



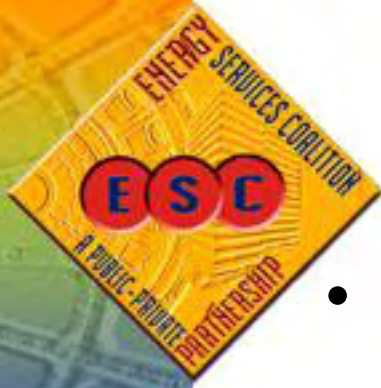
Energy Services Coalition

Energy Performance Contracting

**An important tool for the Public Sector to
Achieve Energy Efficiency**

*Energy Efficiency delivers the biggest
environmental return and provides cost
savings that can be used to pay for the
investment through a performance
contracting approach*

Energy Services Coalition (Colorado Chapter)



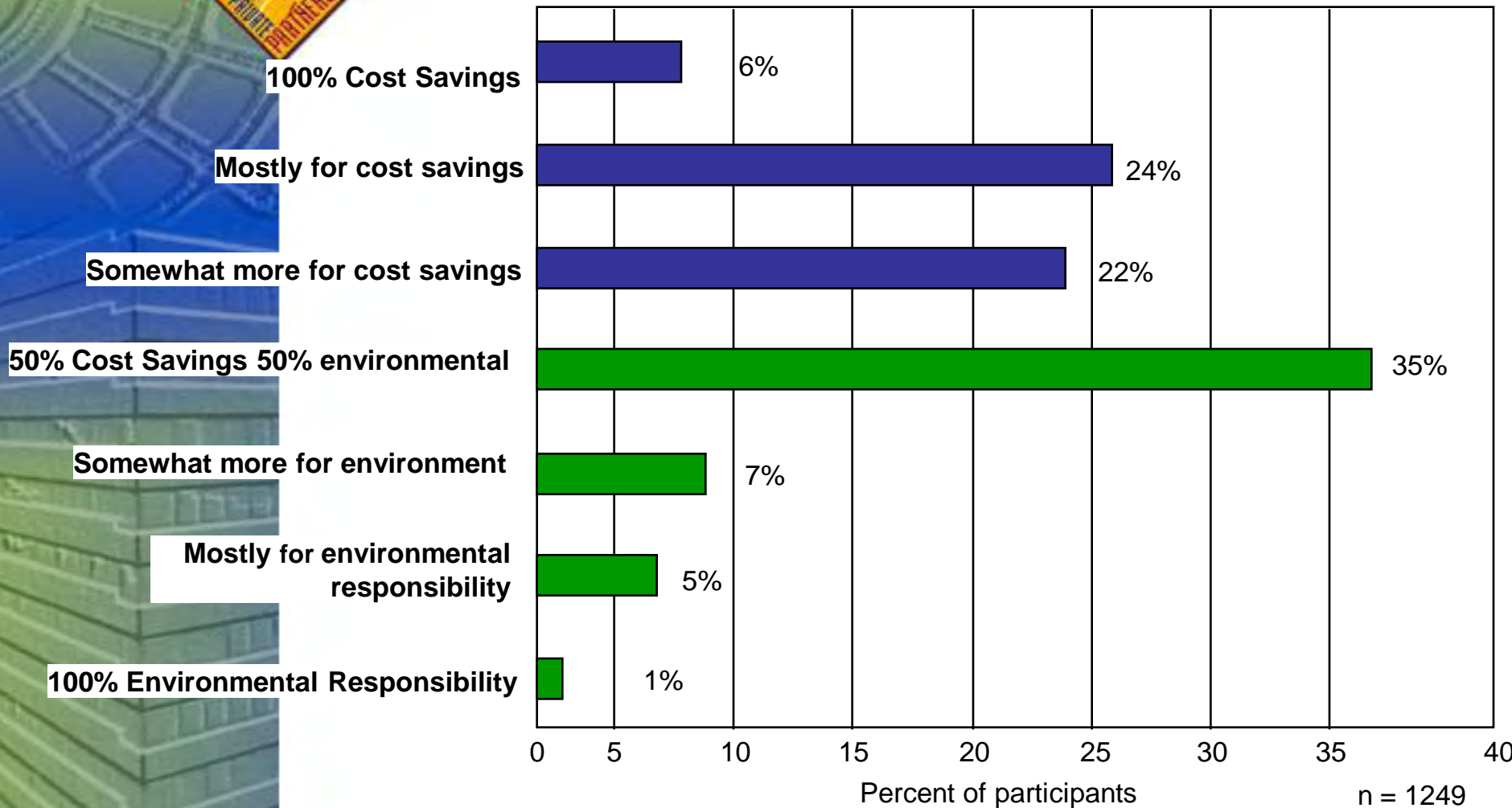
- A non-profit organization
- Public- and Private-sector members
 - ESCOs, State officials, Financial institutions, & etc.
- Aims to make energy performance contracting one of the primary means of:
 - Increasing energy efficiency,
 - Reducing energy consumption, and
 - Improving air quality



Oscar Rangel:

Why Energy Performance Contracting (EPC)?

What we are saying about EPC

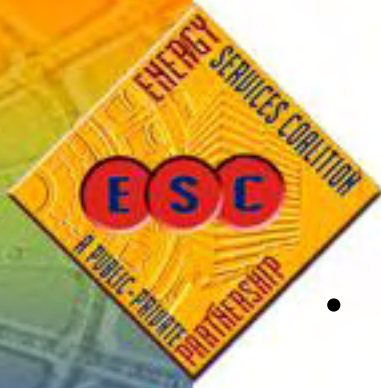


Current Colorado Challenges



- Tight budgets
- Layoffs and Furloughs
- Limited resources
- More projects than available funding
- Aging infrastructure
- Pressures to focus on energy & water conservation
- Interest in renewable energy

Economic Drivers



- Worst economic downturn
- Cost of Utilities
- Decrease in tax revenues
- Decrease enrollment
- In house vs. ESCO
- Accelerate Improvements
- Fund Renewables

Typical Improvements

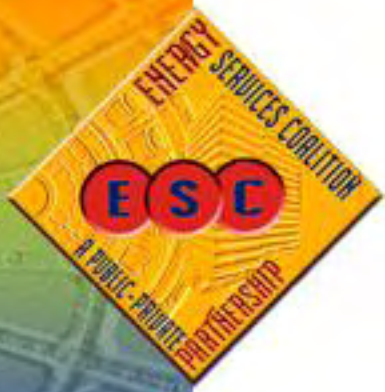


- Upgrade to healthy, High Performance Green Building
- HVAC Upgrades
- Lighting systems
- Insulation
- Renewable energy (PV, Solar Thermal, Geothermal, Wind, Biomass, LFGTE, etc.)
- Retro commissioning
- Traffic and Street lighting
- Education
- Fuel Switching and Alternative Fuels
- Vending power management
- Computer power management
- Preventive Maintenance
- Water & Wastewater Infrastructure Optimization
- Mechanical meter replacement and automated meter reading
- Distributed Generation, Cogeneration and Central Plants

So Why do EPC?



- Preserves limited budget dollars for other services & activities
- Finances capital energy improvements from utility savings
- Reduces frequency of repairs & maintenance costs for inadequate, aging, or obsolete equipment
- Provides operating personnel with technical training
- Decreases indoor air quality (IAQ) problems
- Creates a more comfortable work environment and increases employee productivity
- Enhances the local economy with the ESCOs' use of local subcontractors
- Creates an incentive for ESCOs to develop efficient projects, since compensation is linked to project savings
- Improves the environment and conserves scarce energy resources



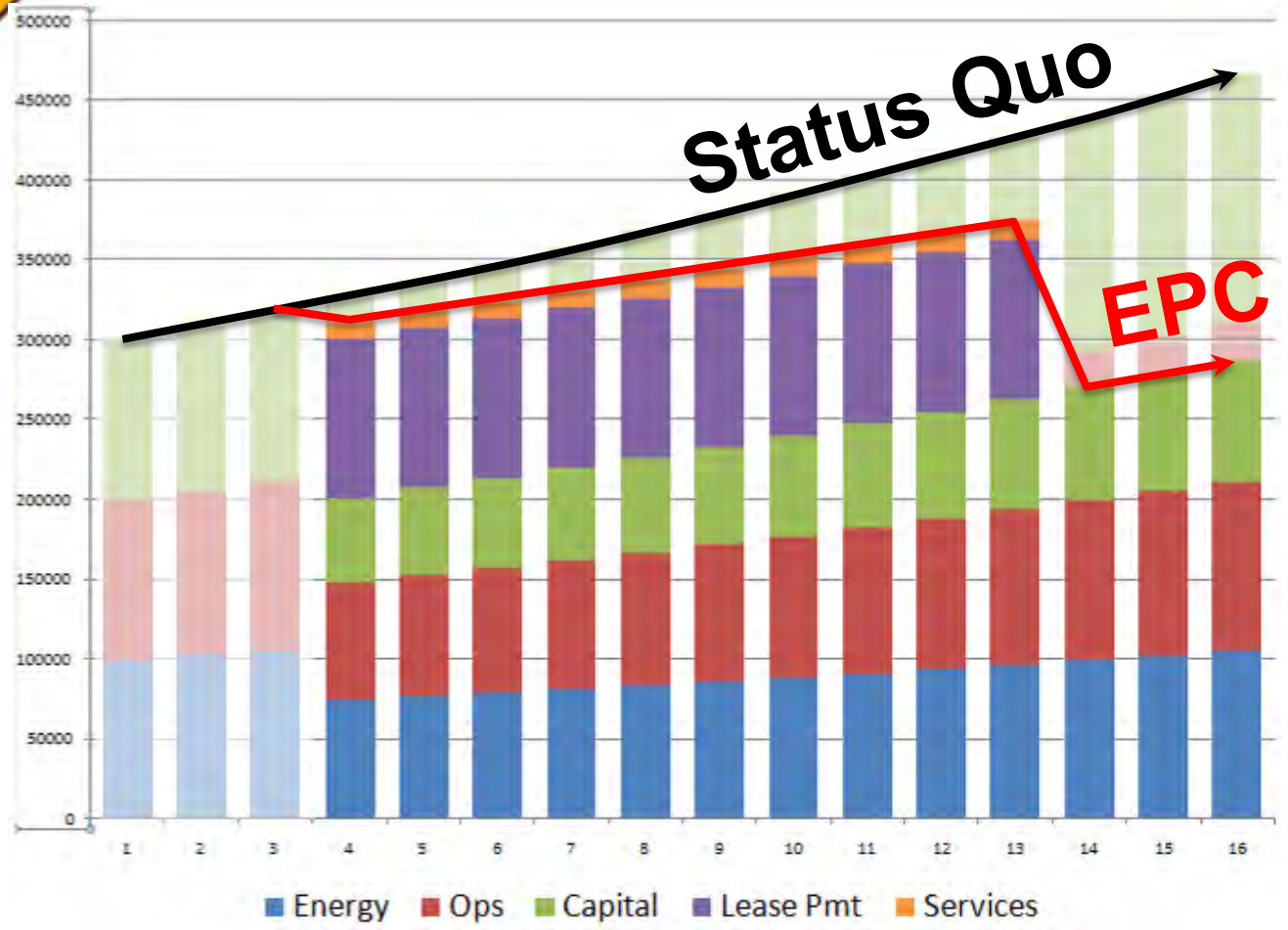
Matt Rush: *What is EPC?*

What is Energy Performance Contracting (EPC) ?



The process of leveraging guaranteed future cash savings from energy and operational costs to invest in facility improvements right now.

What is EPC ?



What do you get ?

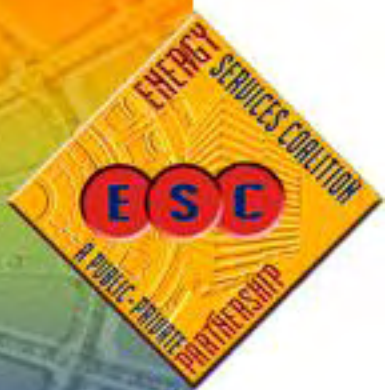


Facility improvements

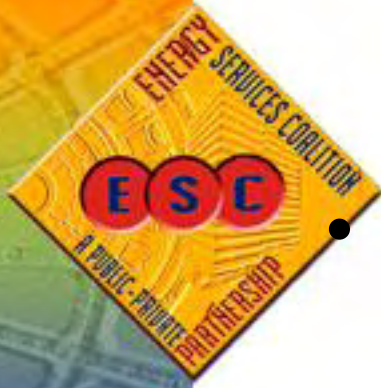
- Upgraded heating & cooling
- Lighting retrofits
- Windows & roofs
- Modernized controls
- Guaranteed results
- *Renewables & Alt. Energy*

Misconceptions

- Myths
 - Shared-savings
 - Increase debt
 - Sacrifice comfort
 - Firm restrictions
- Safeguards
 - Guaranteed results
 - GEO – Pre-qualified ESCOs

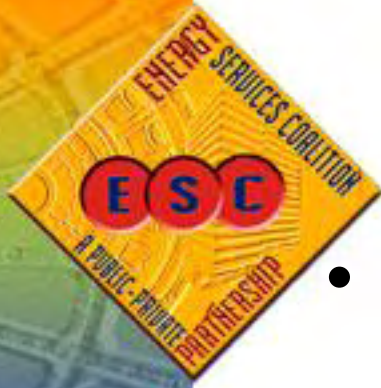


Options

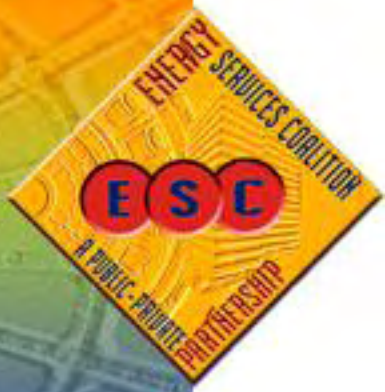


- Financial Flexibility
 - Quick payback (100% self funding)
 - \$1,000,000 w/ \$150,000 / yr savings
 - Simple payback ~ 6.7 yrs
 - Facility investment (*cap. contribution*)
 - \$2,500,000 w/ \$80,000 / yr savings
- Align with core mission
 - Education (*learning environment*)
 - Municipal services (*productive workplace*)

Measurement & Verification

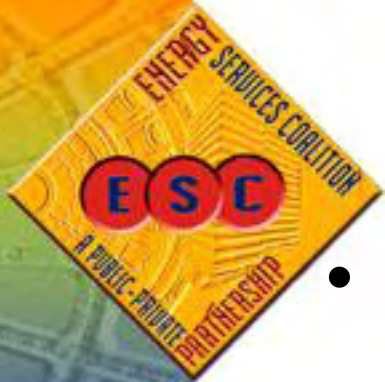


- Know savings is occurring
 - International Performance Measurement & Verification Protocol (IPMVP)
 - One-time measurement
 - Whole building tracking
 - Third-party verification (GEO)



John McAllister: *How to do it...*

How to -Energy Performance Contracting (EPC)



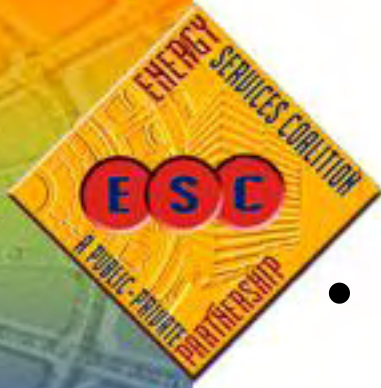
- Leverage of energy efficiency
- For every \$ of savings
- \$7 can be financed over 12 years
- Range of Leverage on projects with other financing (grants, utility incentives, etc) =
 - \$7 to \$30

How to -Energy Performance Contracting (EPC)



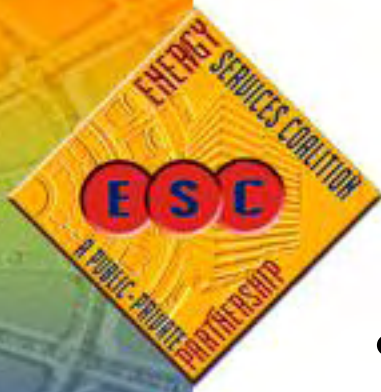
- Constituents & Stakeholders
- Resources and Opportunities
- Staff Resources
 - Managers
 - Technical/operations
 - Financial
 - Champion
- External Resources (GEO, ESCOs, consultants, etc)
- Needs Assessment

Needs Assessment



- Perform Assessment
 - Internal
 - Contracted
 - GEO assist
 - ESCO
- Facilities and Grounds
- Fleets
- Operations

Benchmarking



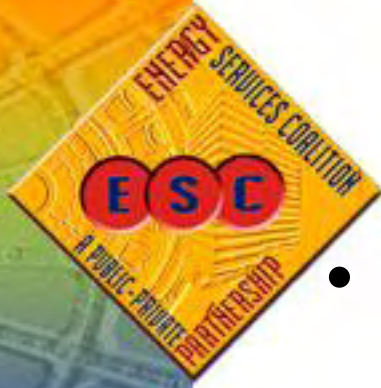
- Facilities
- Energy Use (btu/sf)
- Energy Cost (\$/sf)
- Greenhouse gases
- Vehicle Fuels (mpg)
- Water

Financing



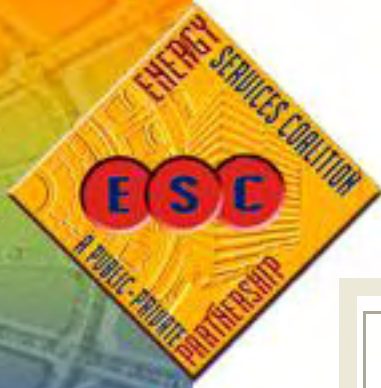
- Tax Exempt Lease Purchase
- Grants (Public and Private)
- Capital Reserve
- Bonds-Revenue and GO
- Incentives
 - Utility Rebates (Electric-Nat Gas-RCx)
 - GEO programs
 - Renewable Rebates
 - Renewable Energy Credits (RECs)

Results



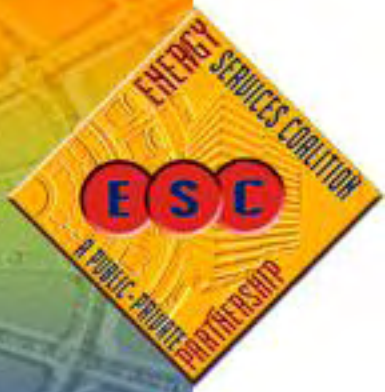
- Celebrate the benefits
 - Monetary (lower utility costs)
 - Comfort/productivity
 - GHG
- Promote / Inform
- Reporting
- Sustainable savings

Results



**Your Energy Efficiency Efforts Will Also Result
in the Following Pollution Reductions:**

Type of Pollution	Amount of Reduction per Year
Greenhouse Gases (CO ₂)	2,958,800 Pounds
Nitrogen Oxides (NO _x)	3,811 Pounds
Sulfur Dioxide (SO ₂)	2,069 Pounds
Toxic Metals Pollution	Amount of Reduction per Year
Mercury (Hg)	4,376 Milligrams



Questions & Answers