

NYSAC  
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# **Implementing Energy Efficiency Programs**

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# Agenda

- ▶ **SITUATION RECOGNITION**
- ▶ **IMPLEMENTATION OPTIONS**
- ▶ **ENERGY PERFORMANCE CONTRACTS**
- ▶ **FINANCIAL BASICS**
- ▶ **QUESTIONS**

# Cost Savings Program

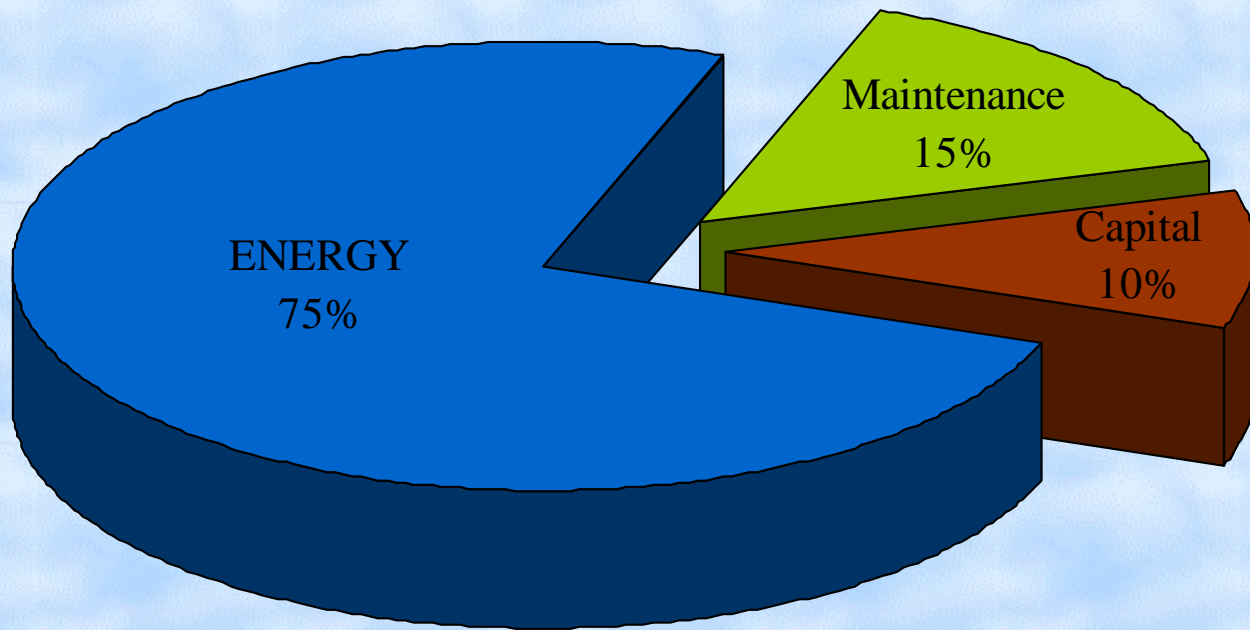
- Reduce Cost of Energy (MEGA)
- Energy Awareness Program
- Low/No Cost Improvements
- **Capital Projects**

# Typical Situation

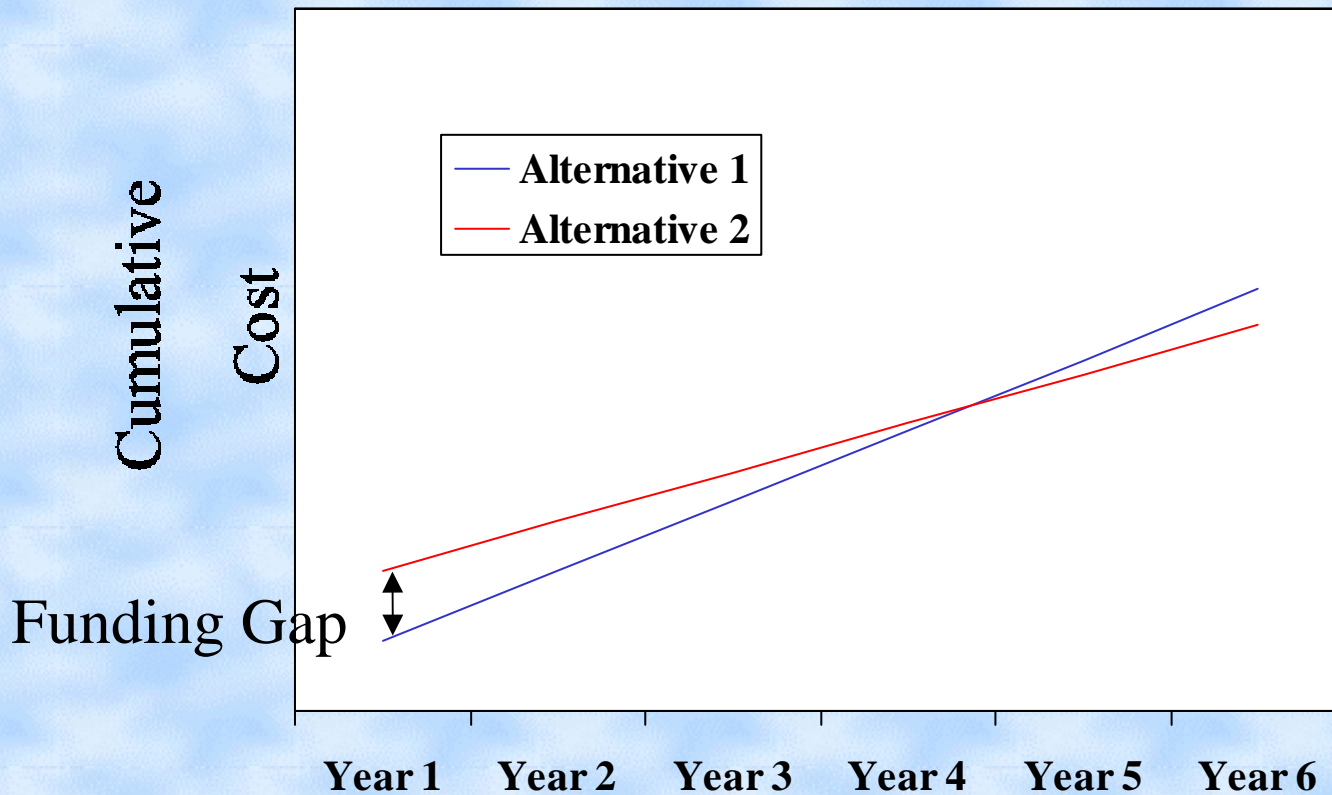


- Capital Program Needs Are Greater Than Budget
- Buy as much construction as possible
- Lower emphasis on operating costs that impact a different budget
- Fear that savings will not materialize

# Life Cycle Cost of an Air Compressor

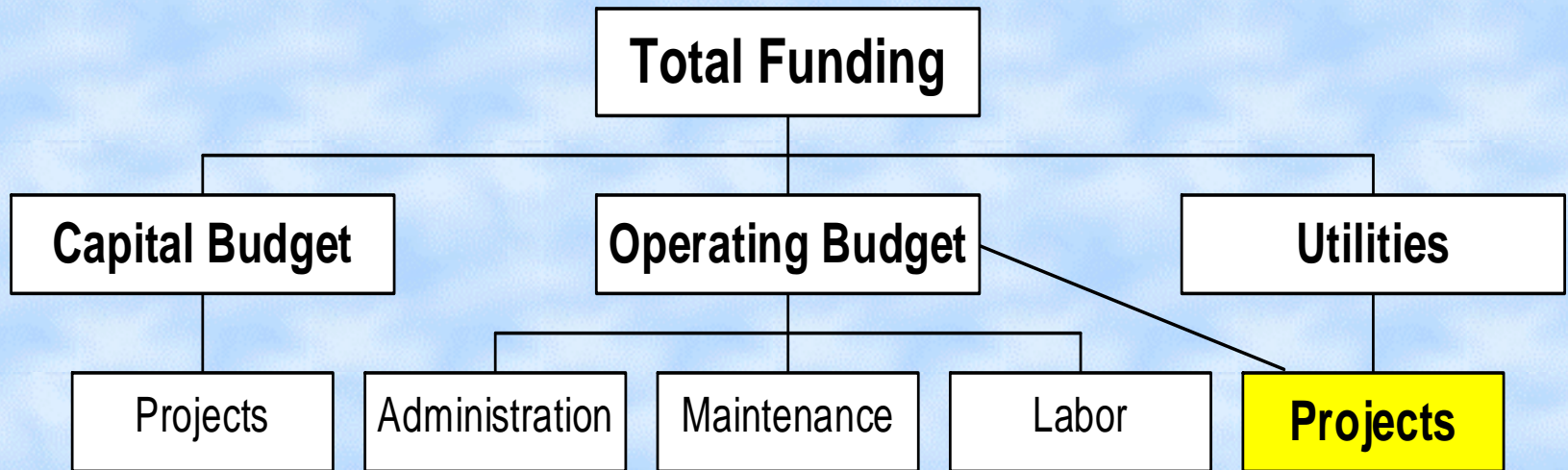


# Alternative Comparison



# FUNDING THE \$ GAP?

# Project Funding



# **RISK**

**Will costs savings cover the project debt service?**

# Capital Program Approaches

## Balance Risk, Benefit & Cost

- Self Implementation
- Engineered Capital Project
- Energy Savings Performance Contract
- Third Party Operator

# **RISK**

**How will savings be verified?**

# Types of Verification

## International Performance Measurement and Verification Protocol - DOE

- Stipulation
- Partially Measured Retrofit Isolation
- Retrofit Isolation
- Whole Building
- Calibrated Simulation



# Performance Contracting

Provides savings guarantee and energy expertise

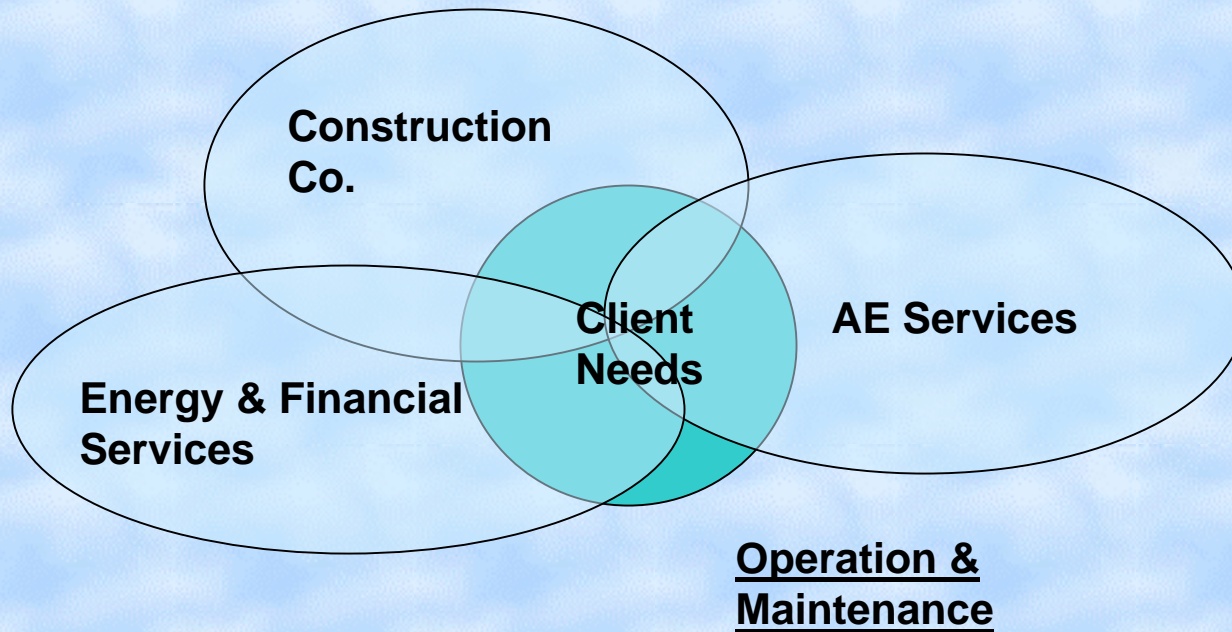
# Typical Performance Contract Objectives

- Use Operational Savings to Fund Strategic Improvements
- Generate Positive Cash Flow
- Comprehensive Maintenance Contract

# Typical Project Benefits

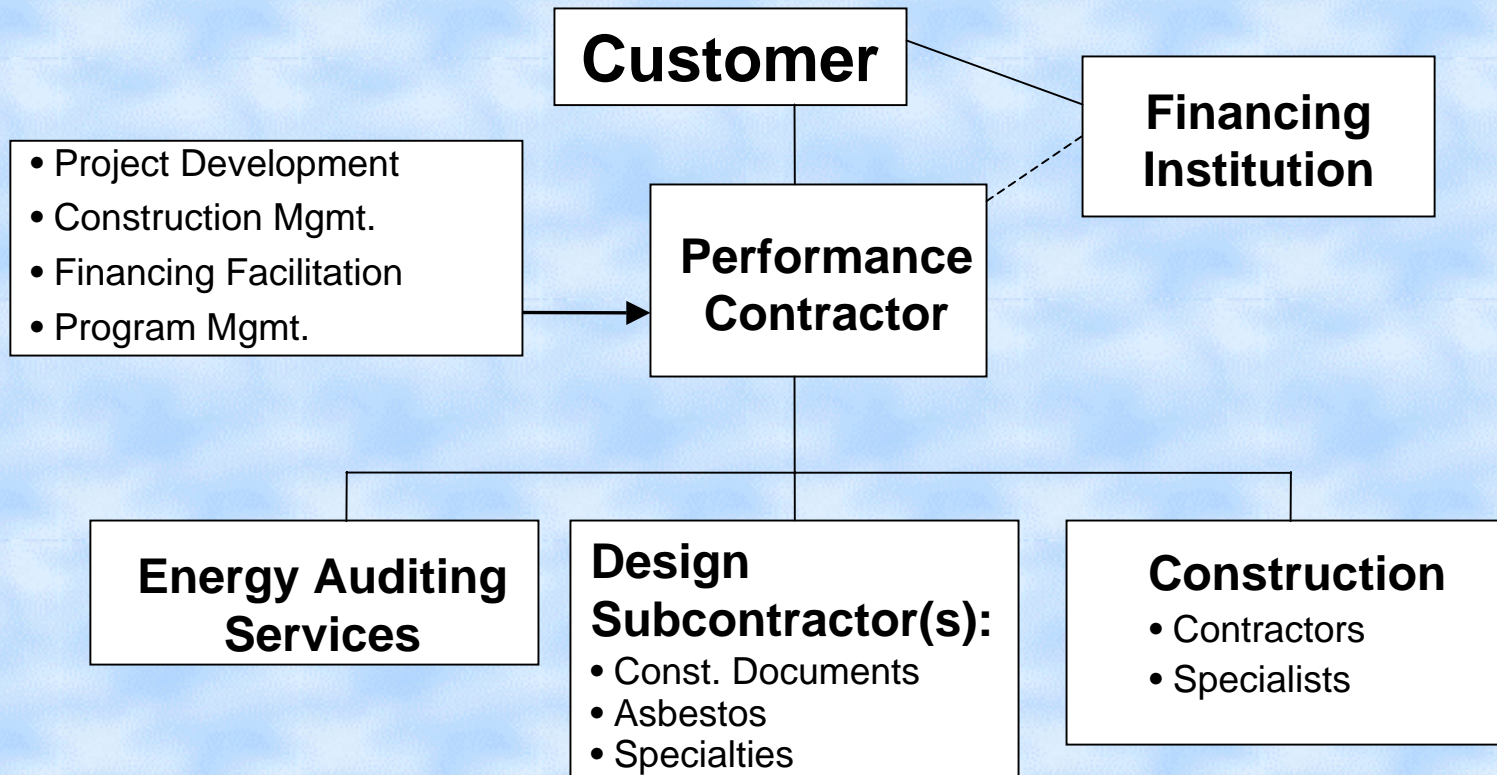
- Energy Efficiency Improvement
- Increased Capacity
- Safety Improvement
- Avoided Maintenance/Equipment Purchase
- Environmental Impact Reduction
- Increased Available Electrical Capacity

# Performance Contractor's Role



*Financing Construction with Energy Savings*

# Project Organization



# Types of Contracts

## PERFORMANCE CONTRACT

- ◆ Shared Savings
- ◆ Pay From Savings
- ◆ Guaranteed Savings

## PERFORMANCE CONTRACT LIGHT

- ◆ Assumed Savings Construction Project

# Cost of Guarantee

## Large Co.'s Typically Have Higher Overhead

Myth: Risk is lower if large company is providing guarantee

**If the technologies being utilizing are tried and true,  
why pay for Overhead?**

Flood insurance in the desert

# Elements for Success

- Good Payback
- Positive Effect on Core Business
- Financial Strength of Host
- Hot Button Benefit
- Internal Champion

# Internal Champion

- Passionate About Program
- Organizational Connections/Access
- Ability to Sell Benefits to Entire C-Suite

# **FINANCIAL BASICS**

# Develop Funding Plan Early

- Type of Funding
- Requirements of Lenders
- Available Rates
- Term
- Bonding Requirements

# Types of Funding

Operating or Capital Leases

Bonding

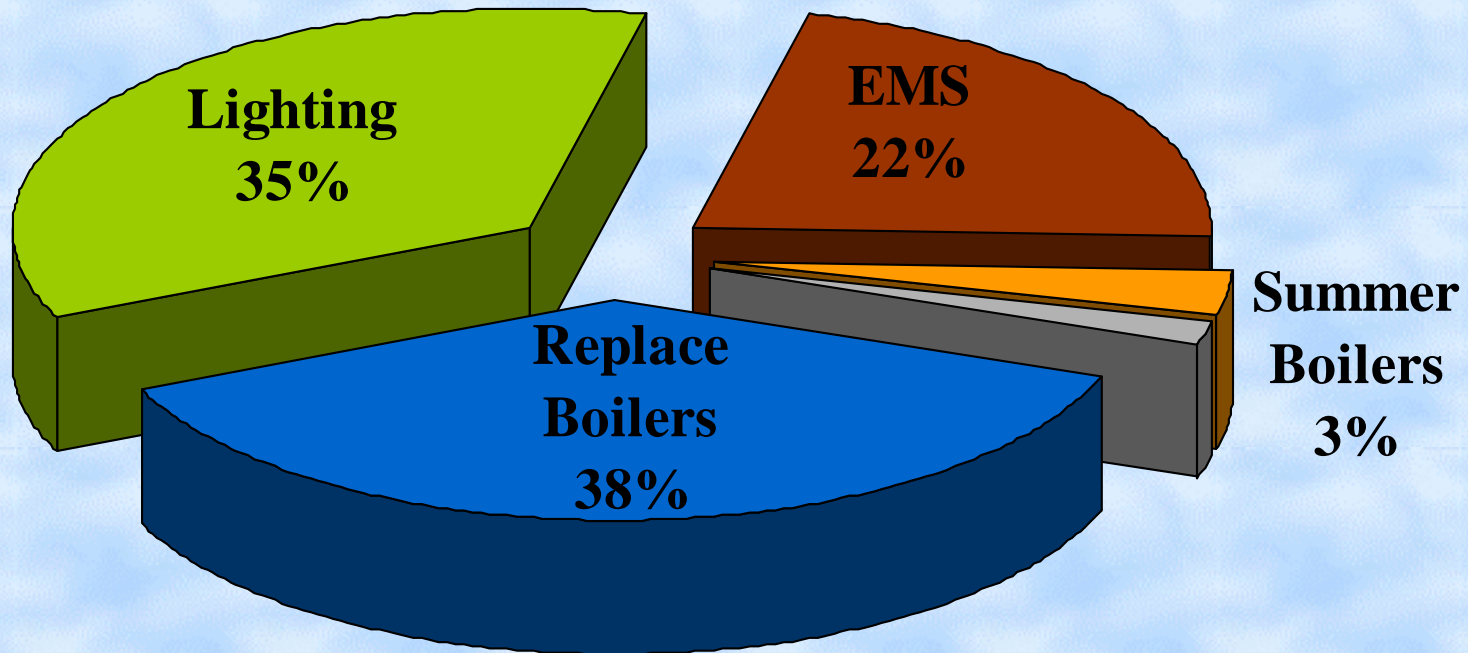
Capital Budget

Operating Budget Allocation Agreements (internal)

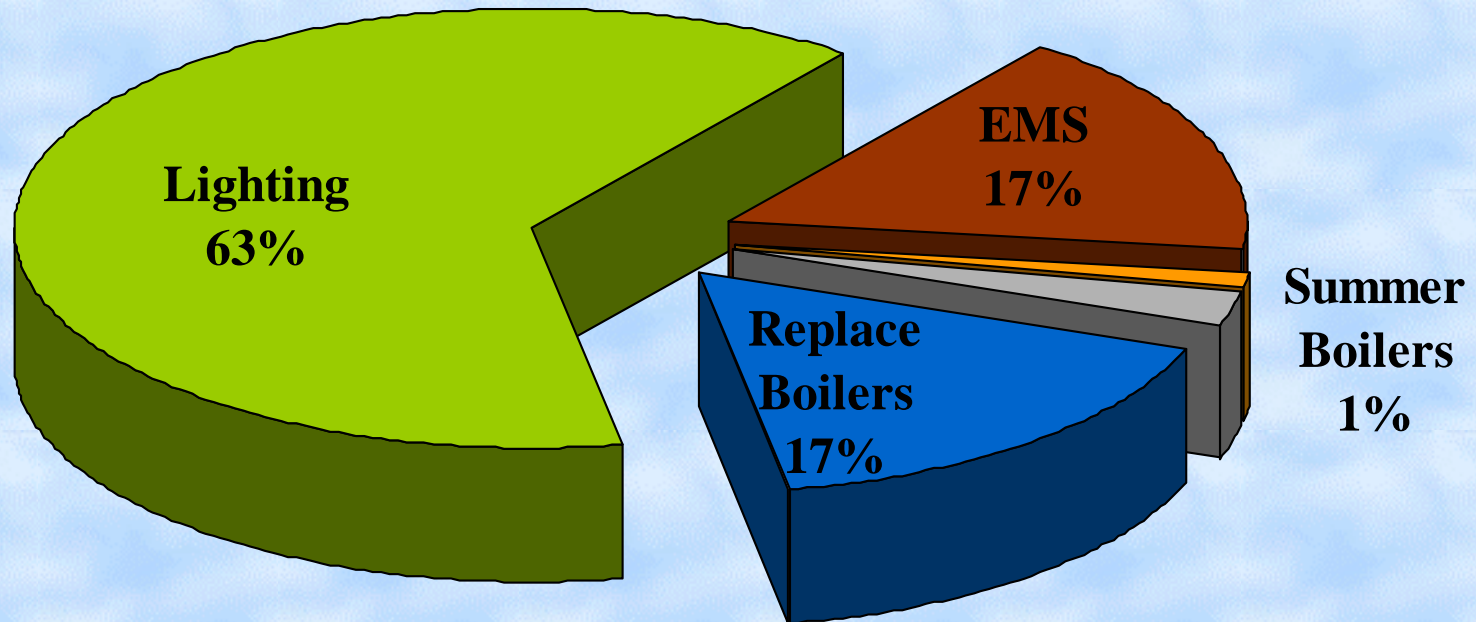
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?????

# Distribution of Construction Cost



# Distribution of Energy Savings

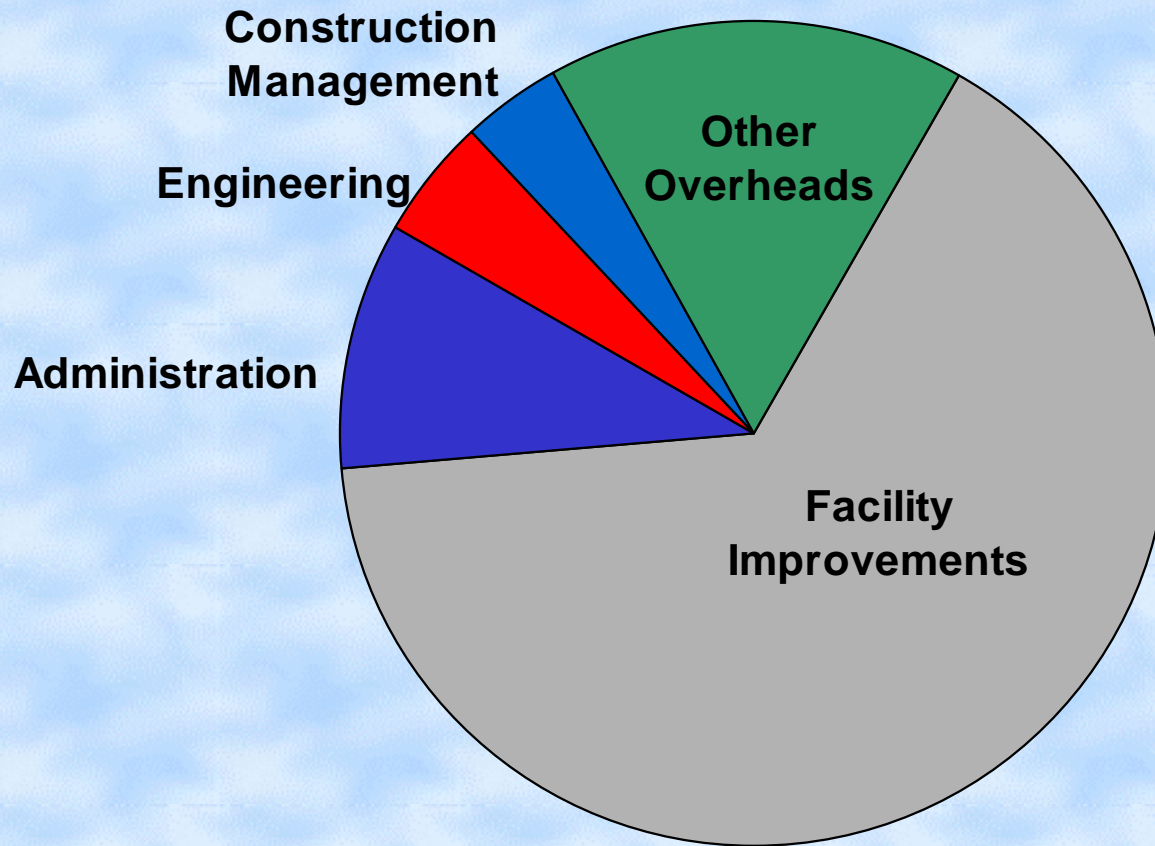


*Financing Construction with Energy Savings*

# Planned Capital Projects

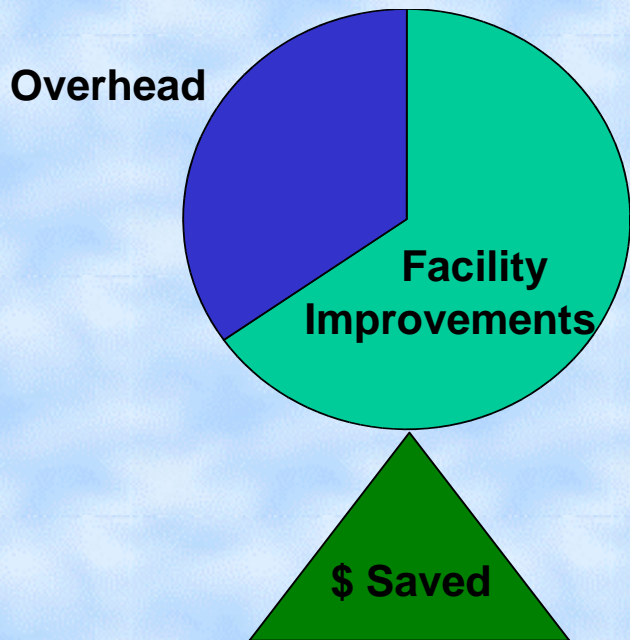
- 15-40% of Typical Scope is “Energy Work”
  - Potentially Funded Through an Energy Program
- Development of “Combined” Projects
  - Strategic Improvements Implemented Sooner

# Typical Project Cost

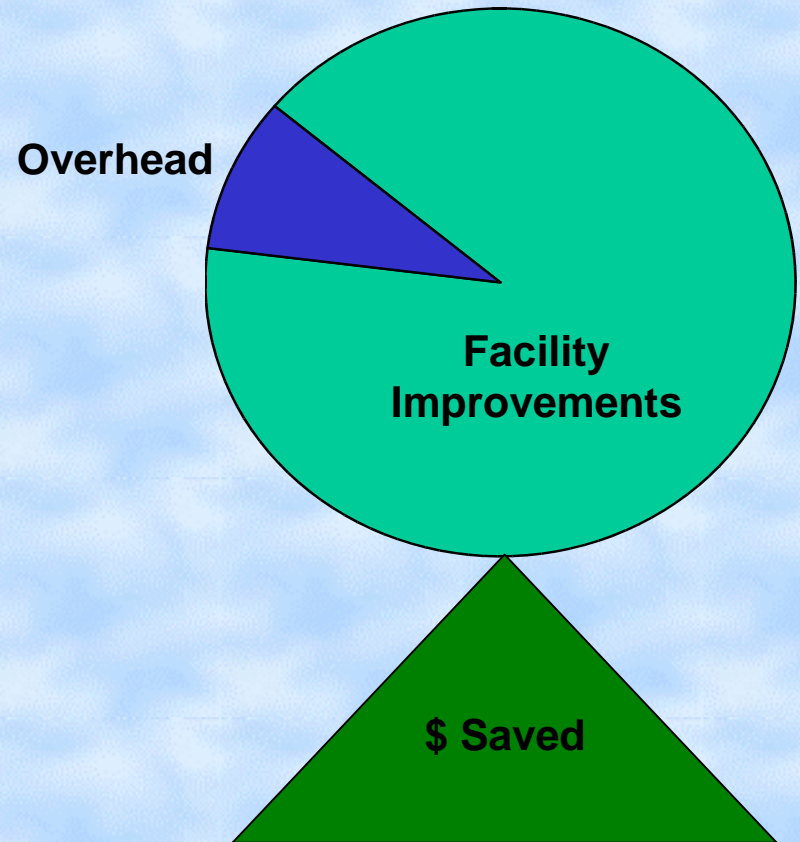


# Impact of Overhead

## Higher Overhead



## Lower Overhead



# Performance Contracting Summary

- Effective Solution in the Right Situation
- Identify the Project “Hot Button”
- Enlist a “Project Champion”
- Determine Your Appetite for Risk
- Seek Guidance When Required
- Educate/Communicate with all Stakeholders

# **QUESTIONS?**

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