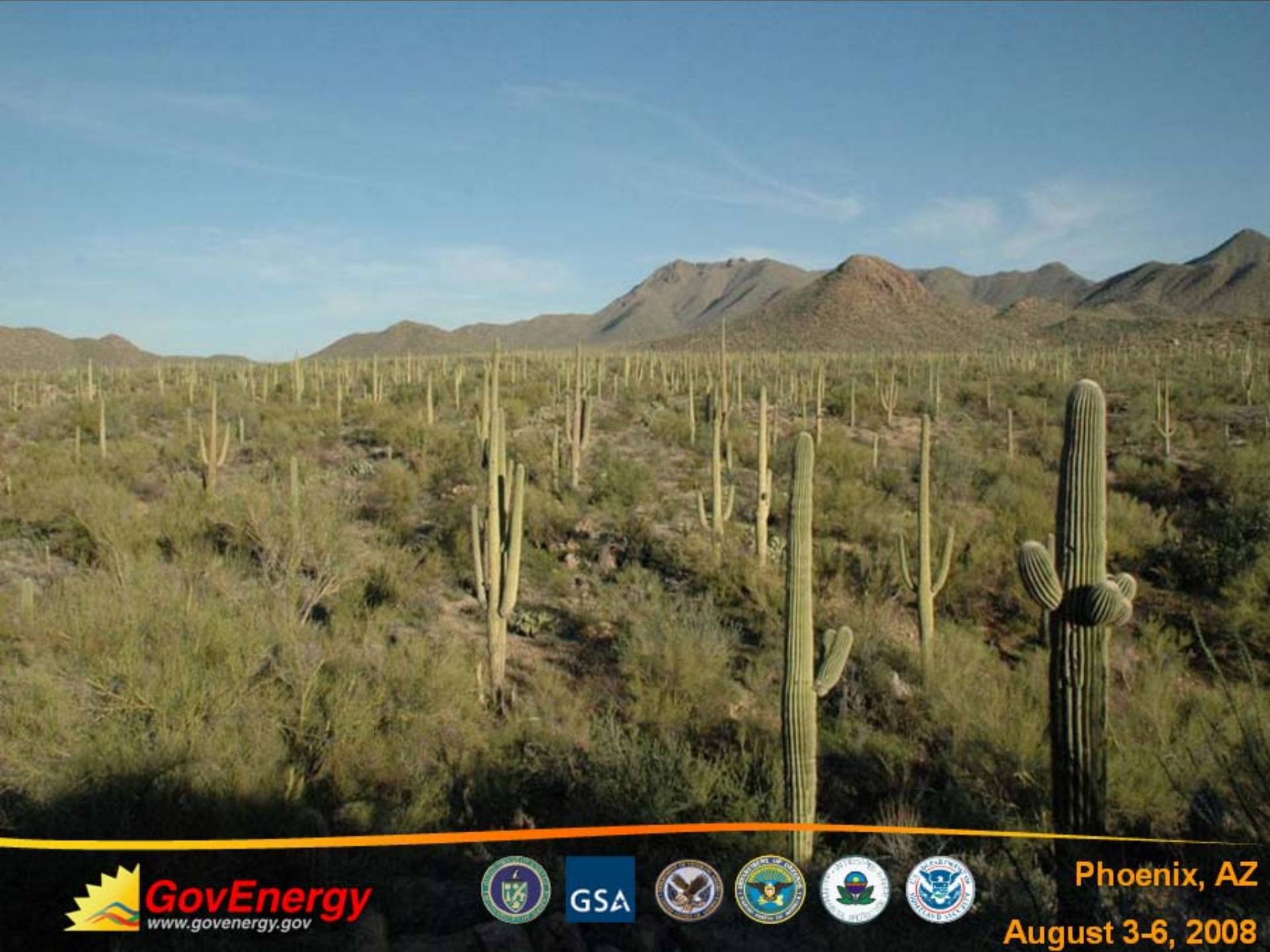
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# An In-Depth Look at Energy Savings Performance Contracts (ESPCs)

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# The Challenge – Baseline Goals

## Goals for Reducing Energy Intensity

- ***EPACT 2005 Goal*** *– 2% per year, 20% in 2015*
- ***E.O. 13423 Goal*** *– 3% per year, 30% in 2015*
- ***EISA 2007 Goal*** *– 30% by 2015*

# A key strategy to meet the challenge…

- Third-party financing provides options to meet the challenge
- Expand use of Energy Savings Performance Contracting (ESPCs) and other financing approaches

# Definition of Energy Savings Performance Contracting (ESPC)

A contracting method in which the contractor provides and finances energy improvements and is repaid from the energy and energy-related cost savings they generate

- An energy service company (ESCO)
  - Incurs the cost of developing and implementing an energy project
  - Guarantees a specified level of cost savings
  - Uses Measurement & Verification (M&V) to show whether guaranteed savings are delivered
- The customer (agency/site)
  - Pays the ESCO back over the term of the contract out of the energy and energy-related savings resulting from the project

# Legislative Authorization and Executive Orders for Federal ESPCs

- National Energy Conservation Policy Act of 1978 (42 USC 8287)
- Energy Policy Act of 1992
- DOD Authorization Act of FY 2005, 9/30/06 sunset & water
- Energy Policy Act of 2005
- Energy Security and Independence Act of 2007
- Implemented by DOE Final Rule, 10 CFR Part 436, Subpart B (1995)
- Executive Order 13123 (1999)
- Executive Order 13423 (2007)

# EISA 2007 – Key financing-related elements

- Prohibits agency policies limiting **ESPC contract terms** to less than 25 years and strengthens **measurement & verification procedures**
- Establishes **permanent reauthorization of ESPCs** to finance Federal energy management projects
- Directs DOE/EERE (FEMP) to establish **government wide ESPC training program**
- Directs DOE & DOD to study energy & cost savings in **non-building applications**

# DOE Final Rule (10 CFR Part 436) Implemented the Authority in Regulation

- Takes precedence over FAR
- Establishes list of qualified ESCOs
- Specifies procurement procedures and criteria for selecting ESCOs
- Allows unsolicited proposals
- Recommends standard terms & conditions
- Conditions of payment
- Addresses annual M&V requirements

# Key Points about ESPCs

- Savings guarantees are mandatory
- Measurement and Verificatio (M&V) is mandatory
- Contract term cannot exceed 25 years

This is the law — not negotiable!

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# ESPCs help agencies make better use of their current spending levels

- ESPCs stop the spending on
  - Wasted energy
  - Maintenance of obsolete equipment
- And reallocate the same spending to
  - Buying only the energy needed to operate new, efficient equipment
  - Paying only to maintain new, efficient equipment
  - Repaying the financing from the guaranteed cost savings

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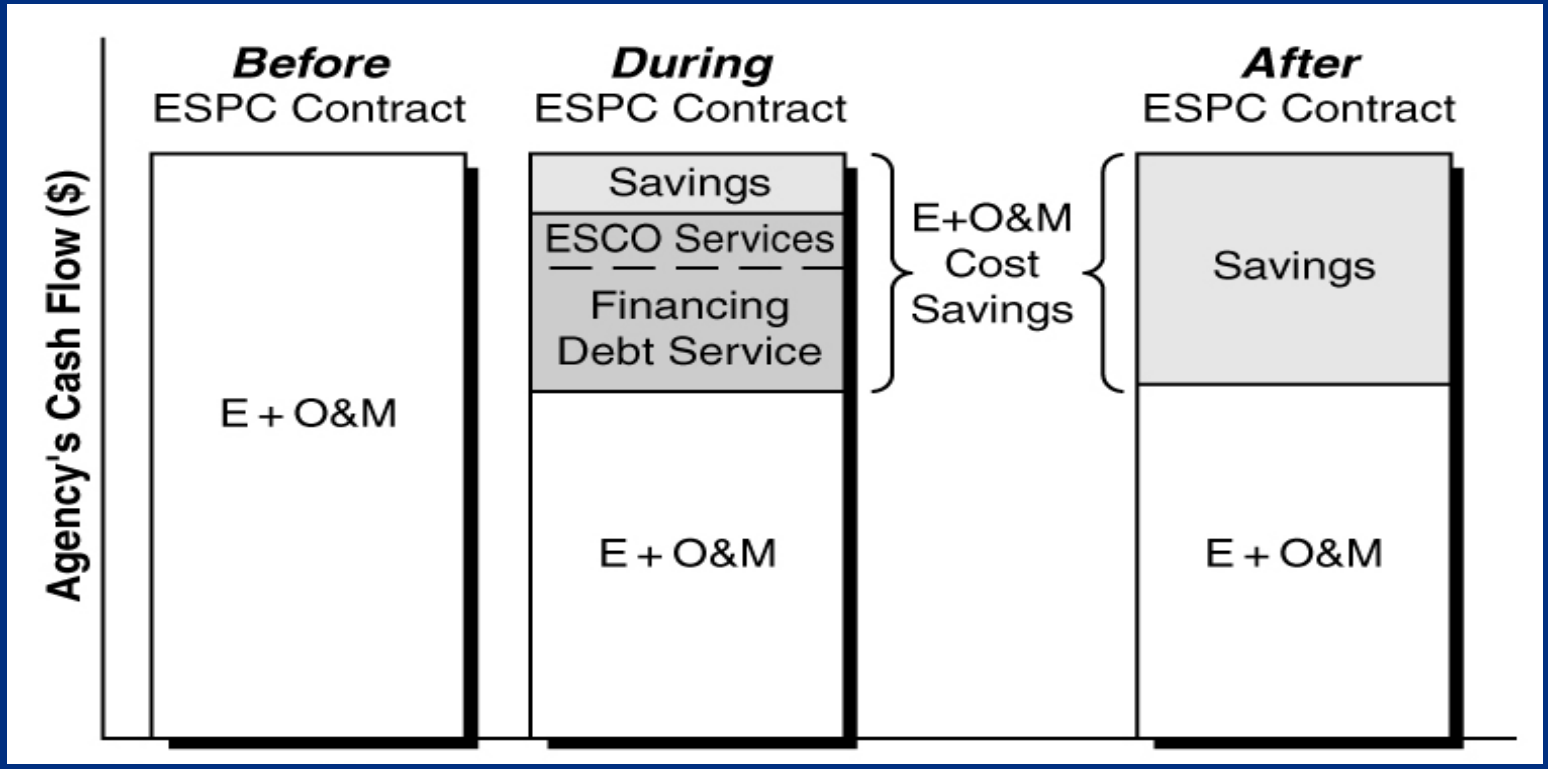
# Where the Money Comes From



# Amount Financed

= (ECM Expense1)(1 + Markup1)
+ (ECM Expense2)(1 + Markup2)
+ (ECM Expense)(1 + Markup)
+ Financing Procurement Price
- Pre-Performance Period Payment

Where: 1) ECM = energy conservation measure; 2) ECM expense = costs to develop, design and construct the ECM; 3) Markup = indirect costs plus profit; 4) Financing procurement price = capitalized construction period interest, cost of payment & performance bonds, etc.; and 5) Pre-performance period payment = optional payment from funds for avoided projects no longer needed because of the ESPC.

# Savings Must Exceed Payments

- Two types of savings may be used to pay the ESCO
  1. Energy cost savings
  2. Energy-related cost savings

- Energy cost savings
  - Reduced usage and/or efficiency improvements
  - Decreased utility costs from reduced peak demand, fuel substitution, renegotiated utility rates, etc.

# Second Type of Savings: Energy-Related Cost Savings

- One-time savings — Cost avoidance provided by the project, for example:
  - Including a chiller replacement in the project that was planned to be paid for from operations & maintenance or repair & replacement (O&M/R&R) funds
- Recurring savings — Ongoing reduced expenses for O&M/R&R

# DOE's Super ESPCs Streamline the Contracting Process

- FEMP's Purpose: To provide a financing vehicle that is as practical and cost-effective as possible for agencies to use
- Super ESPCs are indefinite-delivery, indefinite-quantity (IDIQ) contracts — awarded competitively to energy service companies (ESCOs) — several ESCOs per region
- Agencies award delivery orders (DOs) for energy/ water projects under the Super ESPCs

# How a Super ESPC Works

- Covers all facilities in a geographic region
- Standardizes general terms and conditions
- Allows for revision, within scope, of IDIQ terms by agency in delivery orders
- Agencies can skip time-consuming competitive award of contract and go directly to developing a project and delivery order

# Contract Scope — General Technology Categories

- Boiler and chiller plant improvements
- Building Automation & Energy Management Control Systems
- HVAC
- Lighting improvements
- Building envelope modifications
- Chilled/hot water & steam distribution systems
- Electric motors and drives
- Refrigeration

# General Technology Categories (cont'd.)

- Distributed generation
- Renewable energy systems
- Energy/utility distribution systems
- Water and sewer conservation systems
- Electrical peak shaving/load shifting
- Energy cost reduction through rate adjustments
- Energy related process improvements
- Commissioning
- Miscellaneous
- Proposal development energy surveys

# Getting Started

- Determine whether “pay-from-savings” project is feasible
- Help educate staff and develop agency support for project
- Identify project champion
- Identify required agency resources
- Begin to consider who will be on acquisition team
- Determine what kind of project support is needed

# Getting Started (cont.)

- Consider Interagency Agreement (IAA) for FEMP Services
- Remember, FEMP Federal Financing Representatives (FFSs) can help you get started!
  - First point of agency contact with DOE
  - Assist in initial project planning and coordination
  - Initiate and coordinate Interagency Agreement (IAA) process
  - “Go to” contact for ensuring smooth ESPC project

# Ordering Agency Responsibilities

- Responsible for ensuring Super ESPC vehicle and potential project are in agency's best interest
- Appoints DO acquisition team
- Reviews initial proposal and final proposal
- Negotiates
- Awards and administrates DOs
- Reviews/Approves ESCO's design
- Provides construction oversight/Acceptance

# Composition of Acquisition Team

- Should represent those affected by project, or who could have impact on progress
  - Contracting Officer & Site Technical Representative
  - Facility manager, facility maintenance
  - Energy, design, and construction engineers
  - Procurement and legal staff
  - Budget/comptroller
  - Administrative services
  - Security
  - Union reps, labor relations
  - Agency customers and tenants
  - Environment, health, safety

# Agency Effort Required

- Level of effort varies by project
  - ESPC Experience, Complexity, Size, Agency Approval Process, etc.
- Primarily Energy/Facility Manager and Contracting Office
  - Other Acquisition team members engaged as needed, when needed

# Agency Effort Required (cont.)

- Agency Team must address many issues
- FEMP strongly encourages Procurement, Legal, and Project Management staff attend ESPC training workshops.
  - FEMP offers online and in-person training on a regular basis.
  - Cannot stress enough the importance of trained agency staff!!

# The Super ESPC ESCOs

- Market ESPC program to federal agencies
- Satisfy administrative requirements of the IDIQ
- Identify energy savings opportunities
- Negotiate in good faith and perform work as outlined in the awarded delivery orders
- Finance, design and construct the project
- Provide performance-period services per negotiated contract
- Perform annual M&V reviews

# FEMP's Role - Support for Agencies Using ESPCs

- Project Facilitators
- Technical assistance
  - Pre-project screening
  - Technical proposal reviews
  - Contracting guidance
  - ESPC Core Teams – M&V, Financing, Pricing
- Tech-specific assistance
  - GHP, CHP, BAMF, renewables
- Training, tools and resources, web site

***FEMP support is available throughout the project for assistance and advice!***

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# What is a Project Facilitator?

- A FEMP Project Facilitator is your best insurance for a successful project with persistent savings:
  - an experienced and dedicated guide through the ESPC process
  - an unbiased, objective, and expert consultant on technical, financial, and contractual issues
  - A qualified agency PF can also be used
- FEMP Project Facilitators
  - have “seen it all”
  - guide agencies to the best resources and practices
  - ensure agency partnerships with ESCOs are balanced, serve the government’s best interests

# Summary of the Five Phases of Project Development and Implementation

- Phase 1:
  Project Planning
- Phase 2:
  Initial Project Development
- Phase 3:
  Negotiation and Award of Final Delivery Order
- Phase 4:
  Implementation — Design, Construction, and Acceptance
- Phase 5:  Performance Period

# A word on why you need M&V…

- Before Task Order Award:
  - Predicts energy savings potential for a project
  - Associated cost savings are used as the financial basis of the project
  - **For a successful ESPC, both parties must understand and agree on the M&V strategy**
- After Task Order Award:
  - Ensures that the government only pays for realized savings

# M&V During the Five Phases

- Phase 1:
  While planning the acquisition strategy consider M&V in relation to facility needs
- Phases 2 & 3:
  Agency and ESCO agree to an approach and establish the baseline
- Phase 4:
  Commissioning and post-installation M&V of the ECMs, verification of potential to save
- Phase 5:
  Review annual M&V reports

# FEMP M&V Resources

- There are many reasons to use M&V strategies that go beyond just satisfying the law.
- Introductory and detailed information can be found on FEMP's website at *http://www1.eere.energy.gov/femp/financing/superespcs_mvresources.html*

# ESPCs at DOE

A Department-wide effort launched in June 2007 to mobilize private sector financing, maximize contracting authority, and address all life-cycle cost effective measures necessary to make DOE a leader in energy and environmental management.

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**William Raup**

**August 3-6, 2008**

# ESPCs at DOE (cont.)

- Rapidly meet and exceed legislative and executive goals
- Accelerate use of third-party financing mechanisms
- Streamline the Federal ESPC process in DOE
- Develop replicable, efficient energy procurement models
- Implement comprehensive financed energy projects that include renewables, advanced metering, data centers, and demonstration technologies
- Establish a “Center of Excellence” to provide expert finance, procurement and legal support to projects.
- Require a LEED “Gold” standard on all new construction over $5 million.

# Results to Date

- As of _ 2008, DOE ESPC efforts at midpoint
  - Center of Excellence operational
  - 37 sites at some stage of an ESPC
  - 15 Initial Proposals received as of January 2008 representing:
    - Over $400 million in project investment
    - 15% energy intensity reduction
    - Over halfway to our on-site renewable energy generation goal

- Federal ESPC Pipeline now exceeds $1 billion for the first time
  - DOD 48%
  - DOE 41%
  - Other agencies 11%

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# DOE ESPC IDIQ Award

- A competitive range has been established.
- Discussions are currently being conducted with those offerors in the competitive range.
- Revised proposals are due back to DOE by August 13, 2008.
- Projects initiated after the new ESPC IDIQs are awarded must utilize the new contract.
- Projects initiated before the award of the new ESPC IDIQs may be awarded under the current contract until December 31, 2009 with the DOE Contracting Officer's authorization.

# Future Trends in ESPC

- EISA directs DOE & DOD to study the potential of energy & cost savings in non-building applications
  - Military applications such as land platforms/vehicles, ships, aircraft, tactical power generation
  - Civilian applications such as fleets/trucks, water transport/irrigation, mobile power generation
- Study will include the feasibility of extending ESPCs to non-building applications.
- Pilot projects will be recommended.

# Future Trends in ESPC (cont.)

- ESPCs at small facilities:
  - identify options for facilities whose energy, water, and operational costs, and/or available conservation measures, are not sufficiently large to warrant the investment of the conventional ESPC process.
- ESPC for leased facilities:
  - address ESPC opportunities where agencies lease their space but that presently cannot pursue performance contracting options due to lack of statutory support and identify necessary statutory and rule changes necessary to include leased facility ESPCs.
- ESPCs in the out years:
  - develop consensus across the Federal government on the procedures that central organizations should follow to ensure that their agency's entire portfolio of ESPC projects meets performance objectives and delivers energy savings and guaranteed cost savings throughout the entire performance period.

# For More Information

- Would you like to know more about this session?
- William Raup

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Don’t forget to fill out and drop off your session evaluations!

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