The Color of Money
What Works in Performance Contracting

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The Federal Buildings Fund

Historically 1-3% of the PBS budget

Direct Appropriation to the Federal Buildings Fund

CONGRESS

Agreement

AGENCIES

Rent

FEDERAL BUILDINGS FUND

CONGRESS GIVES GSA AUTHORITY TO SPEND (NOA*)

NOA – New Obligational Authority

Repairs & Alterations (BA 54/55)
Construction & Acquisition (BA 51)
Rental of Space (BA 53)
Building Operations (BA 61)
Other Budget Activities
Three Main Funding Sources

1) Appropriations

2) ESPCs
   • Financed by private investors
   • Paid for by guaranteed savings in utility and maintenance bills

3) UESCs
   • Similar to ESPCs, but implemented through utility providers
- Contract with an ESCO
- 25 year max contract term
- Existing IDIQ contracts that can be used
- Agency pays for FEMP project facilitation
- Savings guarantee

- Allow third party financing
- Viable options to attain energy efficiency goals

- Title of energy saving devices vests in U.S.
- Utility company contracts allowed
- FAR applies
- FEMP available at no cost
- No savings guarantee, economic evaluations and performance assurance planning
Federal Government Invested $20.3 billion in Facility Efficiency from 2007 through 2016

- In 2016, ESPC and UESC represented almost 2x appropriated funding.
- Direct Obligations include Recovery Act infrastructure funding, 2009 - 2012
GSA Investment in Energy Efficiency and Renewable Energy

<table>
<thead>
<tr>
<th>Year</th>
<th>UESC</th>
<th>ESPC</th>
<th>Direct Obligations</th>
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GSA Energy Conservation Investment History

- From 2005-2017, breakdown had been approximately as follows on average:
  - 50% appropriations (28% in 2017)
  - 47% ESPC (57% in 2017)
  - 3% UESC (15% in 2017)
American Recovery and Reinvestment Act of 2009 appropriated $4.5 billion for GSA to modernize buildings, address deferred maintenance, and save energy and water (some blended $$)

- 43 whole building modernization projects accomplished
- 439 individual energy and water projects

After Recovery Act, private investment through ESPC and UESC became more important than ever
GSA Emphasizes Deep Energy Savings

- Assembled a group of buildings across the US for inclusion in a deep retrofit challenge
- Funding through ESPC with minimal appropriations
- Challenged ESCOs to dig deeper and come up with higher energy savings than typically offered
- Average savings proposed are around 34%, considerably higher than previous average of 17%
- Projects use conventional conservation measures (lighting, controls, etc.) and envelope measures combined in unique ways—appropriations allow for more expensive envelope improvements and deferred maintenance
Fully Leverage Appropriated Funding

- Inevitably, appropriations will fall short of cost effective upgrade needs
- Plan B should include combined private ESPC/UESC funding
- Longer payback measures should be funded through appropriations and shorter term measures financed through ESPC/UESC—you must evaluate the entire package
  - Timing is key – ESPC work must align with appropriated funding.
  - Legal understanding and engagement
Main Interior Building

ESPC awarded to Ameresco by DOI:
$77 million over 20 years
Main Interior Building

- Water conservation, energy efficiency measures, and ongoing energy management services
  - Harvests groundwater that is currently collected under the building and discharged to storm drains
  - Repurposes water in a chilled water storage tank for non potable uses:
    - Irrigation
    - Cooling tower supply
    - Bathrooms
Main Interior Building

- ESPC will reduce
  - Domestic water consumption by 70%
  - GHG emissions by 24%
  - Electricity consumption by 31%
  - Steam utilization by 12%
- Helps DOI meet federal sustainability requirements
- Average savings of nearly $1 million/year through the year 2036
William Jefferson Clinton (EPA) Building

- Renovation funded through ESPC
- Upgrades and optimizations:
  - Control system
  - Cooling system
  - Lighting
  - Electrical & distribution
  - Water conservation
  - Wastewater minimization
  - Building envelope
William Jefferson Clinton (EPA) Building

- Window replacement was tenants’ highest priority
  - Could not be funded by the ESPC
William Jefferson Clinton (EPA) Building – ESPC Results

- FY2012
- FY2013
- FY2014
- FY2015
- FY2016
- FY2017
- FY2018
- FY2019

- $2,562,326 First Year Energy and Water Savings
- 66% Water Savings
- 43% Steam and Electric Savings

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Grid-Interactive Efficient Buildings (GEBs) Research

- Invest in controllable fixtures and building controls

![EnergyDemandGraph]

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Grid-Interactive Efficient Buildings (GEBs) Research

- Stage large building loads
- Battery storage and solar PV make sense in most locations, but to varying degrees
- GEBs improve grid resilience, balance loads, and reduce grid carbon intensity
Grid-Interactive Efficient Buildings (GEBs) Research

- GSA (RMI/LMI) evaluated 29 measures in 6 locations
- These measures can generate 350 MW of peak load reduction and 317 GWh/year in energy savings across the GSA’s owned office portfolio
- The full portfolio can generate $99MM in annual cost savings – almost one-third of the GSA’s annual energy spending
- Short payback and high NPV, the value of GEBs will continue to increase
- Should be considered in all upcoming projects
Thank You

- Kevin.kampschroer@gsa.gov
- Gsa.gov/sustainability
- SFTool.gov
- Www.whitehouse.gov/ceq/