



Innovative Financing Strategies for Green IT:

Using Energy Efficiency Savings to Support IT Transformation

Federal Partnership for Green Data Centers

January 25, 2012

Josh Silverman

DOE Office of Sustainability Support



IT Transformation Opportunities



- There are many drivers for Green IT Transformation – Executive Orders, Federal Data Center Consolidation Initiative (FDCCI) , OMB Scorecards, etc.
- IT Transformation opportunities are rapidly expanding:
 - Super Efficient Data Centers:
 - Energy efficiency is as important as consolidation
 - Cloud Computing
 - Desktop and Server Virtualization
 - Thin Client Computing
 - Telecomm: e.g. : Voice Over Internet Protocol
 - Mobile Computing



Fiscal Challenges



- IT Transformation can be extremely expensive
- Current FY 12 Federal fiscal environment is daunting
- FY 13 and beyond promises to be even more challenging
- Agencies need to seek alternative financing vehicles such as Energy Performance Savings programs to finance IT Transformation



Energy Performance Savings



- **Energy Savings Performance Contracts (ESPCs) and Utility Energy Saving Contracts (UESCs):** Finance energy savings projects without up-front capital costs and without Congressional appropriations
- An **Energy Service Company (ESCO)** conducts a comprehensive energy audit, identifies improvements, and designs an energy saving project
- The ESCO arranges funding, guaranteeing that the cost savings will be sufficient to pay for the project
- Cost savings accrue to the agency after the contract expires, which can run up to 25 years



DOE ESPCs



- DOE's Federal Energy Management Program (FEMP) has ESCOs under indefinite-delivery, indefinite-quantity (IDIQ) contracts
 - Makes ESPCs practical and cost-effective for Federal agencies
- Sixteen “**Super ESCOs**” can meet terms and conditions established in IDIQ contracts, and can serve any Federally-owned facility worldwide
- Most ESPCs have been used for “low hanging fruit” projects like efficient lighting and HVAC improvements, bundled with projects with longer term paybacks
 - ESPCs historically were not used for IT Transformation because longer term payback periods did not mesh with frequent equipment turnover and refresh cycles



ESPCs Today



- Energy Performance Savings Contracts (and similar vehicles) have been used to finance half of all Federal energy efficiency investments since 2003
- ESPC process is streamlined, with a quicker timeline than traditional contract procurement processes
- Presidential Memorandum, *Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings* (December 2, 2011)
 - Directs Federal agencies to generate \$2 Billion in ESPC projects in the next 24 months.
 - Agencies must report ESPC plans by 1/31/12 to FEMP, CEQ, and OMB, and integrate them into 2012 SSPPs



DOE HQ IT/Data Center Case Study



- DOE CIO identified potential for substantial performance and energy efficiency improvements by consolidating HQ data centers
- DOE CIO did not have sufficient budget resources to enable the IT Transformation
- ESPC strategies for IT appeared to be feasible, based upon lower interest rates, multiple refresh cycles, and operational and energy savings
- In late 2010, CIO began discussions with FEMP that led to the first Federal ESPC for data centers and IT Transformation



DOE Case Study (Continued)



- March 2011: Notice of Opportunity to determine feasibility of IT ESPC released to 16 ESCOs
- May: 12 ESCOs respond with Expressions of Interest, partnered with top U.S. IT organizations
- June: DOE selection panel asks 4 ESCOs to provide final written and oral presentations
- July: Lockheed Martin selected Project ESCO
- August: Preliminary Assessment (PA) launched
- November 2011: Lockheed presents PA results for agency review, discussion, and agreement
- February 2012: DOE completes review and approval of revised PA



Lessons Learned



- The ESPC marketplace is ready to build partnerships with agencies and advanced IT enterprises to generate necessary resources and solutions for IT Transformation
 - There are auditable payback approaches to forward fund broad-based IT projects including data centers.
- ESPCs must be synchronized and coordinated with other major IT activities.
- DOE results are not yet conclusive, but results to date suggest that ESPCs can be a highly feasible and flexible funding strategy to address 21st Century IT and data center needs.



Contact Information



Jeff Eagan

Electronics Stewardship Coordinator

DOE Office of Sustainability Support (HS-21)

Jeff.eagan@hq.doe.gov

202-586-4598

Jake Wooley

Program Manager, IT Sustainability

DOE Office of the Chief Information Officer

Jake.wooley@hq.doe.gov

(702) 234-1645