Self-Funded Energy Management Programs

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Self-Funded Energy Projects

- Motivation
- Objectives
- Stakeholders
- Approaches
- Communication
- Overcoming Obstacles
Motivation

- Energy Costs Increasing
- Facilities Aging / Deferred Maintenance
- Federal Mandates including EPACT2005
- Environmental Altruism / Good Neighbor
- Budget Limitations!

Source: DOE EIA

Natural Gas, Oil, and Electricity Prices Increasing

Services to Support One Mission
Motivation – Price Volatility

NYMEX Natural Gas Futures Near-Month Contract Settlement Price, West Texas Intermediate Crude Oil Spot Price, and Henry Hub Natural Gas Spot Price


$0
$2
$4
$6
$8
$10
$12
$14
$16

NYMEX Natural Gas Settlement Price
WTI Spot Price
Henry Hub Spot Price

Note: The West Texas Intermediate (WTI) crude oil price, in dollars per barrel, is converted to $/MMBtu using a conversion factor of 5.80 MMBtu per barrel. The dates marked by vertical lines are the NYMEX near-month contract settlement dates.

Source: DOE EIA

Services to Support One Mission
Motivation – Achieving EPAct 2005 Requirements

EPAct 2005 Overview

2003 Energy Baseline
- 2% Reduction beginning in 2006
- Additional 2% each year thereafter (4% reduction in 2007 versus 2003, 6% in 2008 versus 2003, and so on through 2015)

Metering – will need to obtain funds to finance

Renewable energy requirements – onsite generation credit is double that of purchased certificates
Objectives

- Reduce Energy Consumption and Costs
- Reduce Water Consumption and Costs
- Improve Facilities
- Meet Federal Guidelines
Stakeholders

- Shareholders/General Public
- Employees
- Managers
Approaches

- End-User Financed
- Vendor Financing / Lease Agreements
- ESPC
- UESC
- Chauffage
Entity Financed

- Annual Budget Process – Never enough budget
- Bonding / Debt – Difficult or impossible to justify
- Revolving Fund – Limited historical use in public sector but may increase in the future due to EPAct2005
Revolving Fund Overview

Revolving fund could be developed as follows:

- Initial capital contribution
- Low cost quick return projects
- Full savings or percentage savings retained
Revolving Fund Implementation

- Ongoing revenue
- Continuous review and implementation of projects
- Internal project management
- Reduces financing concerns
- Internal champion calculates, tracks, and reports savings
- External verification may be favorable
Revolving Fund Considerations

Advantages
- Ongoing revenue to perpetuate and energy management program
- Increased potential for flexibility and control over projects and potential for decreased costs

Disadvantages
- May not always be a permissible mechanism
- Limited capital may be available initially
- Future savings not fully leveraged
- Funding entity may require “return on investment”
Energy Savings Performance Contract

- EPACT2005 extends contract mechanism to 2016 for federal agencies
- Super ESPC supported by FEMP with pre-approved contract language to reduce project development time
- Traditional mechanism for public entities to fund energy projects through energy savings
- All savings or percentage of savings could be used to fund project
Energy Savings Performance Contract

Advantages
- Traditional mechanism for public entities
- Leverages short payback projects to justify longer payback project to increase number of measures installed and total energy savings
- Capital investment not generally required

Disadvantages
- Not generally utilized to fund ongoing program
- Tend to be single projects
- Potential for conflict
- Potential loss of control
Utility Energy Savings Contract

Similar to ESPC except through local utility provider

Advantages
- Existing contract through utility provider
- Cost potentially shown on new line item on utility bill

Disadvantages
- Similar to ESPC but may also include potential for differing interests between utility and end-user
- 10-year limit on financing
Chauffage

Ten-cent term for combined heat and power generator located at client facility where turnkey provider sells power and/or heat to end-user at discount compared with utility rates.

- Advantages include turnkey approach, cost certainty, resource conservation, and limited capital or budget requirements.
- Disadvantages include loss of control, lack of ownership, and savings may not be as high compared with projects self-performed at risk.
Communication

Regardless of mechanism, communicating objectives, intentions, successes, failures, and results of any energy management program throughout a particular campus and throughout the organization is critical to success.

Measuring and verifying savings and costs in an objective and ongoing manner important in demonstrating the success and need for an ongoing program.
Summary

- Achieving energy reduction goals will likely require a combination of self-financing initiatives
- Need to be creative and flexible in seeking out and implementing opportunities.

Requirements
- EPAct 2005
- Green Procurement Program
- Executive Orders
- Agency Guidance Document
- Future Mandates
Questions?

Thank you very much for your time.

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