



Energy Savings Performance Contracting



General Administration
STATE OF WASHINGTON

General Administration
Energy Program
2011

Efficiency Market Drivers

- ▶ **Cities, Counties, Universities, etc. Climate Commitments**
- ▶ **State Agencies, Colleges, and Universities must meet Statute Requirements (RCW 19.27A.190)**
- ▶ **Facility Efficiency and Personnel Reductions**

Energy Savings Performance Contracting (ESPC)

- ▶ Background
- ▶ Experience
- ▶ Procedure

ESPC Background

- ▶ Legislative Authority
- ▶ Definition
- ▶ Benefits
- ▶ Qualifying Projects
- ▶ Financing

Legislative Authority

- ▶ **RCW 39.35A.050**
 - ▶ The state department of general administration shall maintain a registry of energy service contractors and provide assistance in identifying available performance-based contracting services.

Legislative Authority

- ▶ **RCW 39.35C.020**
 - ▶ The department shall assist state agencies and school districts in identifying, evaluating, and implementing cost-effective conservation projects at their facilities.

ESPC Definition

- ▶ A method of identifying, constructing and financing energy and utility conservation projects.
- ▶ Uses energy/utility dollars saved and utility rebates to pay for the project costs.
- ▶ Eliminates most of the risks associated with the design, bid, build (DBB) process.

GA ESPC Program Benefits

- ▶ Low bid acceptance not required.
- ▶ Owner involved with subcontractor selection.
- ▶ Owner involved with equipment selection.
- ▶ **GUARANTEED:**
 - ▶ Maximum project cost
 - ▶ Energy savings
 - ▶ Equipment performance

ESPC Benefits (cont'd)

- ▶ Maintenance costs reduced.
- ▶ Improved indoor environmental conditions.
- ▶ Funds available through the State Treasurer.
- ▶ Positive cash flow over measure life.
- ▶ GA has over 20 years of performance contracting experience.

ESPC Benefits (example)

- ▶ Replace T-12 lights with T-8 lamps and energy efficient ballasts.
- ▶ Replacing magnetic ballasts with electronic eliminates flicker issues.
- ▶ PCB ballasts removed and disposed of properly, with documentation.
- ▶ Lower energy consumption, lower maintenance, lower costs.

ESPC vs. DBB Methods & Benefits

	Conventional DBB Method	ESPC Method	Benefits
A&E Selection	Required competitive	Competition Completed by State, Firms pre-qualified	Save time and cost
Contracts	Contracts have to define final result & materials in detail	Contracts define Performance and Guarantees	Save time and cost No surprises Fair state documents
Pricing	Not “open book” – Low Bid + Change Orders & Claims	All pricing open book Fees pre-negotiated and guaranteed	Know what you are paying for Know what you get
Financing	Capital or Operating Budgets – Up Front	State Treas, Bonds, ESCO or 3 rd party, Paid out of savings plus Utility Incentives	No legal fees Power of state buying Low interest rates

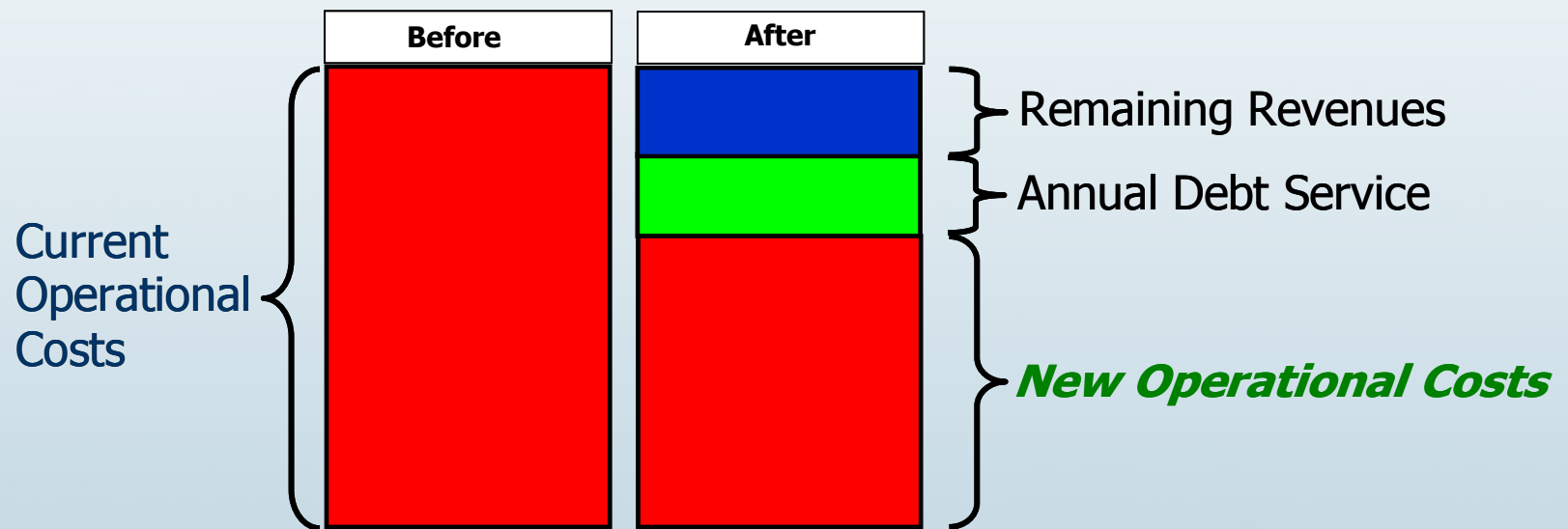
Qualifying Projects

Energy, Water, Sewer and Waste Disposal saving projects such as:

- ▶ Lighting projects – lamps, ballasts & fixtures
- ▶ HVAC modifications
- ▶ Steam & condensate piping upgrades
- ▶ Boiler & chiller system upgrades
- ▶ Energy management control systems
- ▶ Buildings and grounds water conservation
- ▶ Compost and recycling program elements
- ▶ WWTP improvements
- ▶ Renewable energy systems

Financing

Budget Neutral Approach



Financing Options

- ▶ **Energy Service Company Financing**
- ▶ **Utility Incentives**
- ▶ **State Financing**
 - ▶ State Treasurer's LOCAL Program
 - ▶ 3.2% - 5.1% interest rate
 - ▶ 5 to 10 year loan
 - ▶ OSPI, Dept. of Commerce & Ecology grants
- ▶ **Federal grants – ARRA & Others**

GA Experience

- ▶ **Energy Conservation in Public Facilities (since 1986):**
 - ▶ Over 500 projects completed
 - ▶ Over \$300 million in total projects
 - ▶ Over \$30 million in utility incentives brought to the projects
 - ▶ Over \$100 million in total avoided energy cost savings

Case Study 1:

▶ South Kitsap School District

▶ Project Included:

- ▶ Swimming pool heat recovery system
- ▶ Phase 1: New lighting in the High School and Administrations Buildings
- ▶ Phase 2: New lighting in the remainder of the district's facilities



Case Study 1:

- ▶ **South Kitsap School District**
 - ▶ **Project benefits:**
 - ▶ Improved pool facility conditions (temperature and relative humidity)
 - ▶ Improved lighting levels and removal of PCB ballasts.
 - ▶ **Project savings:**
 - ▶ 3.9 million kWh or \$240,000 annually
 - ▶ **Project cost:**
 - ▶ \$1.56 million, with \$466,000 utility grant

Case Study 2:

▶ **South Seattle Community College**

▶ **Project Included:**

- ▶ Replaced heating systems in seven buildings
- ▶ New lighting systems in Main and Duwamish campuses
- ▶ Expanded energy management system
- ▶ Water and irrigation system upgrades

▶ **Project benefits:**

- ▶ Improved comfort
- ▶ Better visibility
- ▶ Energy & maintenance savings

Case Study 2:

- ▶ **South Seattle Community College**
 - ▶ **Project savings:**
 - ▶ \$177,000 annual energy savings
 - ▶ **Project cost:**
 - ▶ \$1.58 million
 - ▶ \$146,000 in grant funds from Seattle City Light

Experience

- ▶ **Clients include state agencies, colleges and universities, cities and towns, counties, school districts, port districts, libraries, hospitals, health districts and more.**
 - ▶ **Current clients include:**
 - ▶ Auburn School District
 - ▶ King County
 - ▶ Washington State University
 - ▶ Port of Bellingham
 - ▶ Evergreen Hospital
 - ▶ Harborview Medical Center
 - ▶ City of Bellingham
 - ▶ Western Washington University
 - ▶ Bellingham School Dist.
 - ▶ Skagit County
 - ▶ Department of Social & Health Services
- ...and dozens more

Procedure

- 1. Agreement established between GA and your agency, school district, hospital district, county etc.:**
 - ▶ **GA initiates an Interagency Agreement (IAA)**
 - ▶ Both parties (owner & GA) sign the IAA
 - ▶ Owner publishes notice of agreement in the newspaper

Procedure

2. ESCO Selection:

- ▶ **GA has pre-qualified Energy Service Companies (ESCOs).**
- ▶ Owner reviews the qualifications and chooses the ESCO that is a good fit for its needs.
- ▶ Owner may also interview the ESCOs to choose the right one for its needs.

Procedure

3. Audit Phase:

- ▶ **Select facilities and systems to study.**
- ▶ Conduct preliminary walk-thru to develop audit proposal.
- ▶ **Owner establishes payback criteria.**
- ▶ ESCO prepares the Investment Grade Audit (IGA) proposal.
- ▶ ESCO and GA sign agreement for the Investment Grade Audit (IGA).
- ▶ Owner signs funding authorization.

Procedure

3. Audit Phase (cont'd):

- ▶ ESCO monitors equipment and calculates the Baseline.
- ▶ **ESCO completes an Investment Grade Audit (IGA) and the Energy Services Proposal (ESP) – Guaranteed costs and savings**
- ▶ Owner may list favored and disfavored subcontractors and equipment.
- ▶ GA and Owner review and comment on draft audit.
- ▶ ESCO presents final IGA results and ESP

Procedure

4. Design & Construction Phase:

- ▶ **GA incorporates the ESP into the ESCO Contract**
- ▶ Owner signs funding authorization
- ▶ GA issues notice to proceed
- ▶ GA and owner review design documents
- ▶ Bid documents prepared by ESCO
- ▶ **Sub-contractors and equipment selected**
- ▶ GA and owner manage ESCO project construction
- ▶ **GA and ESCO verify first costs and savings**

Procedure

5. Measurement and Verification:

- ▶ **First year measurement and verification (M&V) is part of the project cost to verify savings.**
- ▶ **M&V in years 2 thru 10 are covered under a separate agreement, authorized by the owner.**
- ▶ **International Performance Measurement and Verification Protocol (IPMVP) methodologies used.**

For More Information

- ▶ Visit GA's Website at
<http://www.ga.wa.gov/EAS/epc/espc.htm>
- ▶ State Treasurer's LOCAL Program
<http://tre.wa.gov/LOCAL/local.htm>
- ▶ Questions?

Thank You



Stuart Simpson

Energy Engineer

GA Energy Program

360-902-7199

stuart.simpson@ga.wa.gov