



# Implementing Energy/Facility Improvements Using UESC

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# Agenda

- Basics of UESC
- UESC Market Overview
- UESC Process
- Benefits of UESC
- UESC Example
- Additional Resources



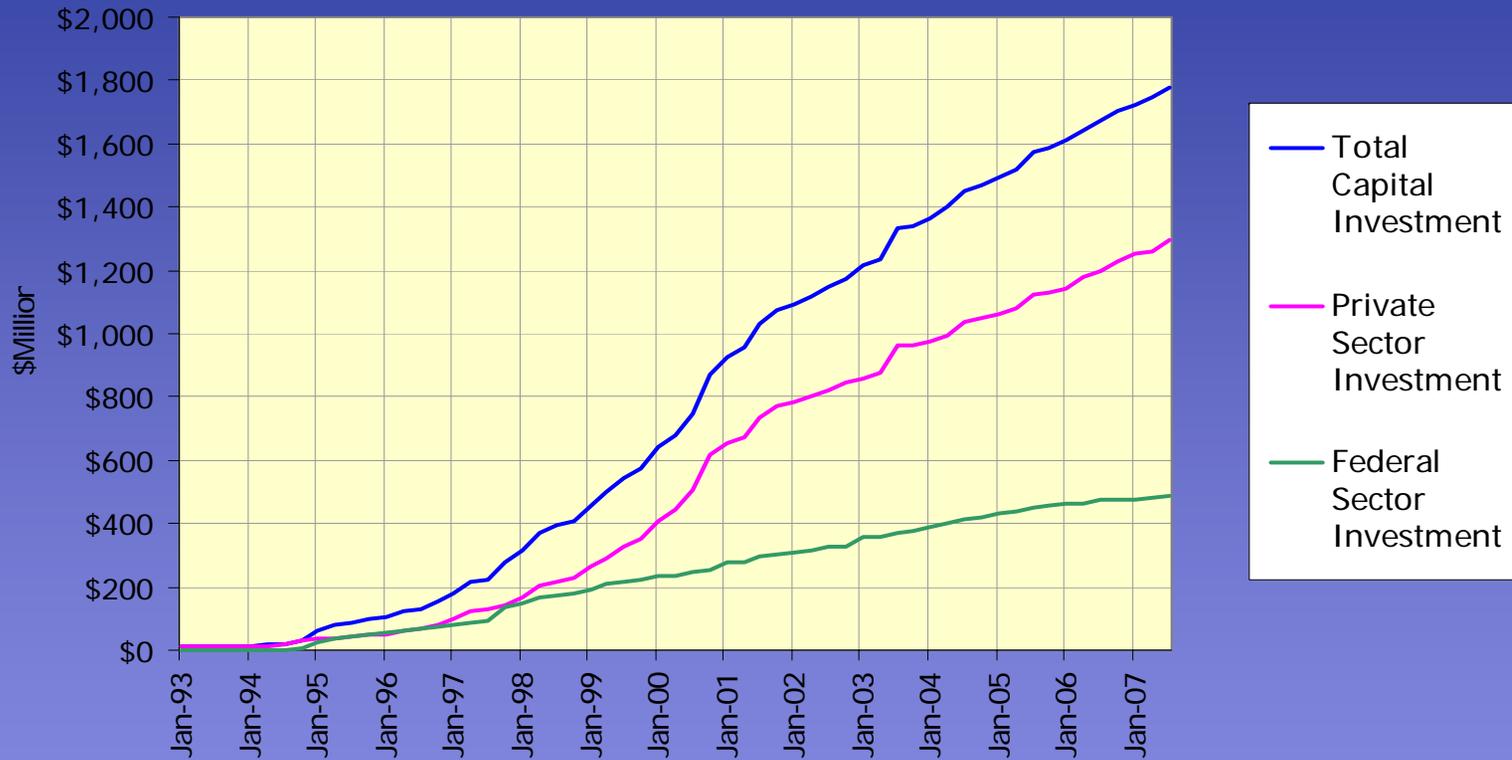


# Basics of UESC

- Stands for Utility Energy Service Contracts
- Allows agencies to legally procure comprehensive energy and water efficiency improvements and renewable projects from local utilities on an established source basis
- Utilities front the project costs and are paid out of energy and O&M savings. Or projects can be paid from appropriations

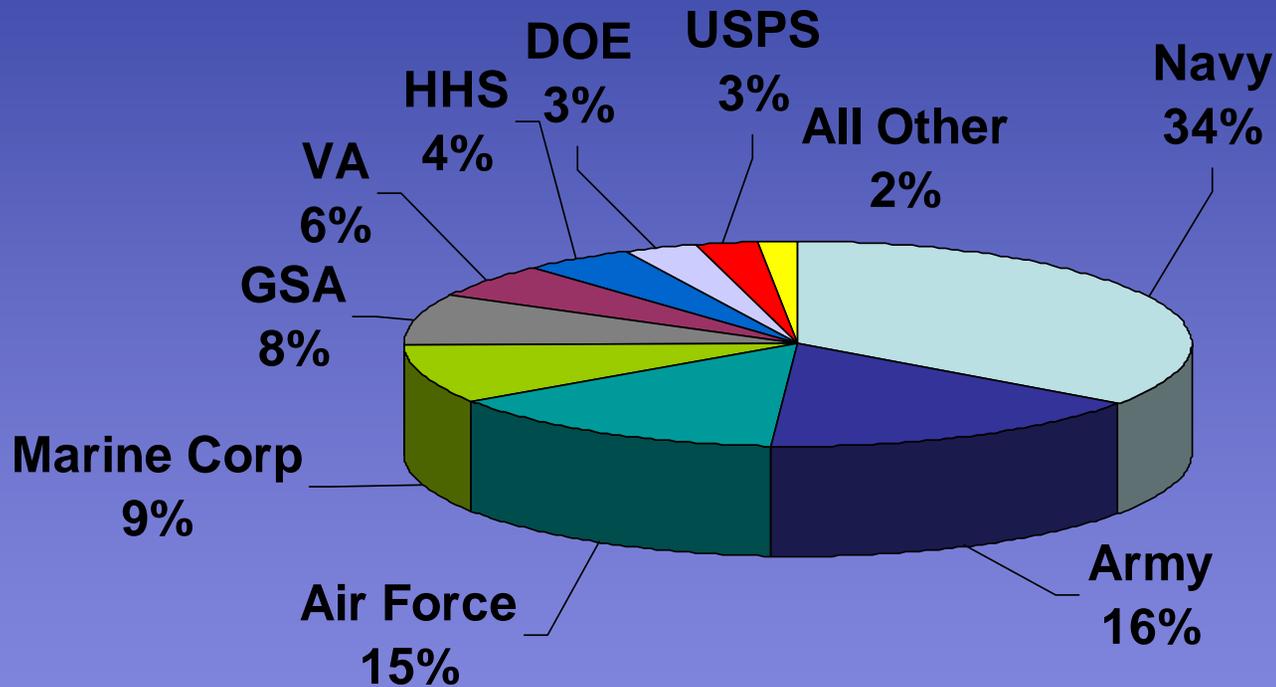


# UESC Rate of Investment



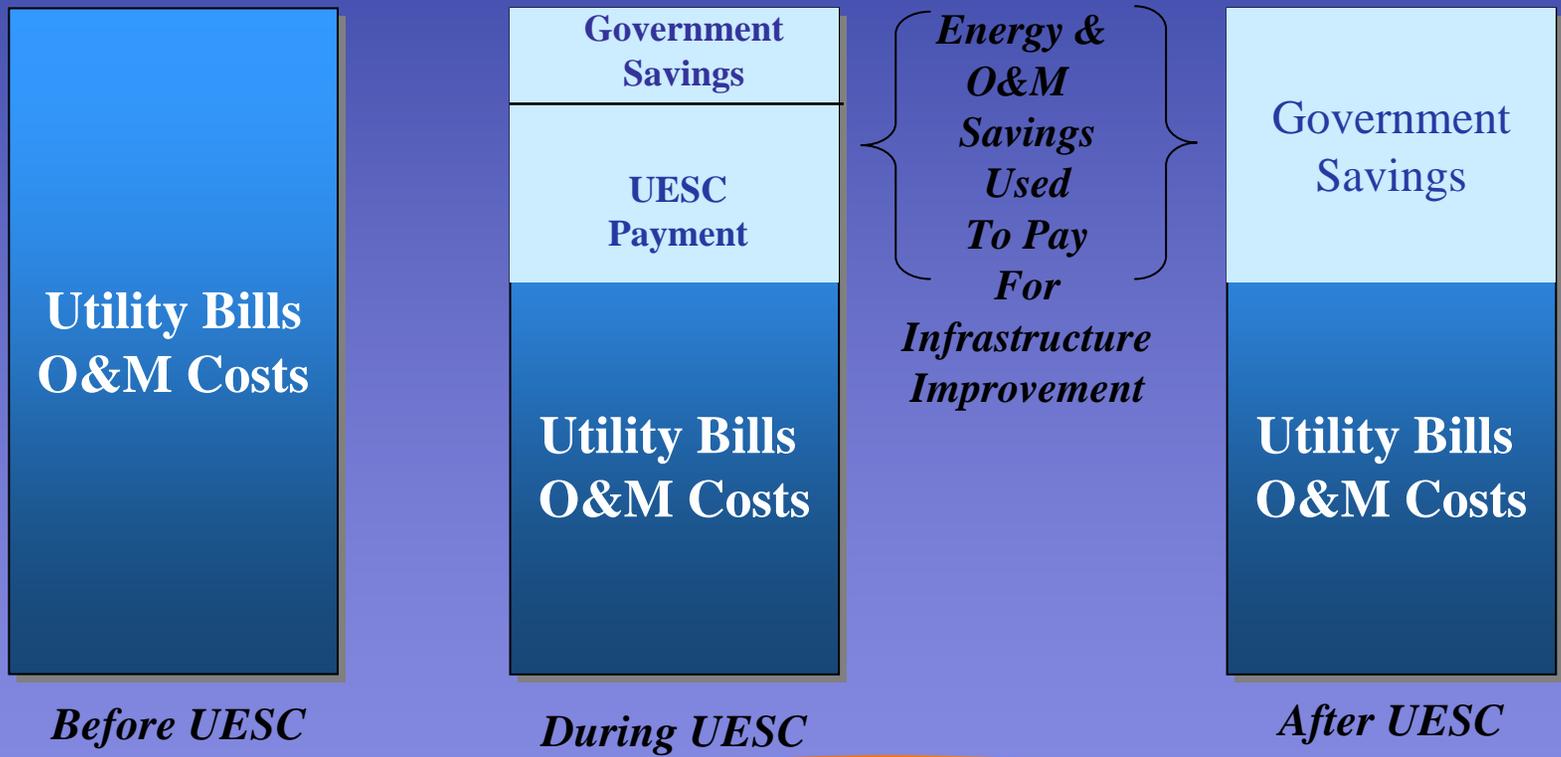
Notes: SOURCE (DOE FEMP) Award Date  
 Investment is based on projects' capital cost.  
 Data was last edited on May 2006 and is subject to change...

# Agency Activity -- Total UESC Investment





# UESC Reallocates the Government's Utility Budget and O&M Expenses





# Typical UESC Offerings

- Energy Audits
- Feasibility Studies
- Engineering and Design
- Construction and Installation
- Performance Guarantees
- Training
- O & M Services
- Project Management
- Project Financing
- Metering
- Commissioning



# UESC – Improvement Measures

- HVAC Improvements
- Boiler and Chiller Improvements
- Building Envelope Improvements
- Energy Management Control Systems
- Lighting Improvements and Lighting Controls
- Chilled/Hot Water & Steam Distribution Systems
- Motors and Drives
- Cogeneration / Distributed Generation
- Renewable Energy Systems
- Energy and Utility Distribution Systems
- Water Management and Conservation Systems
- Electrical Distribution Upgrades





# UESC Process

- Preliminary Energy Audit (NO COST)
- Detailed Feasibility Study (\$)
- Engineering and Design
- Construction and Installation

Notes: M&V (Negotiable)

O&M (Negotiable)





# Preliminary Energy Audit

The Preliminary Audit is just an ESTIMATE!

- Use this no-cost opportunity to evaluate:
  - ✓ Are recommended measures reasonable and will they solve your problems?
  - ✓ Are estimates of energy and O&M savings reasonable?
  - ✓ Are analysis, assumptions and calculations credible?
- Don't expect firm implementation costs



# Detailed Feasibility Study

- Detailed investment-grade review of both technical and economic viability of the proposed measures
- Verifies the Preliminary Audit's assumptions
- Provides project cost by ECM
- Includes life cycle cost analysis
- Provides breakdown of implementation costs and annual savings
- If you stop at this point, you will need to pay the fees previously agreed



# Benefits of UESC



- Long-term Partnership with a known entity
  - ✓ Local Utility may already be familiar with your facilities
  - ✓ Local Utility has unique expertise
- It's an Established Source - Contracting is simplified through GSA Area Wide Contract
  - ✓ Faster process
  - ✓ Easy to use
- Flexibility in scope and size - No project is too small or too large!
  - ✓ Negotiated process
- It's a mutually beneficial Partnership!!!



# Other Considerations

- Contracting process is NOT rigid
- UESC may not be available to all facilities
- Utility may be new to this type of contracting
- Your relationship with the Utility



# UESC Example – Cogen Project in Washington, DC

- \$64 Million Project funded by the utility
- 17,000 tons of new cooling and ancillary equipment
- 10 MW cogeneration plant
- New automated plant control system
- New electrical switchgear
- Two miles of piping including one mile of underground distribution piping serving 8 Smithsonian buildings

*The Castle*

*Freer Gallery of Art*

*South Quadrangle  
Building*

*Arts and Industries  
Building*

*Hirshhorn Museum*

*National Air and  
Space Museum*

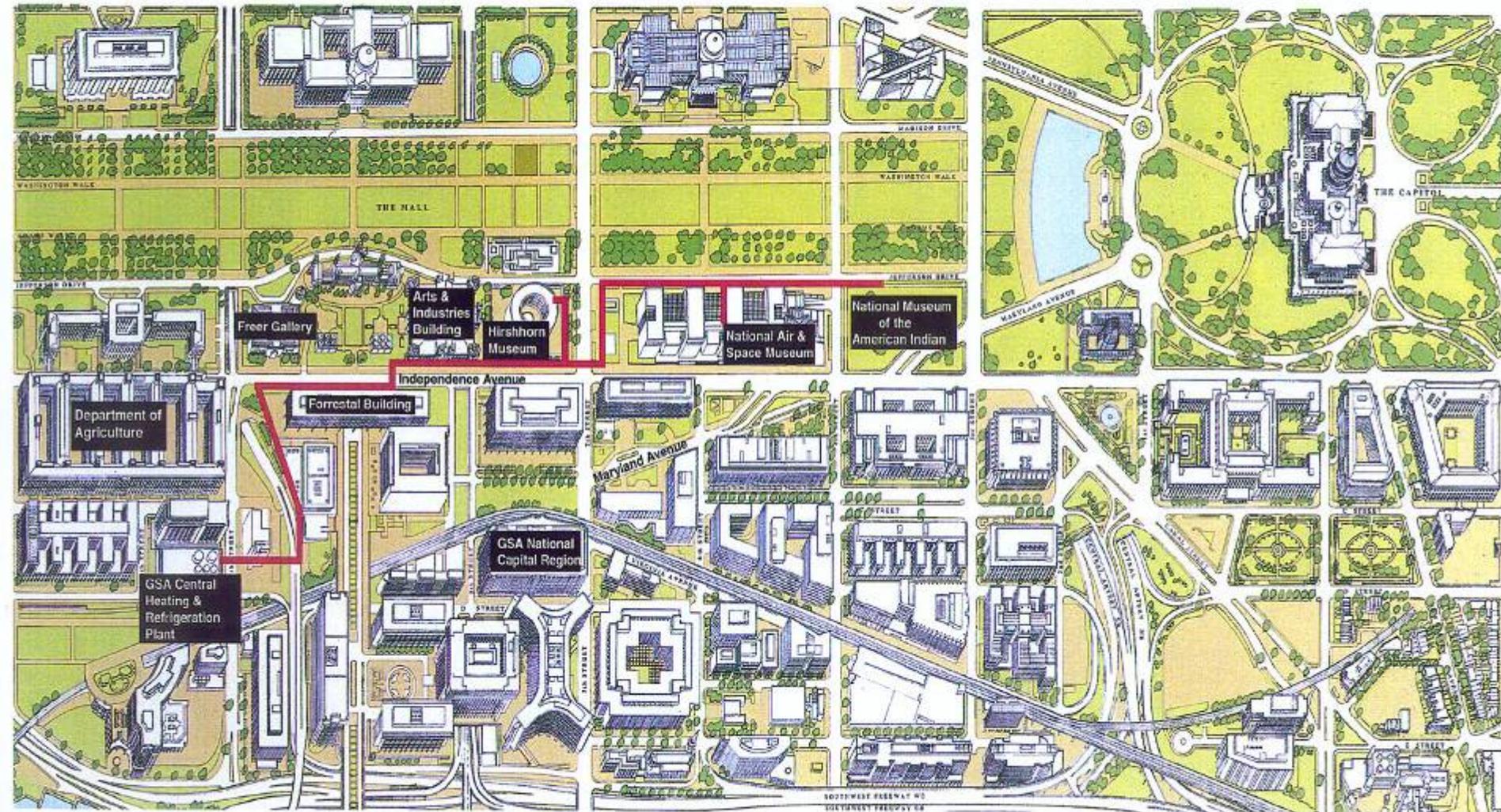
*National Museum  
of the American  
Indian*

# UESC Example – Cogen Project in Washington, DC

## PROJECT BENEFITS:

- Updated cooling equipment with long life expectancy
- Full self-generating power capability
- Re-use of existing facility
- Full utilization of existing plant personnel
- Greater redundancy & operational flexibility
- Project pays for itself within 8 years through energy savings





Joseph Passonnesi & Partners  
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Chilled water distribution lines

# Chilled Water Distribution System GSA Cogeneration and Chiller Plant Expansion Project

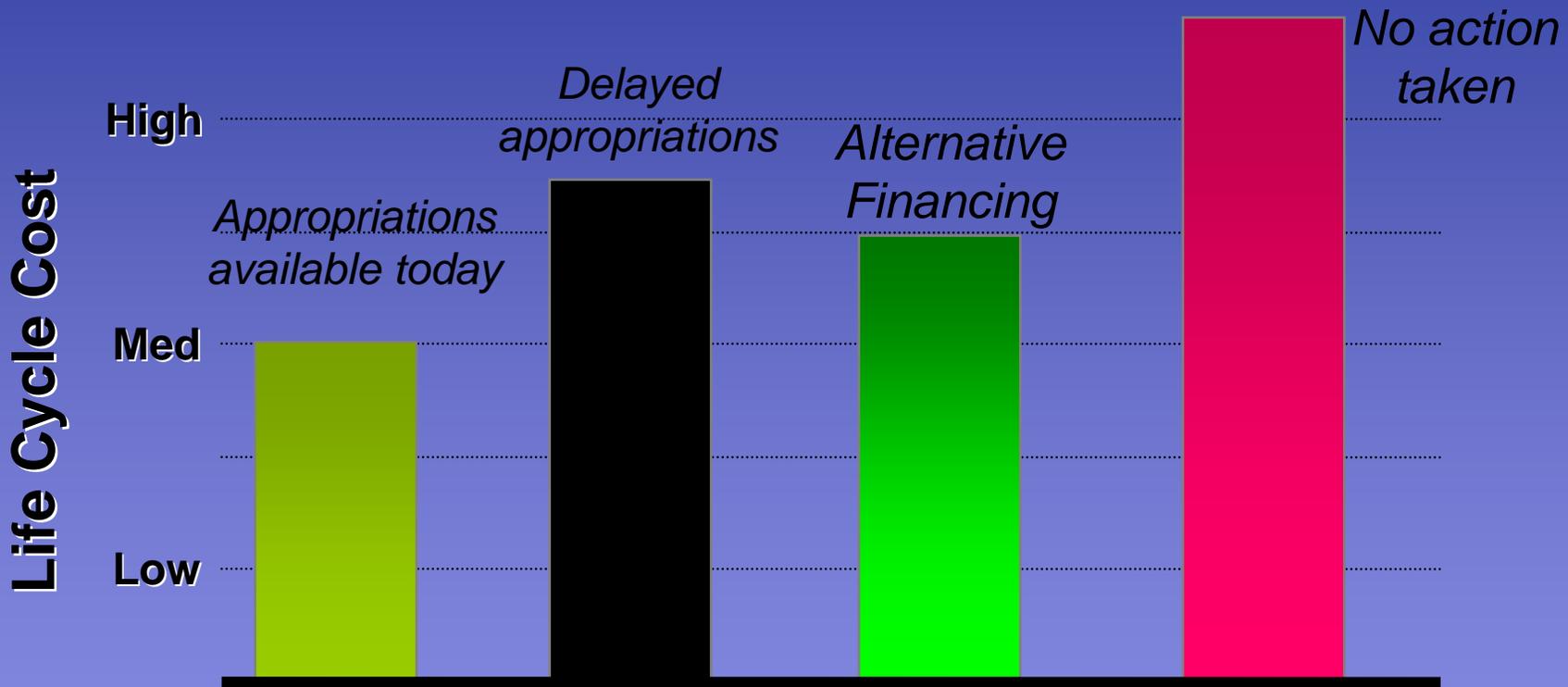


# UESC Useful Sources

- Utility Area Wide User's Manual – [www.gsa.gov/pbs/centers/energy/utility.htm](http://www.gsa.gov/pbs/centers/energy/utility.htm)
- Procuring Energy Management Services with the Areawide Contract – [www.gsa.gov/pbs/centers/utility.htm](http://www.gsa.gov/pbs/centers/utility.htm)
- GSA Water Management Guide – [www.gsa.gov/pbs/centers/energy/utility.htm](http://www.gsa.gov/pbs/centers/energy/utility.htm)
- DOE FEMP – David McAndrew (202) 586-7722 or Karen Thomas (202) 646-5223  
<http://www1.eere.energy.gov/femp/financing/uescs.html>



# Don't Delay! Time is Money!!!



Any delay in project implementation results in loss of life cycle savings





# For More Information

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**New Orleans**  
**August 5-8**