

Successful Partnerships

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Situation

- Given restrictions and limitations of funding the DOD and installations are having to find new ways to meet energy requirements and mandates.
- The term partnership and partnership tools are new to the DOD with emphasis on using others peoples money and resources to reduce cost to meet energy mandates and secure infrastructure.

PPP Terms and Tools

- PP public private partnerships
 - GSA Area Wide Contract UESC
 - ESPC Energy Savings Performance Contracts
 - CRADA Cooperative Research and Development Agreement
 - Utility Privatization
- PP public public partnerships (P3)
 - ESTCP Environmental Security Technology Certification Program
 - DOD/IACs Information Analysis Centers
- PPP public public private partnerships(P4)
 - New partnering authority in FY13 NDAA, Section 331 (10 USC §2336) allows for State and communities to enter into sole source agreements with the military to provide services

Ft. Campbell Project Overview

- ***Fort Campbell Overall Project: 5MW Ground Mount Solar Array***
 - The USA directed Fort Campbell to reduce its energy intensity by 3 percent annually through 2015 or by 30 percent by 2030. To achieve this standard Fort Campbell has been evaluating alternative energy portfolios that include biomass, natural gas from local shale formations, energy efficiency, geothermal and solar. Through this partnership Fort Campbell will be able to accelerate the solar phase of their portfolio. **This is the Army's first partnership between its local energy provider and its state to support an on-post photovoltaic solar array. State contributed \$3.1 Million.**
- **Project Description**
 - Fort Campbell will soon be home to the largest photovoltaic solar array east of the Mississippi for the U.S. Army.
 - Pennyryle Rural Electric Cooperative Corporation (RECC), the United States Army (USA) at Fort Campbell and the Cabinet are partnering to develop a 5 megawatt (MW) solar array.
 - Located on Landfill #5 near Market Garden Road and State Line Road

Overall Project Objectives

- Installation of a 5 MW photovoltaic solar array at Fort Campbell.
 - **Phase 1 – 1.8MW, UESC**
 - **Phase 2 – 3.2MW, PPA**
- Contribute to the U.S. Army's renewable energy goal.
- Contribute to energy independence and security.
- Reduce the emissions associated with Fort Campbell's energy consumption.

Utility Privatization

- To date, the Air Force has privatized 66 water, wastewater, electric and natural gas utility systems valued at \$3.6 billion. When the Air Force privatizes a utility, it conveys the entire system permanently to a municipal, private, regional, district or cooperative utility company. The agreement also includes a utility service contract for operations, maintenance and recapitalization for a period of no more than 50 years.

Utility Privatization Hill AFB

- The Air Force signed a \$281.6 million contract with City Light & Power, Inc., based in Long Beach, Calif., to take over all the electrical utility system and work at Hill..50 year contract
- The Air Force has signed a \$288 million, 50-year contract with American Water Operations and Maintenance to privatize the water distribution system and wastewater collection system

ESTCP Fort Sill Project Overview

- **Microgrid Functionality**
 - Grid Connected -Optimized use of Renewable Energy, Generation and Energy Storage
 - Intentional Islanding - Maximize microgrid reliability and uptime
- **Local Microgrid controls**
 - Embedded in components, Operational without supervisory functionality, Scalability
 - Supervisor for optimization
- **Modeling and simulation to develop controls**
 - Best of CERTS and conventional approaches
 - Layer controls on top of Gen and Inverter systems
- **R&D to develop hardware and explore future alternatives**
 - Microgrid Interconnection Switch (MIS)
 - Adaptable Trip Curve Breakers
 - Converters for Renewable Energy Microgrids with Enhanced CERTS
 - Energy Efficient Variable Frequency Drives for Variable Torque Loads
- **A 400kW microgrid demonstration**
 - Static transfer switch
 - 400kW NG generators
 - 400kW, 500kWhr battery energy storage
 - 30 kW solar
 - 2.5 kW wind
- [ESTCP](#)

Information and Analysis Centers

- **IAC Mission**

- Collect, analyze, synthesize, produce, and disseminate worldwide Scientific and Technical Information (STI).

- **Vision**

- Drive innovation and technological developments by anticipating and responding to the information needs of the defense and broader community, while enhancing collaboration through integrated Scientific and Technical Information (STI) development and dissemination.

HDIAC

- Alternative Energy
- Biometrics
- CBRN Defense
- Critical Infrastructure Protection
- Cultural Studies
- Homeland Defense & Security
- Medical
- Weapons of Mass Destruction



DSIAC

- Advanced Materials
- Autonomous Systems
- Directed Energy
- Energetics
- Military Sensing
- Non-lethal Weapons
- RMQSI
- Survivability & Vulnerability
- Weapons Systems

CSIAC

- Information Assurance
- Knowledge Management
- Modeling & Simulation
- Software Engineering

CATs are Government task orders used to execute work within HDIAC focus areas

- A CAT is separately funded work over and above HDIAC basic products that can be used to solve challenging technical problems for organizations with a government partner
- Advantages:
 - **Rapid Start** - Work can begin on a project in as little as 6 weeks after the Statement of Work is approved
 - **Expansive Technical Scope** - The HDIAC's broad scope provides numerous resources for potential projects and is especially valuable for efforts that cross multiple areas
 - **Apply the Latest Findings** - Draw from the most recent studies performed for agencies across the DoD
- \$500 K ceiling
- Up to one year to execute; requires a deliverable form of STI

Examples include:

- Publications
- Research support
- HDIAC-hosted conferences, meetings, symposia, or workshops
- Education and training activities
- Analysis that builds on DTIC-funded products and services



Drivers for Community Partnering: Section 331 of NDAA for FY13

- Enacted January 10th 2013
- Intergovernmental Support Agreements with State and Local Governments
 - In General The Secretary concerned may enter into an intergovernmental support agreement with a State or local government to provide, receive, or share installation-support services if the Secretary determines that the agreement will serve the best interests of the department by enhancing mission effectiveness or creating efficiencies or economies of scale, including by reducing costs.
- May be entered into on a sole-source basis
- May be for a term not to exceed five years
- Installation support services are those service typically provided by local government for its own needs.

DoD's Enabling Authorities For Energy

- Contracts for energy or fuel for military installations (10 USC§2922a)
- Enhanced-use Leasing (10 USC§2667)
- Acquisition of Utility Services (FAR Part 41)
- Purchase of Electricity (40 USC§591)
- Cooperative Agreements (31 USC§6305)
- Easement Authority (10 USC§2668)
- State, County and Municipal Partnerships (10 USC§2336)

Ft. Knox Success Story

- [Ft. Knox Success Story](#)

Eglin Partnership Platform

- Eglin has demonstrated success at using GSA Area Wide contract creatively and using UESC provisions.
- Generated over \$30 Million in project funding from value from Mid Bay Bridge extension.
- Agreements with Okaloosa County on wastewater treatment plant saves costs of operation and generated funding for projects over next 30 Years
- Additional agreements with Okaloosa County for Regional Airport terminal lease generates funding for projects and capital improvements for airfield
- Utility privatization contracts now in negotiation.
- More to come..