

**Arkansas ASHRAE**

ASHRAE Chapter 62

# **Energy Efficiency and Performance Contracting Services**

September 2, 2009





**Northwest Arkansas ASHRAE**

# **Energy Efficiency and Performance Contracting Services**

September 3, 2009



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**YOUR GUIDE FOR THIS DISCUSSION**

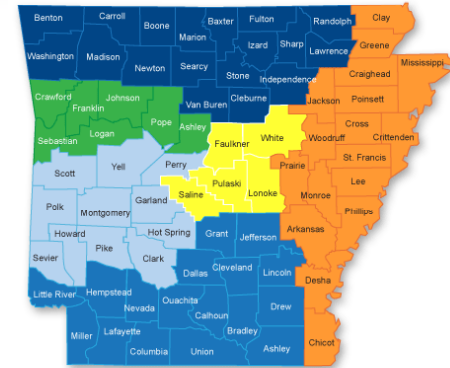
# Presentation Agenda



- Energy Efficiency in Arkansas
- Performance Contracting 101
- Arkansas Rules and Regulations
- Questions

# Energy Efficiency in Arkansas

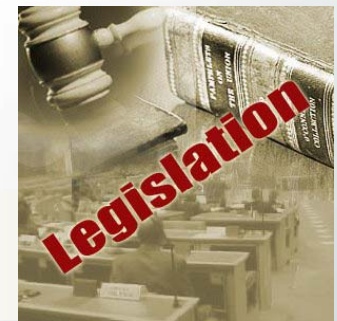
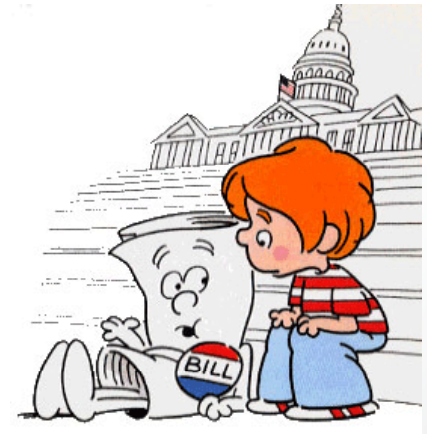
- Act 1761 of 2005
- Act 1494 of 2009
- Executive Order 09-07
- Stimulus Funds
- School Funding



**STATE OF ARKANSAS**  
**EXECUTIVE DEPARTMENT**  
**PROCLAMATION**

# Energy Efficiency Legislation

- Act 1761 of 2005
  - ✓ Established new criteria for procurement
  - ✓ Office of State Procurement
  - ✓ Increased performance contracting
- Act 1494 of 2009
  - ✓ Sustainable Energy Efficiency Program
  - ✓ Minimum Energy Standards
  - ✓ Energy Efficiency for Existing Buildings



# Executive Order

**STATE OF ARKANSAS**  
**EXECUTIVE DEPARTMENT**  
**PROCLAMATION**

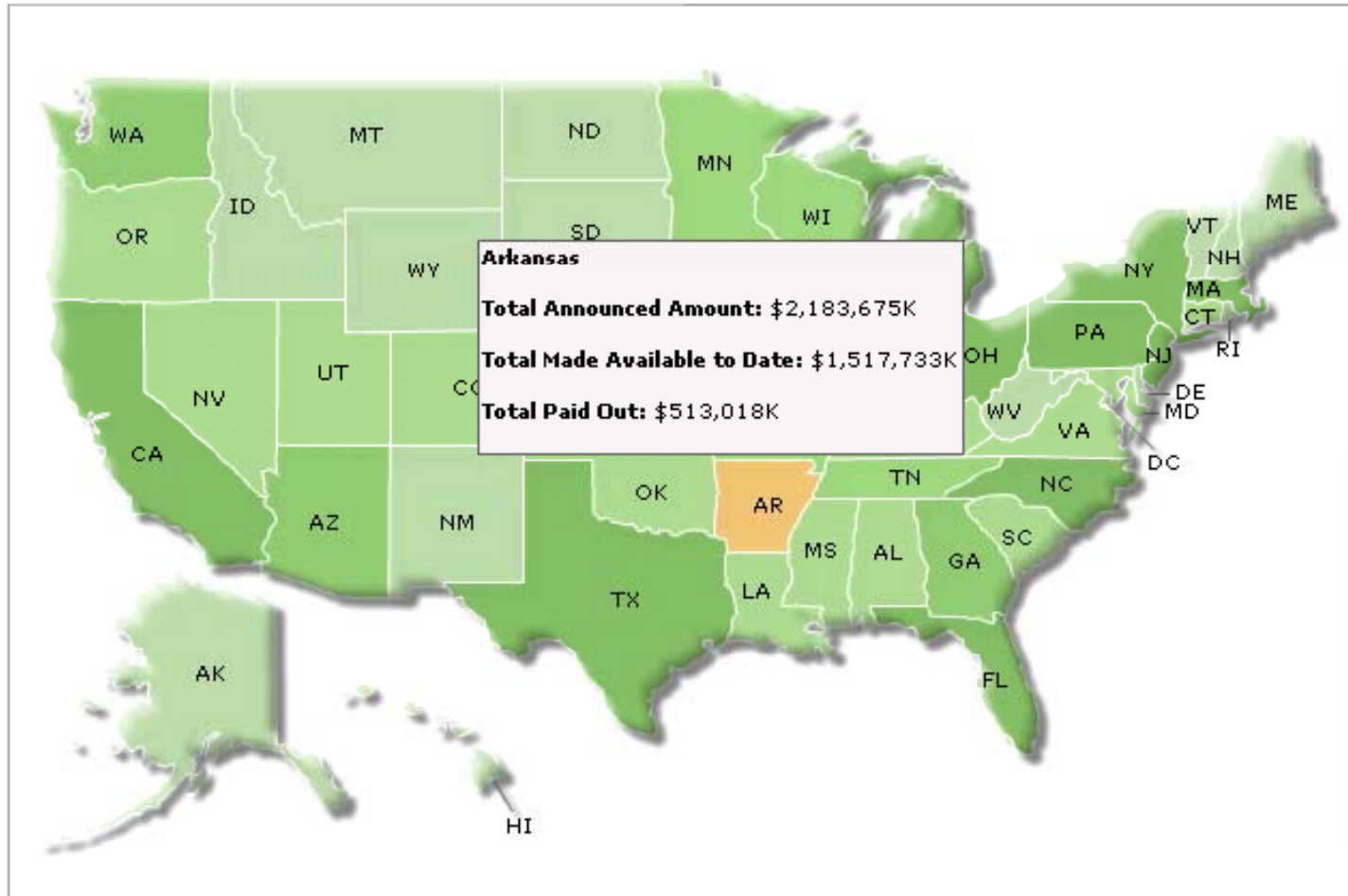
- Executive Branch Agencies
- Strategic Energy Plan (SEP)
- Energy Star or LEED
- Sustainable and Energy Requirements
- SEP by Oct. 21<sup>st</sup>
- Non-Executive Agency Participation



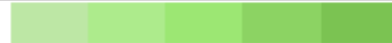
# Stimulus Funding

Funds Paid Out \*

[Show Detailed View](#)



Funds Paid Out: \$0



\$11,992,789

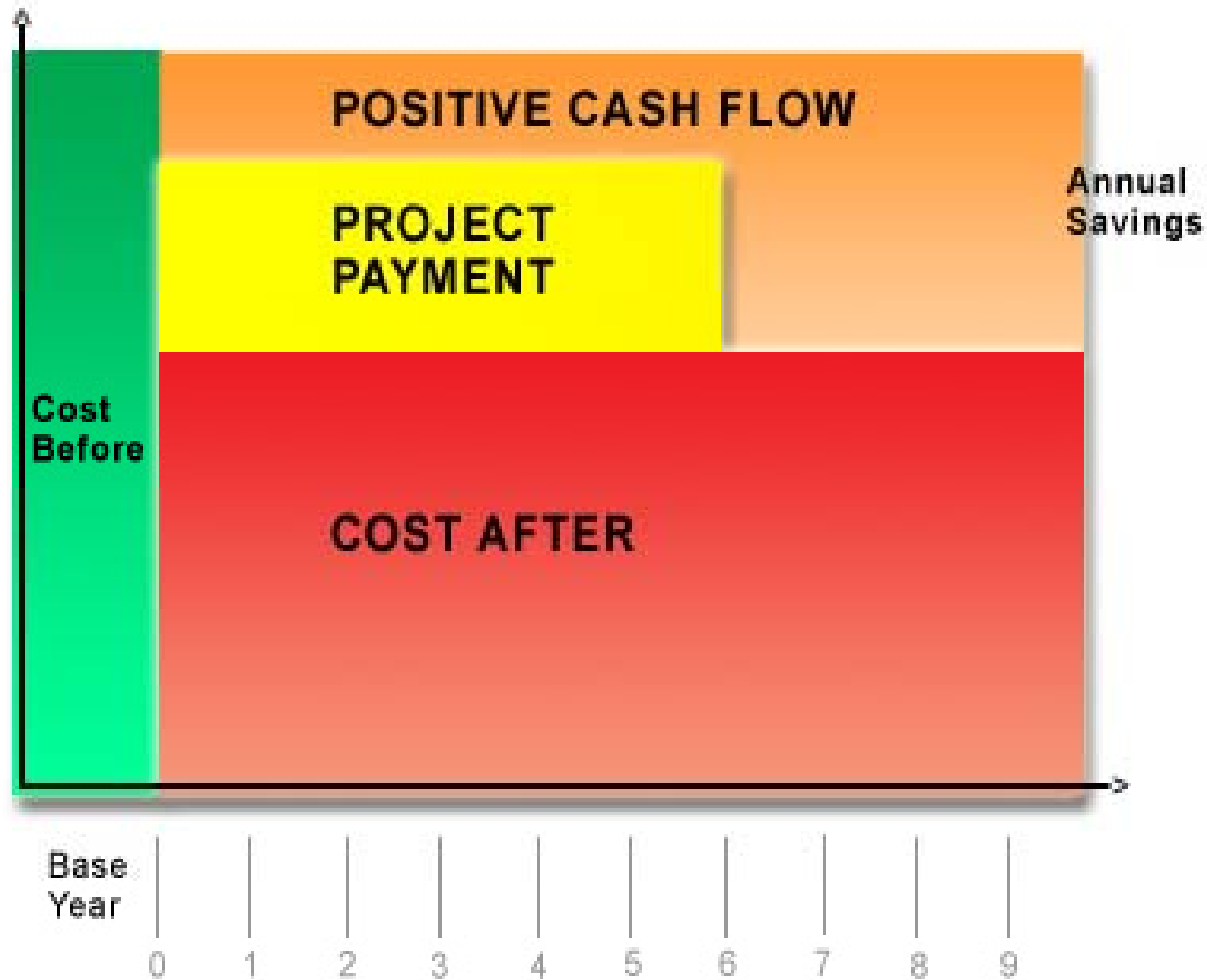
In Thousands

# Performance Contracting

## Definition

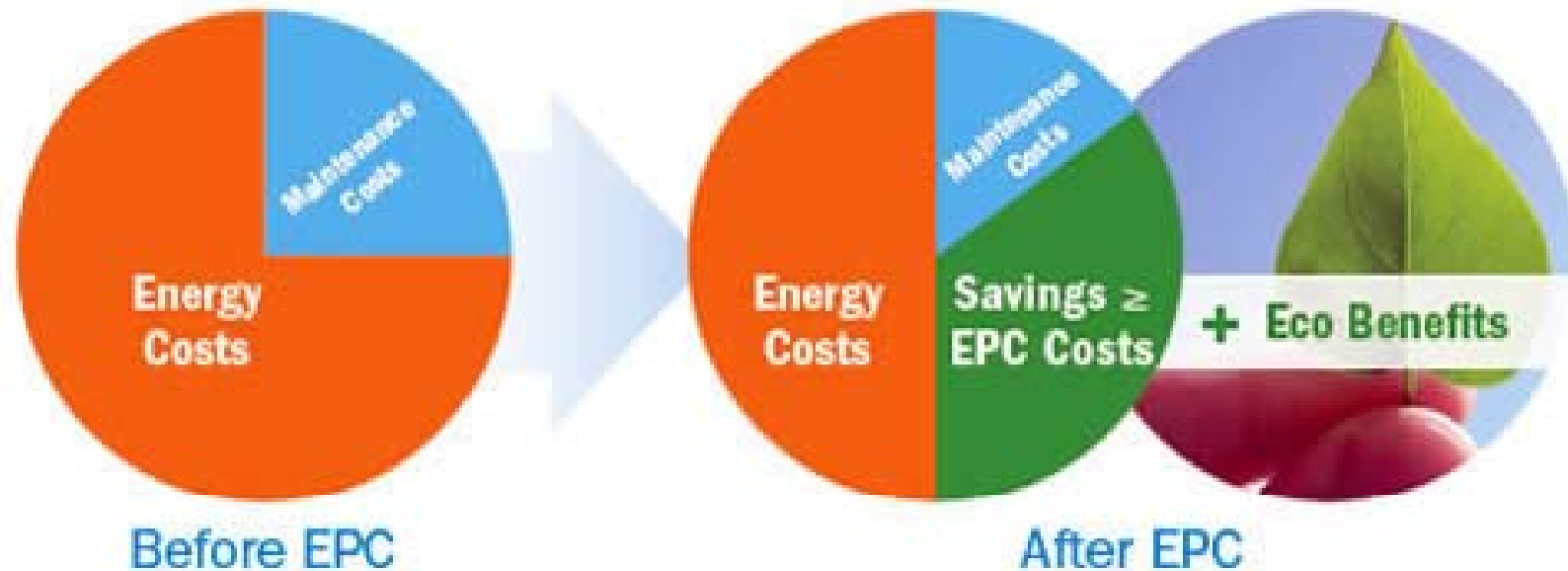
- Energy Performance Contracting (EPC)
- Energy Services Company (ESCO)
- Typical Elements:
  - ✓ Turnkey Service
  - ✓ Comprehensive Measures
  - ✓ Technology Focus
  - ✓ Financing
  - ✓ Savings Guarantee

# Where Are The Savings?



# Savings and Other Benefits

## Overview of a typical EPC project



# Performance Contracting 101

## Fact or Fiction

“Leveraging guaranteed energy and operating cost savings to fund the implementation of energy cost reduction and deferred maintenance measures.”



# What are the Steps?

- Establish Your Team
- RFP and Preliminary Audit: **60 days**
- ESCO Selection: **30 days**
- Investment Grade Audit: **90 to 120 days**
- Project Selection: **30 days**
- Procure Funding / Financing: **30 days**
- Final Design: **120 to 180 days**
- Construction: **6 - 12 months**
- Measurement and Verification: **Up to 20 Years**

# Process Diagram



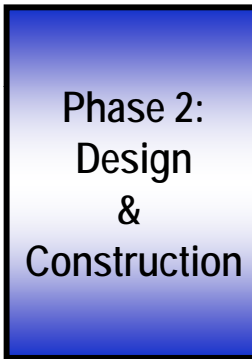
- Establish Project Criteria
- Expectations Aligned
- Commitments Established
- Phase 1 Contract Executed



- Investment Grade Audit
- Data Analysis
- Concept Design
- Cost Savings
- Install Costs
- Economics
- Report
- M&V Plan



- Scope Finalized
- Pricing
  - Fixed
  - GMP
- Project Financing



- Final Design
- Equipment Selections
- Construction Documents
- Installation
- Commissioning



- Maintenance Agreement
- Training
- M&V Execution

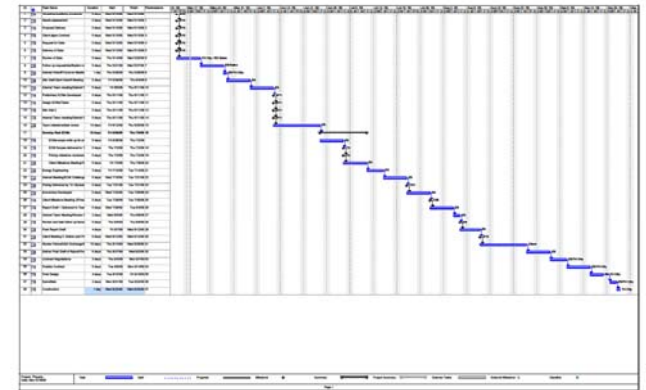
# Investment Grade Audit

- Scope of Work versus Schedule
  - ✓ Audit not a Study
  - ✓ 35% Design
- Detailed Cost Estimates
- Guaranteed Maximum Price
- Guaranteed Energy Savings
- Detailed Project Schedule
- Project Specific Draft M&V Plan
- Payment for Audit
- Establish Partnership!



# Implementation Issues

- Financing Procurement
- Design Review and Approval
- Construction Administration
- Commissioning Services
- Guaranteed Savings
  - Detailed M&V Plan
  - Stipulated Savings
  - Utility Costs
  - Allowable Savings
  - Maintenance/Savings Contract



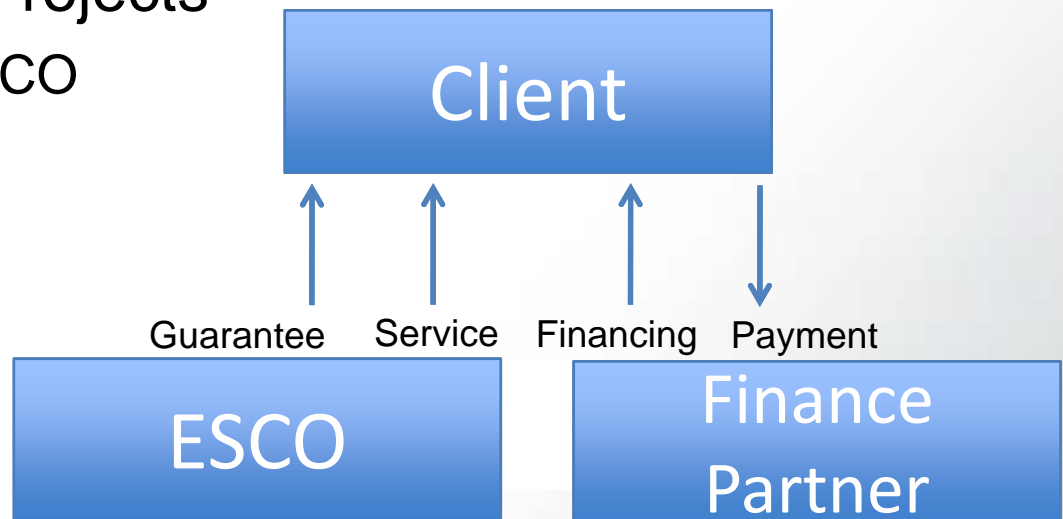
# Measurement and Verification

- International Performance Measurement and Verification Protocol (IPMVP)
  - A - Partially Measured Retrofit Isolation
  - B - Retrofit Isolation
  - C - Whole Facility
  - D - Calibrated Simulation
- Building Benchmarking
  - EPA Energy Star
  - Utility Cost Comparison



# Financing Approach

- Large Comprehensive Projects
  - Provide financing for client
  - Work directly with client's finance partner(s)
  - Provide financial expertise
  - Hybrid arrangement
  - Pass through cost
  - Typically impacts borrowing capacity (on balance sheet)
- Small Technology Projects
  - Self financed by ESCO
  - Shared Savings
  - Off balance sheet



# Funding Options

- Grants and Tax Incentives
- Utility Rebate Programs
- Capital Budget Appropriation
- Bonds
- Lease
  - Capital Lease
  - Operating Lease
  - Synthetic Lease
  - Tax Exempt Lease
- Revolving Loan Funds
- Leasing Pools
- Energy Buy/Sell Agreements
- Shared Savings



# Mark-ups and Fees

- Overhead
- Profit
- Bonds
- Sub-Contractors
- Design
- Contingency
- Project Management
- Self Performed Work
- Construction Management
- Warranty
- Commissioning
- M & V
- Training
- Audits

Typical Total Mark-ups Ranging from **30% to 70%**

# Performance Contracting

## Is it a good approach?

- Offsetting Costs
- Take Advantage of Free Money
- There is a premium!
- It is better than doing nothing!
- **Energy is a good investment**



# Energy Investment

## Efficiency Investment Risks and Returns

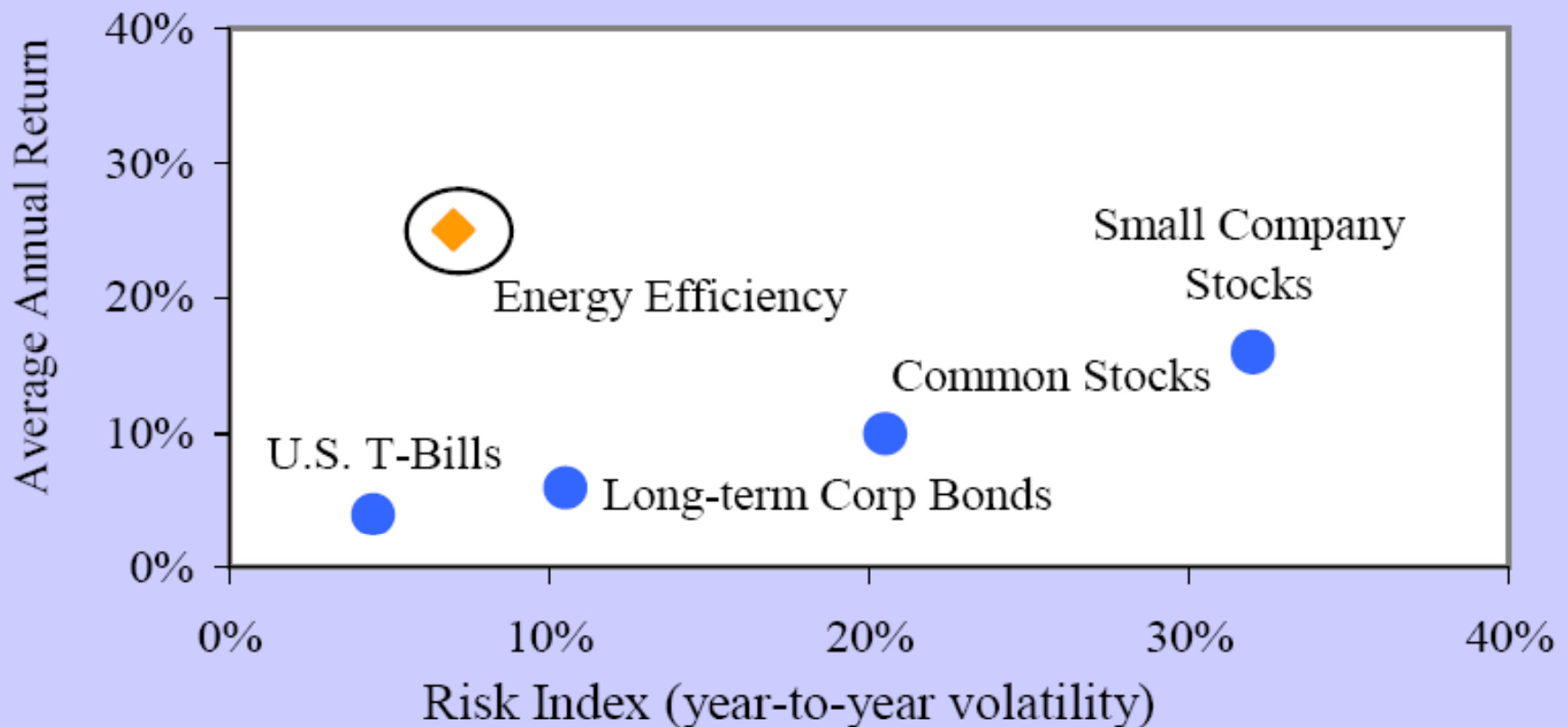


Figure 2. Source: Ehrhardt-Martinez, Karen and John "Skip" Laitner; "The Size of the U.S. Energy Efficiency Market: Generating a More Complete Picture." Washington, DC: American Council for an Energy-Efficient Economy. May 2008, p. 29.

# What Does Arkansas Law Require?

- Pre-Qualified ESCOs - 11
- Cost Based Procurement / RFP
  - OSP Interpretation
- Performance and Payment Bonds
- 20 Year Maximum Term
- Annual Guarantee of Savings
- Annual Reconciliation

# Arkansas Pre-Qualified ESCOs

- Ameresco
- Burns & McDonnell Engineering Co.
- Chevron Energy Solutions
- Comfort Systems USA Energy Services
- Energy Systems Group
- Johnson Controls
- Siemens Building Technologies
- Tour Andover Controls
- The Benham Companies
- TME, Inc.
- Trane

Source: Arkansas Dept. of Finance and Administration Office of State Procurement Website.  
[http://www.arkansas.gov/dfa/procurement/pro\\_energy\\_savings.html](http://www.arkansas.gov/dfa/procurement/pro_energy_savings.html)

# Market Drivers

- Technology
- Government Mandates
- Sustainability Initiatives
- Greenhouse Gas Inventory and Offset
- Energy Star



The Greenhouse Gas Protocol Initiative  
*The foundation for sound and sustainable climate strategies*

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## Questions

