



Introduction to Performance Contracting

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What Is an ESCO?

An Energy Services Company helps customers:

- Upgrade facilities, including both:
 - Energy efficiency upgrades and
 - General facility upgrades (e.g., to fix problems)
- Accomplish these upgrades by providing an integrated package of services
- Pay for some or all of the cost of these upgrades with guaranteed energy savings





What Is Performance Contracting?

- The ESCO assumes performance risk for the services delivered
- The ESCO's compensation is tied to the measured performance of the integrated package of services delivered by the ESCO
- The customer and ESCO choose an approach to performance measurement that works for both





What Services Do ESCOs Typically Integrate for Customers?

- Audit & Feasibility Analysis
- Engineering Design
- Financing
- Installation
- Maintenance and/or Training
- Measurement & Verification (M&V)
- Performance Guarantee





Definitions Needed to Better Understand ESCO Services

- ECM = Energy/Water Cost Saving Measure
- ECO = Energy/Water Cost Saving Opportunity
- IGA = Investment-Grade Audit
- ESA = Energy Services Agreement
- PC = Performance Contract





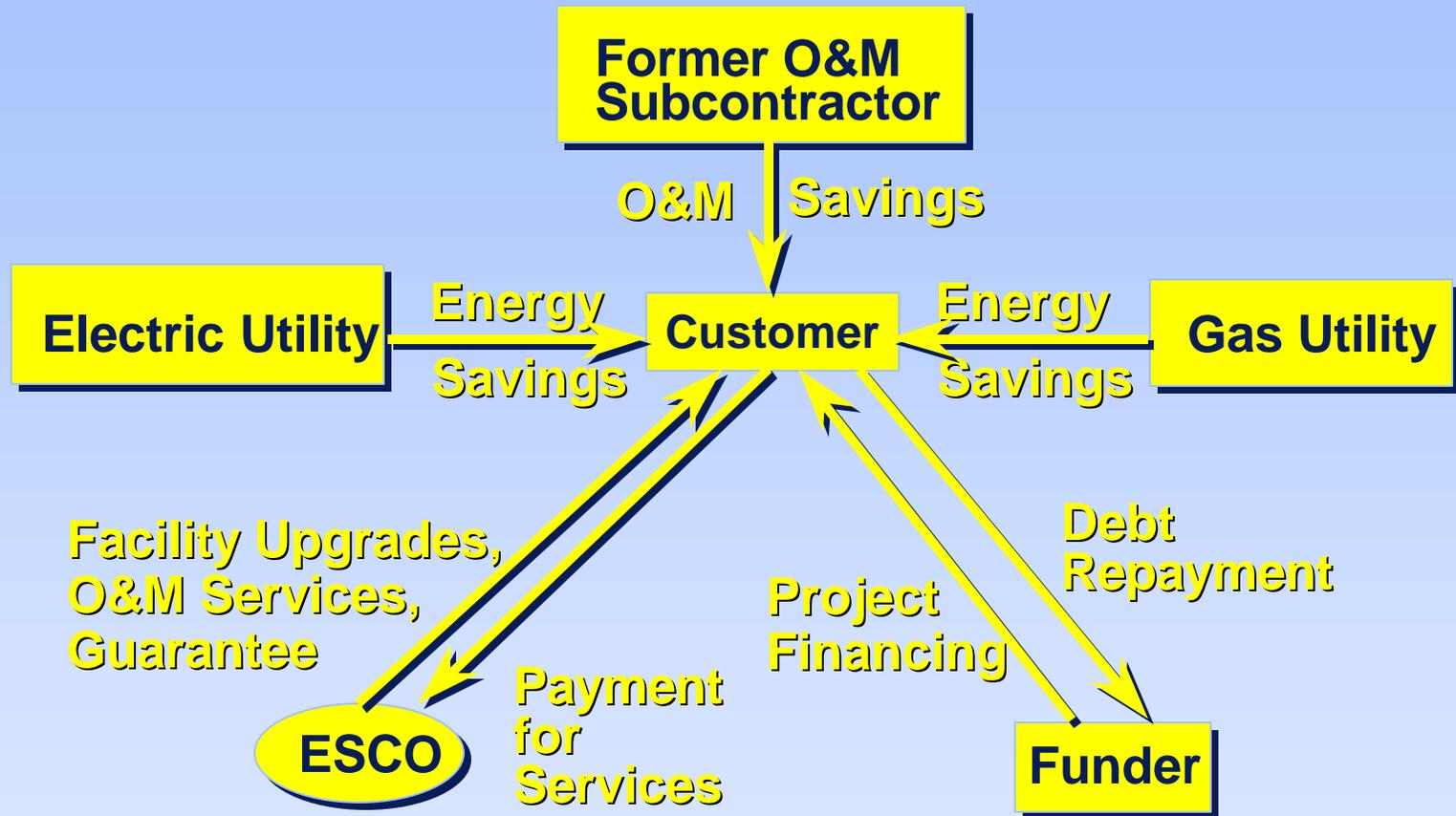
How Do ESCO Projects Generate the Savings That the ESCO Guarantees?

- Build ECMs in customer facilities to:
 - Eliminate energy waste
 - Decrease maintenance costs/requirements
 - Change energy use patterns
 - Switch energy-consuming systems to lower cost fuels (allow choice if lowest cost fuel varies)
- Obtain lower rates from current energy suppliers
- Source energy from lower cost alternate suppliers



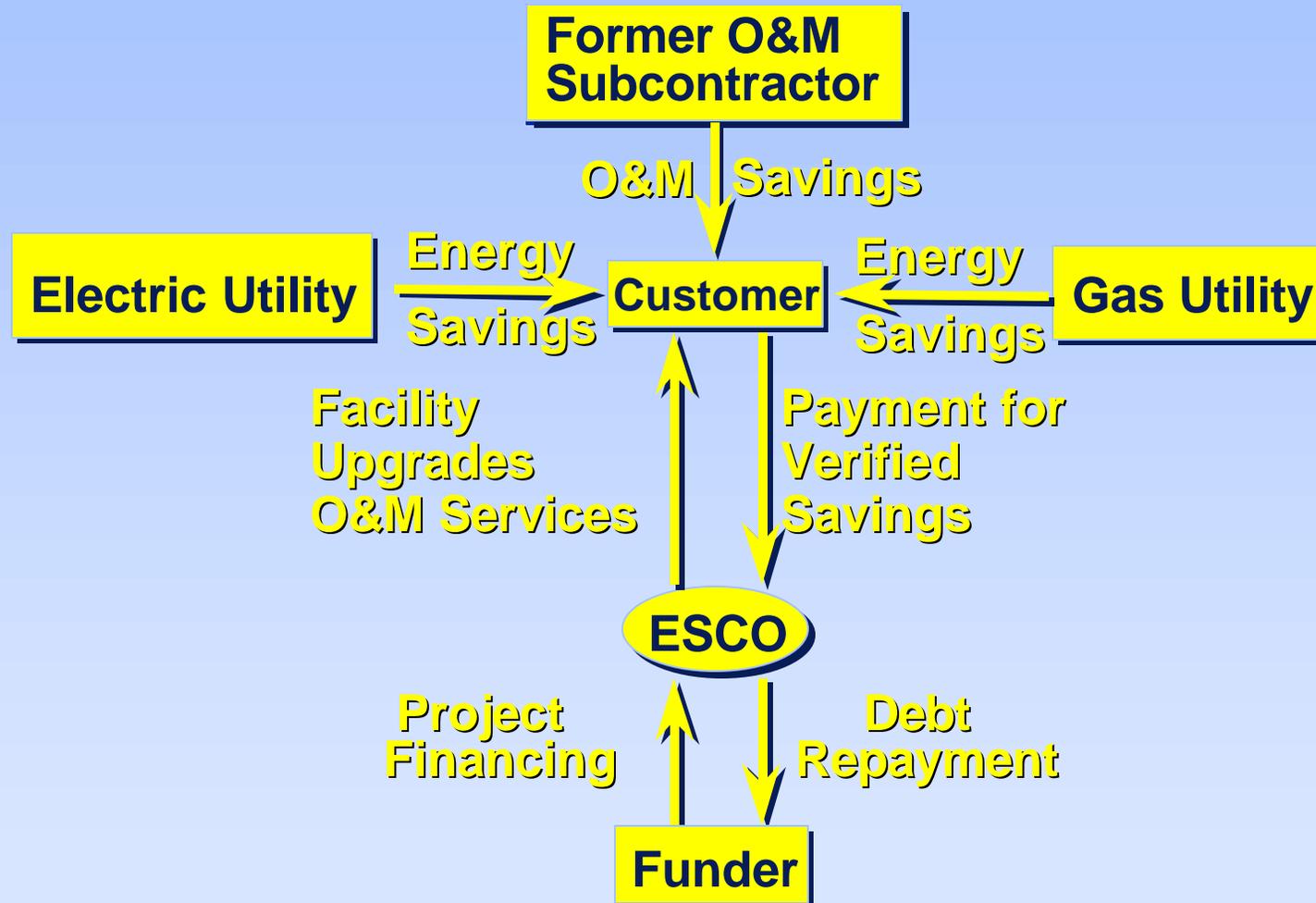


Guaranteed Savings: Less Funder Risk, Lower Interest





Shared Savings: More Funder Risk, Higher Interest





Responsibilities and the Energy Services Agreement

ESCO

- Identify ECMs
- Engineer ECMs
- Offer guaranteed savings & fixed price
- Negotiate to contract

CUSTOMER

- Select properties
- Choose an ESCO
- Approve ECMs
- Approve designs
- Review offer, request clarifications, etc.
- Negotiate to contract





Responsibilities and the Agreement (cont.)

ESCO

- Arrange financing
- Install ECMs
- Provide documentation
- Train employees and residents
- Receive payments
- O&M (per contract)
- Deliver guaranteed savings or true-up
- Transfer title

CUSTOMER

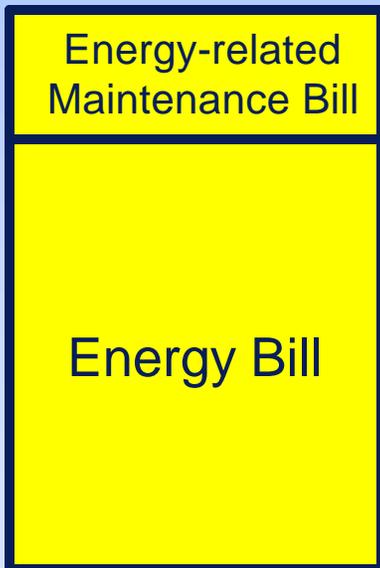
- Arrange financing
- Assume debt obligation
- Inspect & accept ECMs
- Receive training, docs
- Make payments
- O&M (per contract)
- Receive guaranteed savings or true-up
- Receive title





It Is Often Possible to Structure Projects to Pay from Savings

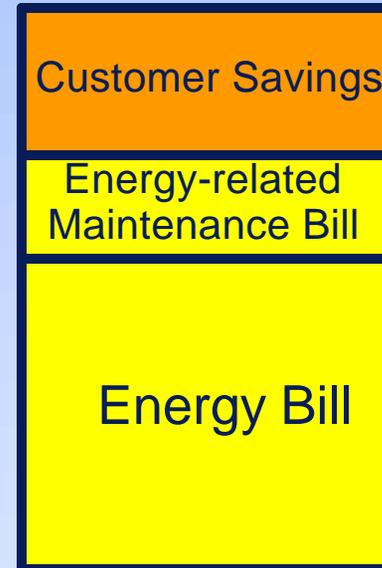
Before



During

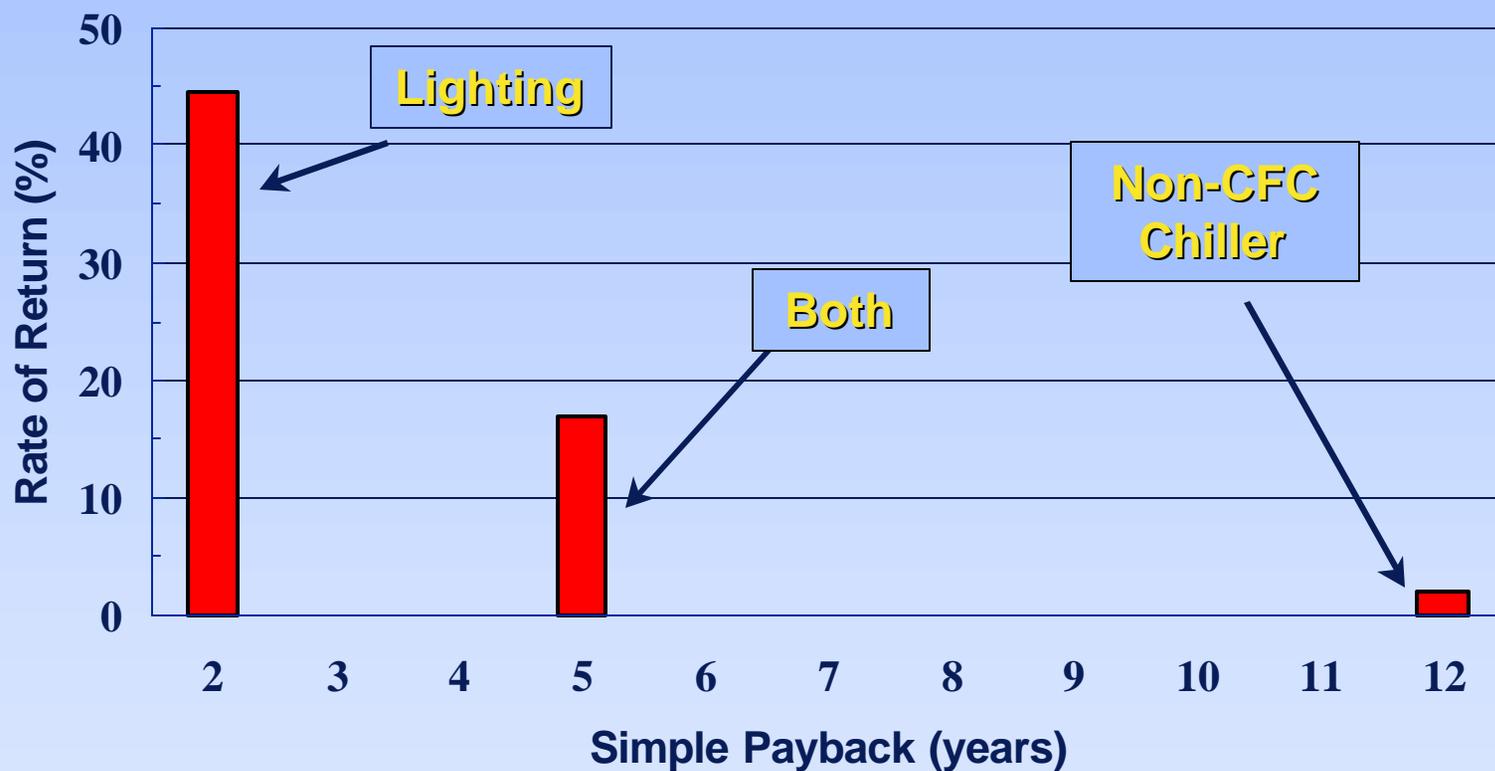


After





Bundling ECMs Together Enables You to Solve Facility Problems





Bundling vs. Cherry-Picking

- Comprehensive bundle of ECMs
 - Problem (e.g., aging equipment needing replacement)
 - No money for project to solve problem
 - Add short payback ECMs --> project self-funding
- Cherry-pick the short payback ECMs
 - Makes subsequent comprehensive projects in same buildings more difficult





When is a PC appropriate?

- Actual project periods may be estimated to be $2 \times$ simple payback period. Therefore a “bundled” project with a 12 year performance period will have a simple payback of 6 years.
- 1.5 years < “Bundled” payback periods < 6 years
- Example: \$200,000 annual energy budget, \$40,000 (20%) in annual savings will fund a \$240,000 project with a 6 year simple payback or 12 year project performance period
- Building use will be stable over contract period
- Initial PC should not be used on fast-track projects (completion necessary within 1 year)





Advantages of PC

- Little up-front funding
- Allows replacement of outdated equipment
- Helps acquire O&M services
- Uses future energy savings to fund projects
- HUD allows retention of savings generated (up to 12 years)
- Benefits local economy through use of local subcontractors and residents
- Guaranteed performance protects the PHA
- Minimizes technical and financial risks
- Allows bundling of measures
- Improves energy efficiency and occupant comfort levels
- Reliable, long-term energy-savings performance
- Single source accountability
- Optimizes equipment performance with commissioning





Why Use an ESCO?

- Expertise:
 - Survey, analysis, design, financing
 - Project management, installation, O&M, M&V
 - Energy procurement
- Financing options in place
- Minimal costs until energy savings accrue
- Synergistic teamwork / total solutions
- Long-term partnerships
- Reduce project risk





Benefits of Risk Reduction

- Turnkey ESCO services expedite project schedule and reduces the cost of delay (lost energy savings opportunity)
- Guaranteed measured savings reduces risk of savings erosion over time
- Specific environmental standards of service in contract will reduce the risk of comfort problems
- Integration of analysis, design and construction activities reduces risk of lost design synergies
- Utility savings and performance monitoring reduces risk of under-funding key maintenance needs
- Financial savings guarantee reduces risk of being unable to finance the project





This Boiler Plant is Hemorrhaging Cash for Wasted Energy and O&M





If ESPC Can Use the Same Cash Flow to Renew the Facility, Why Not Do It?





Conventional vs. Performance Contracting

Conventional Contracting

- Multiple contracts, multiple vendors, multiple disputes
- Energy savings are not guaranteed
- Comfort standards and system performance may be neglected
- Projects funded, often incrementally, by special appropriations

Performance Contracting

- Integration of services, uses a single contract
- Long-term guarantee of energy savings
- Contracts ensure comfort standards and system performance
- Projects funded by utility budget





Conventional vs. Performance Contracting (cont.)

Conventional Contracting

- Incremental measure implementation neglects synergistic savings opportunities
- Limited staff expertise and turnover may jeopardize project
- Annual budgets do not always provide allowances for staff training for new equipment

Performance Contracting

- Comprehensive measure implementation maximizes opportunities for savings and capital improvements
- Technical expertise and performance commitment ensures continuous service and savings
- Training is necessary to ensure proper equipment performance





Performance Contracts Have Been Financed in Many Ways

- Internal funds
 - Capital budgets (Modernization Funds)
 - Operating budgets
- Debt financing
 - Private lenders
 - Public bond issuances
 - General obligation bonds
 - Revenue bonds
- Lease & lease purchase
 - Operating lease
 - Capital lease
 - Municipal (tax-exempt) lease/lease purchase
- Utility incentives
- State and local financing
 - loans from agency funds
 - agency block grants





Performance Contracting Process for PHAs

Step 1:

Utility Analysis and Site Selection





Performance Contracting Process for PHAs (cont.)

Step 2:

Develop and Issue an Request for Proposals (RFP)





Performance Contracting Process for PHAs (cont.)

Step 3:

Select ESCO — Proposal Evaluation and Oral Interviews





Performance Contracting Process for PHAs (cont.)

Step 4:

Negotiate Energy and Water Audit Agreement

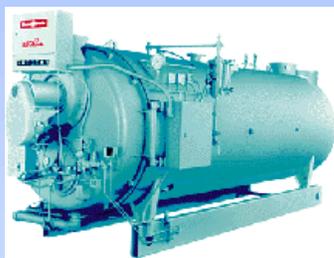




Performance Contracting Process for PHAs (cont.)

Step 5:

Review Audit Results and Select Measures to Implement

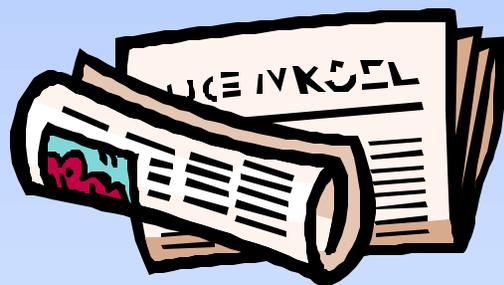




Performance Contracting Process for PHAs (cont.)

Step 6:

Negotiate Energy Services Agreement





Performance Contracting Process for PHAs (cont.)

Step 7:

Implement the Project

