



Structure & Benefits: Energy Efficiency Contracts for Community Colleges

Presenters:

Trane

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Comprehensive Energy Saving Solutions

Our portfolio of energy services and solutions help building owners impact their business in ways never before imagined.

Energy Management Systems & Services

- Assessment and Advisory
- Intelligent Services
- Energy Performance
- Building Performance
- Active Monitoring

Energy Contracting

- Performance Guarantee Contracting
- Energy Savings Performance Contracting
- Design and Build Turnkey Projects
- Asset Renewal
- Existing Building Commissioning

Renewable Energy & Power Solutions

- Co-gen
- Photovoltaic
- Biomass
- Biogas
- Compressed NG (fuel switch)
- District Energy Plants
- Solar Thermal
- Wind Power

Energy Procurement & Management Services

- Energy Sourcing
- Energy Price Risk Management
- Energy Data Management
- 24/7 Power Control Center
- Utility Base Line Review

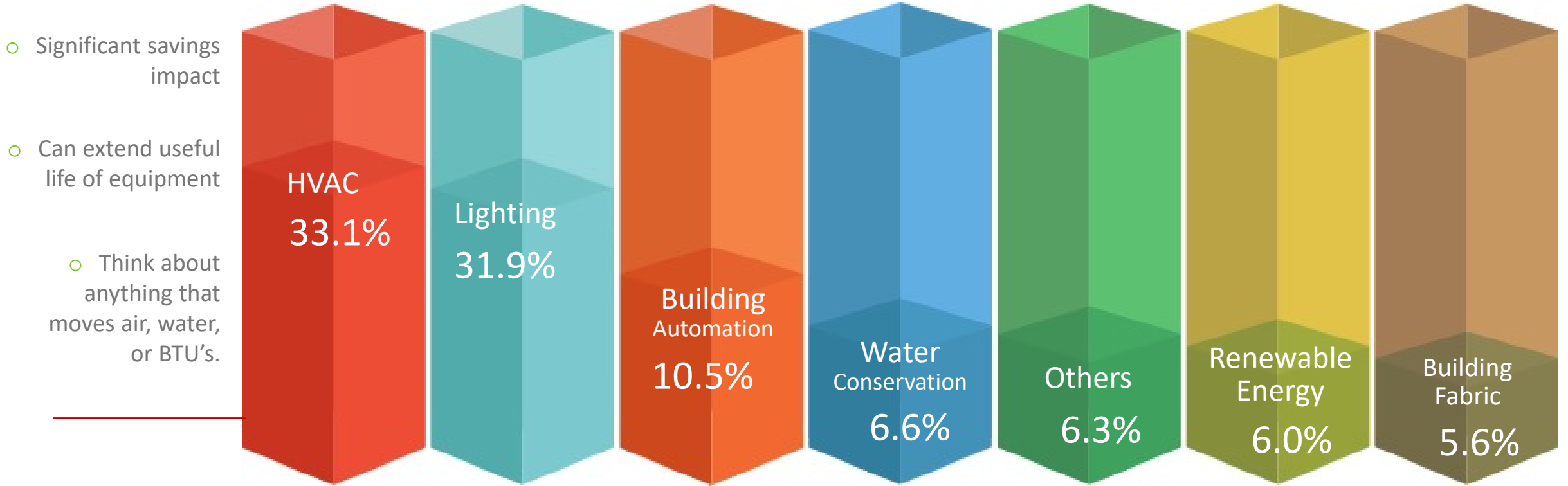
Goals for Community Colleges

- Upgrade 1960s/70s vintage HVAC infrastructure (unfunded Critical Maintenance) via self-funding method
- Increase the comfort and productivity of students and staff
- Preserve capital funds for other initiatives
- Fast-track approach



Where to Start?

Percent Breakdown by Energy Conservation Measure, North America



- Significant savings impact
- Can extend useful life of equipment
- Think about anything that moves air, water, or BTU's.

○ Low-hanging fruit with rapid payback

○ In addition to providing dramatic energy savings, can also provide improvements to safety, security, productivity, and quality.



○ Optimizes energy use

○ Improves occupant comfort

○ May include control of non- HVAC systems like lighting, irrigation, and other consuming equipment

Chart Source: Frost & Sullivan North American ESPC Market 2015

Improving Building

Operations

Procurement Basis

GML 103-16 and Article 9-101 New York Energy Law

- **Allows entities to** *“reduce administrative and product cost, and increase efficiencies (GML)” and “...to obtain long-term energy and cost savings ... by facilitating prompt incorporation of energy conservation improvements (Energy Law)”*
- **What can be procured?**
 - 1) Comprehensive/Guaranteed Turnkey Project and 2) Financing
- **Procurement Options:**
 - Procure EPC partner via RFP/RFQ or cooperative purchasing vehicle (e.g., Omnia)
 - Procure Financing via RFP

Contract Structure

Key elements:

- Single agreement for auditing, design, installation, warranty and maintenance (vs managing traditional 5 – 10 contracts)
- Guaranteed price
- Integrated post-project support to sustain optimized systems throughout finance term
- Utility/NYSERDA Incentives
- IF college desires a performance guarantee, it can choose the energy performance contract option (EPC)



Funding Options for Efficiency Contracts

- OPTION 1 ... No sponsor participation
- OPTION 2 ... Limited sponsor participation (Cash)
- OPTION 3 ... Sponsor financing participation

OPTION A FUNDING MIX:

NO SPONSOR PARTICIPATION

Cost:	1 Project Cost	\$3,000,000	
Funding Sources:	2 Sponsor Share (Cash)	\$0	0%
	3 Incentives (NYSERDA etc)	\$250,000	8%
	4 SUNY Capital Match	\$250,000	8%
	5 Financed Amt (net)	\$2,500,000	83%
Debt Service (DS)	6 Total Debt Service (15 yr, 4%)	\$224,853	per year
	7 Sponsor DS Share	\$0	per year
	8 CC DS Share (via Operations)	\$224,853	per year



OPTION B FUNDING MIX:

LIMITED SPONSOR CASH PARTICIPATION

Cost:	1 Project Cost	\$3,000,000	
Funding Sources:	2 Sponsor Share (Cash)	\$500,000	17%
	3 Incentives (NYSERDA etc)	\$250,000	8%
	4 SUNY Capital Match	\$750,000	25%
	5 Financed Amt	\$1,500,000	50%
Debt Service (DS)	6 Total Debt Service (15 yr, 4%)	\$134,912	per year
	7 Sponsor DS Share	\$0	per year
	8 CC DS Share (via Operations)	\$134,912	per year



OPTION C FUNDING MIX:

SPONSOR FINANCING PARTICIPATION

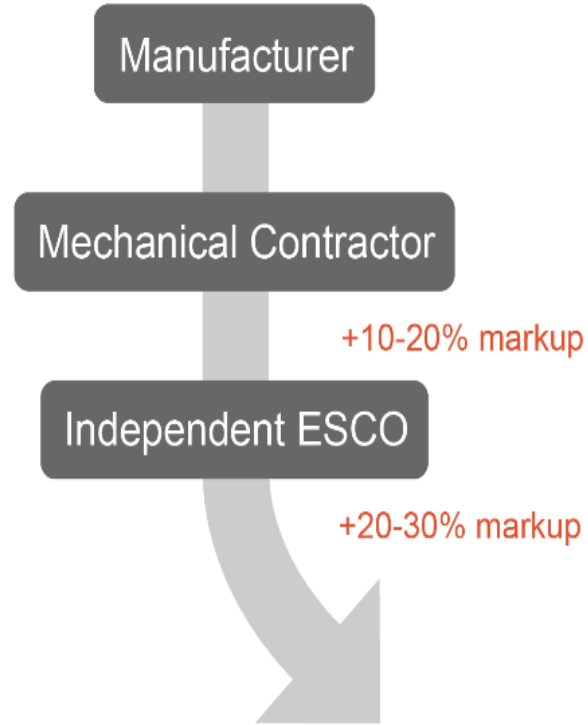
Cost:	1 Project Cost	\$3,000,000	
Funding Sources:	2 Sponsor Share (Cash)	\$0	0%
	3 Incentives (NYSERDA etc)	\$250,000	8%
	4 SUNY Capital Match	\$1,500,000	50%
	5 Financed Amt (net)	\$1,250,000	42%
Debt Service (DS)	6 Total Debt Service (15 yr, 4%)	\$112,426	per year
	7 Sponsor DS Share @ 100%	\$112,426	per year
	8 CC DS Share (via Operations)	\$0	per year



Trane Direct Purchase / Cost Containment Strategy

The visual below illustrates the cost advantages of Trane's best value approach.

Independent ESCO Approach



Trane Unique Cost Advantage



The State University
of New York

CASE STUDY

Jefferson Community College

- Thermal Storage (Ice) Cooling
- Campus-wide lighting
- Building automation systems (BAS) upgrades
- Central heating plants
- \$200,000 incentives

Total investment:

\$1.34

Million

Total annual savings:

\$99,134

Annual CO₂ savings:

443

Tons



SUNY Geneseo

- Direct Turnkey Projects
- Cooling plants and air handling upgrades across (5) buildings
- Building automation systems upgrades



GENESEO
THE STATE UNIVERSITY OF NEW YORK



Lessons Learned

- Efficiency contracts are a viable vehicle to improve comfort, productivity and efficiency
- Programs often reduce OpEx more than expected
- Post-project maintenance key to sustaining savings (vs. traditional construction process)
- Consider pre-payment option on lease package

Questions?



Presenter Contacts

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