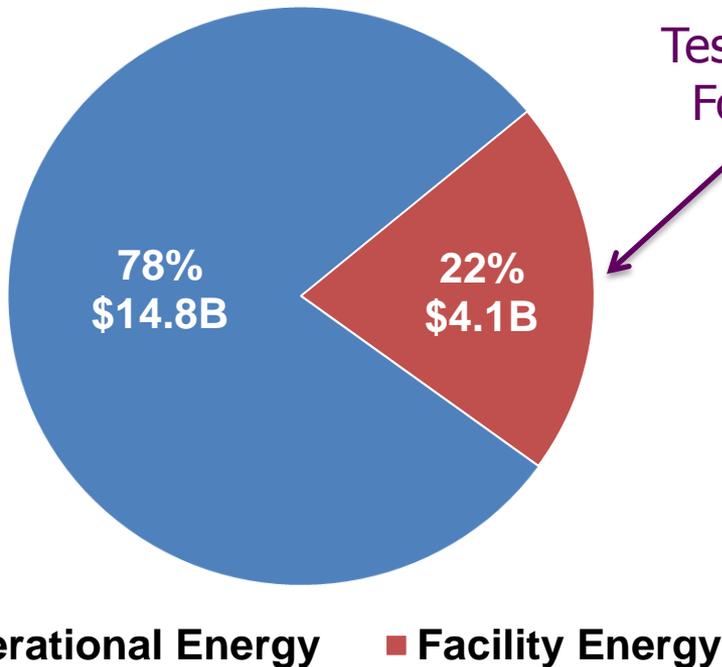


EW-201261

3. An ESTCP demonstration showed that a “touchless” energy audit using Remote Building Analytics requires only about 25% of the time and money of a traditional energy audit.

DoD Energy Use, FY 2013

DoD Facility & Operational Energy Cost: \$18.8B



Military Installation Energy Usage

Energy Test Bed Strategic Direction



Smart Secure Installation Energy Management

- Microgrids
- Energy Storage
- Ancillary Service Markets



Efficient Integrated Buildings

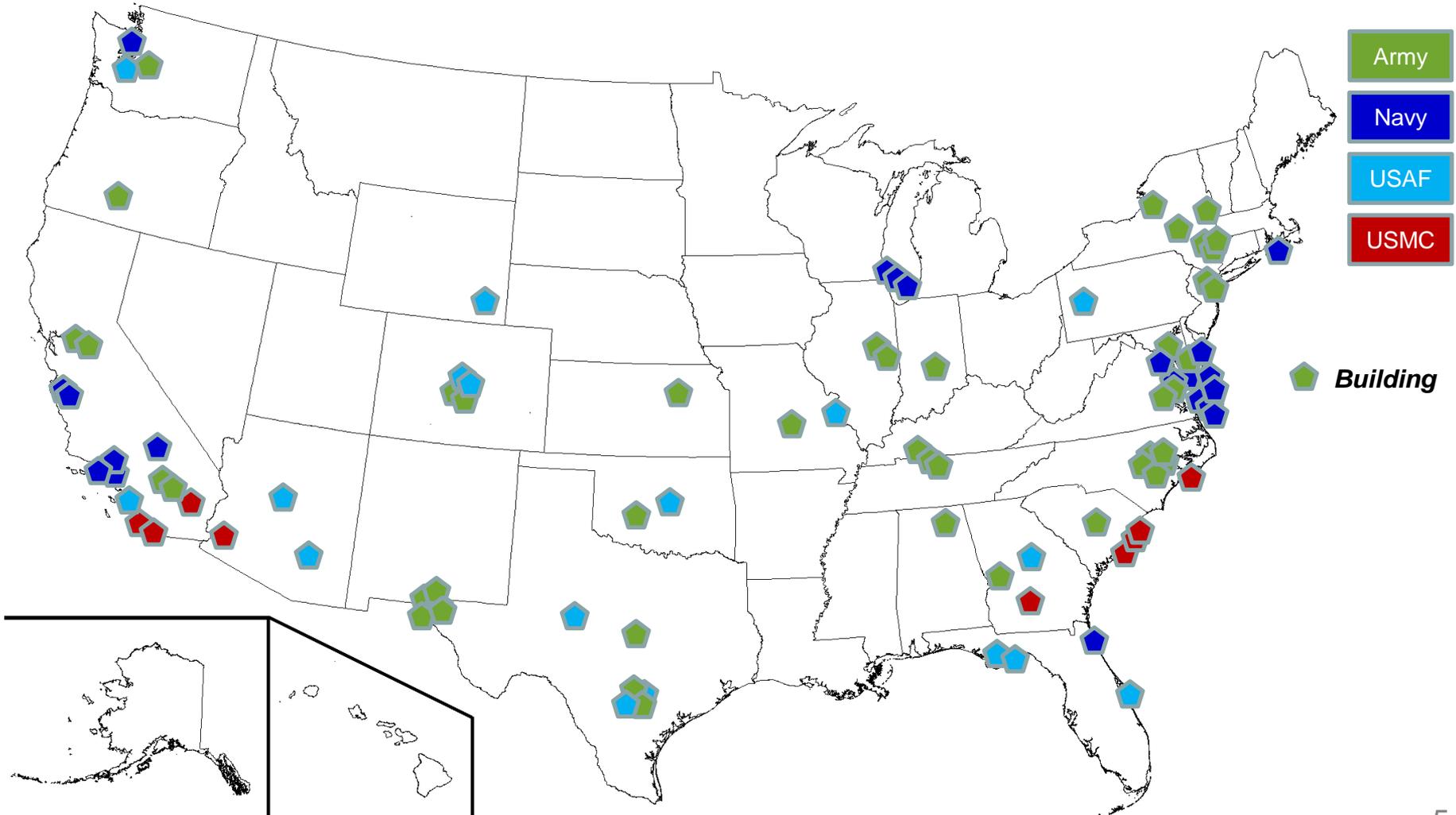
- Design, Retrofit, Operate
- Enterprise Optimized Investment
 - Advanced Components
- Intelligent Building Management



Distributed Generation

- Cost Effective
 - On Site
- Renewables Emphasis

Building Technologies Projects



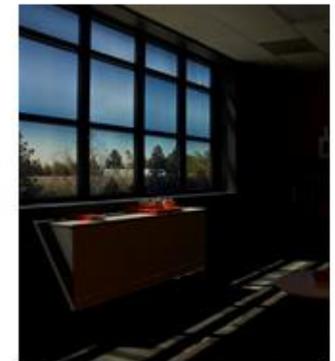
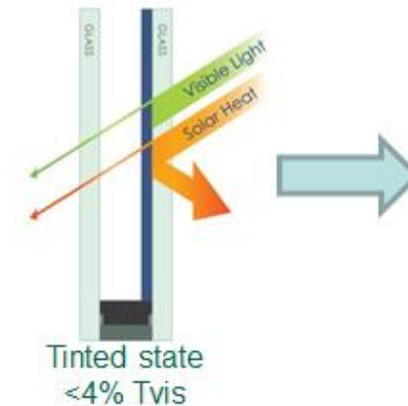
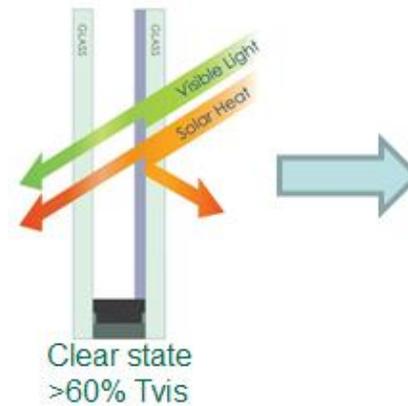
Example Energy Technology Projects

view

COGENRA
SOLAR



Concentrating Solar and Domestic Hot Water at Port Hueneme, CA - EW-201248



Electrochromic Windows (Dynamic Glass)
EW-201252

Portsmouth Naval Shipyard Microgrid

Lead



Technologies

- Power Mngt Sys, 250kW/500kWh Battery (Li-Ion)
- Existing 13MW of generation

Objective

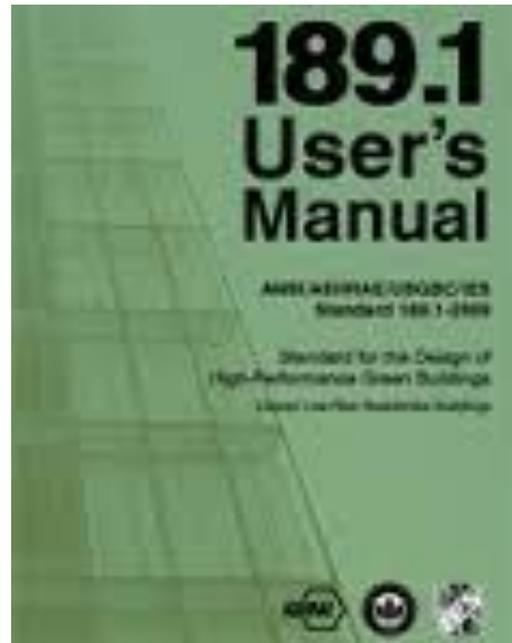
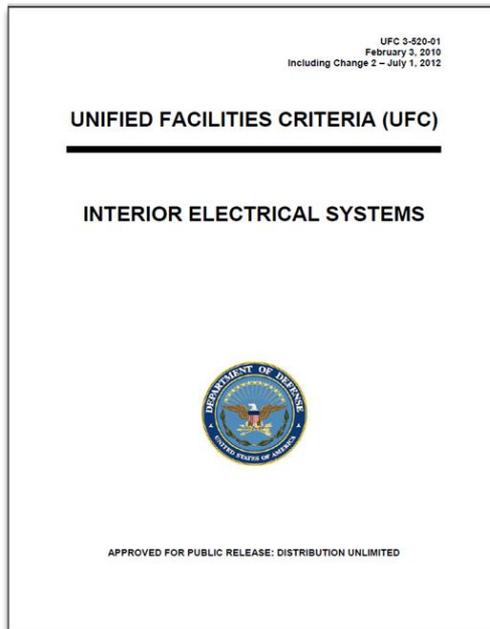
- Fast load shedding, energy storage
- Operate existing 13MW of generation during grid outage

Expected Results

- Maintain critical loads
- Participate in ISO-NE Ancillary Services Market (volt/freq)



How do we improve Technology Transfer?




ORDER FOR SUPPLIES OR SERVICES

ACCEPTED

UFCs, Standards, Contracts?



Meeting DoD's Environmental Challenges

 SEARCH

[Advanced search](#)

[Subscribe to Mailing List](#) [Subscribe to RSS](#)

Home	About SERDP and ESTCP	Program Areas	News and Events	Featured Initiatives	Tools and Training	Funding Opportunities	Investigator Resources
<p>SERDP and ESTCP are the Department of Defense's environmental research programs. We harness the latest science and technology to develop and demonstrate innovative, cost-effective and sustainable solutions. These innovations improve DoD's environmental performance, reduce costs, and enhance mission capabilities. Learn more about our programs.</p>	<ul style="list-style-type: none"> Energy and Water Environmental Restoration Munitions Response Resource Conservation and Climate Change Weapons Systems and Platforms 				<ul style="list-style-type: none"> Cold Spray Technology for Aircraft Component Repair Source Zone Architecture Key to DNAPL Remediation ← Ecological Research Supports Training at Camp Lejeune Leveraging Advanced Sensor Data to Clean Up UXO Biopolymers Maintain Training Berms, Prevent Contamination Rare-Earth Corrosion Protection Mechanisms 		

SERDP Solicitations

 Investing in environmental research and development.

- ◆ **FY 2014 SEED Solicitation** released October 25; proposals are **due March 12, 2013.**
- ◆ **FY 2014 Core Solicitation** released October 25; pre-proposals were due January 8, 2013.

ESTCP Solicitations

 Demonstrating innovative environmental technologies at DoD sites.

- ◆ **NEW! FY 2014 Installation Energy Solicitation** released February 12; pre-proposals **due March 28, 2013.**

News

[Science informs policy on assessing the impacts of climate change to coastal installations.](#) - Posted 2/27

[DoD releases Climate Change Adaptation Roadmap in support of sustainability planning.](#) - Posted 2/20

[ESTCP solicits Installation Energy proposals for FY 2014 funding.](#) - Posted 2/12

◆ [More News](#)

Upcoming Events

Mar 4-6 [SERDP and ESTCP Exhibit at RemTEC Summit](#)

Mar 5 [ITRC Training: LNAPL Part 1: An Improved Understanding of LNAPL Behavior in the Subsurface, 2:00 p.m. – 4:15 p.m. EST](#)

Mar 7 [ITRC Training: LNAPL Part 2: LNAPL Characterization and Recoverability, 11:00 a.m. – 1:15 p.m. EST](#)

Featured Initiatives

The latest developments in science, engineering, and technology.

[Explore Featured Initiatives](#)

Tools and Training

Put innovative research and technologies to work.

[Access Tools & Training](#)

<http://www.serdp-estcp.org>