Need-To-Know Energy Conservation Measures for Savings and Performance

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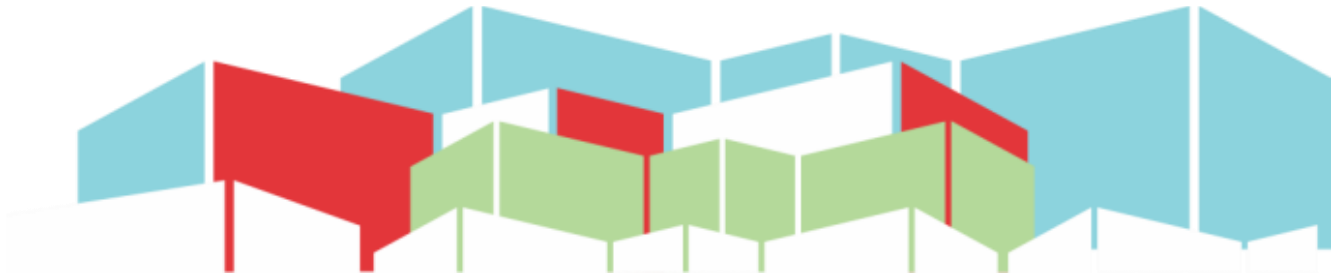


Learning Objectives

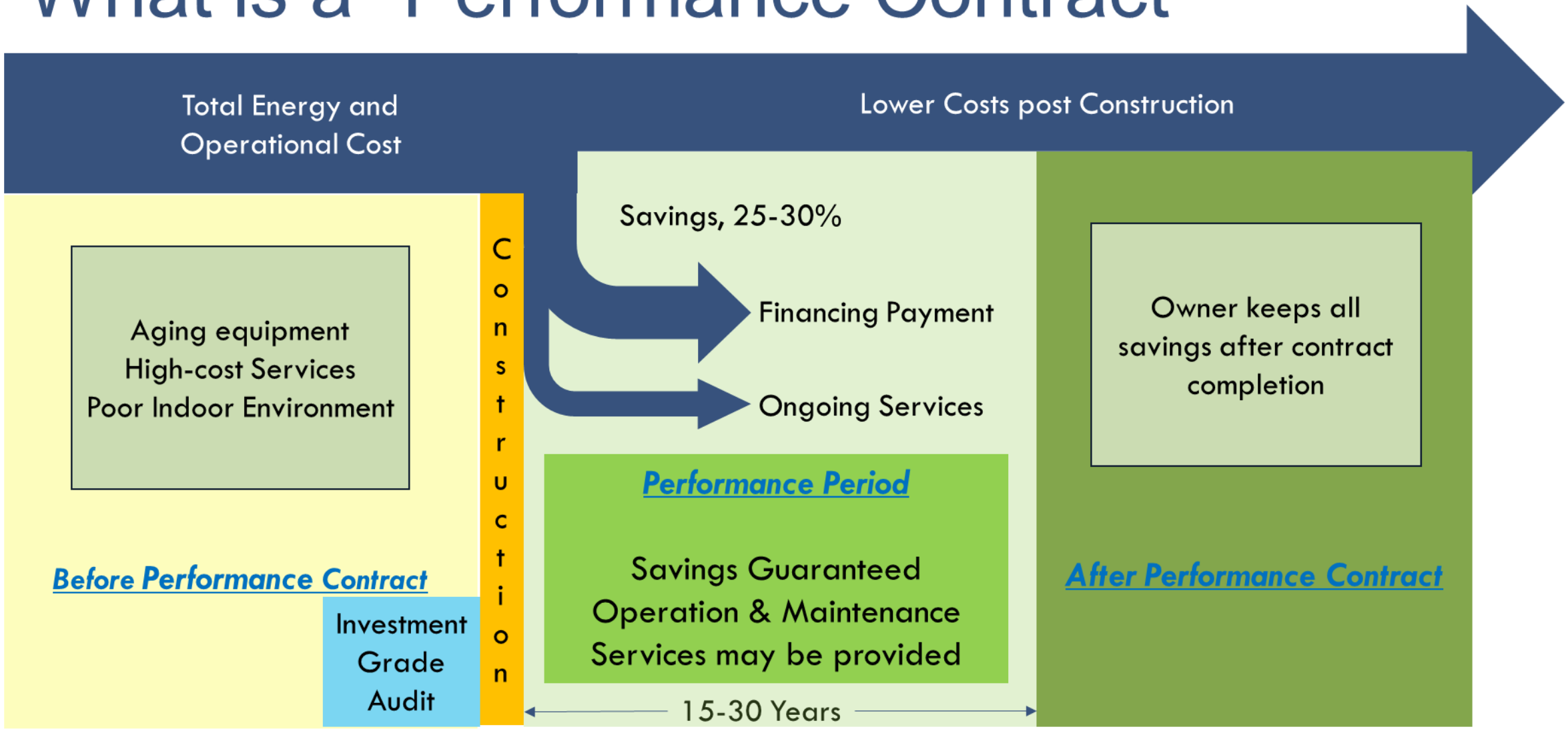
Please add the learning objectives you submitted at the beginning of your presentation.

1. Which advanced energy conservation measures deliver the biggest gains beyond traditional upgrades.

2. How to layer high-impact ECMs with foundational measures to boost ROI and resilience.

3. Ways to finance advanced projects using savings, incentives, and creative financing.

What is a "Performance Contract"



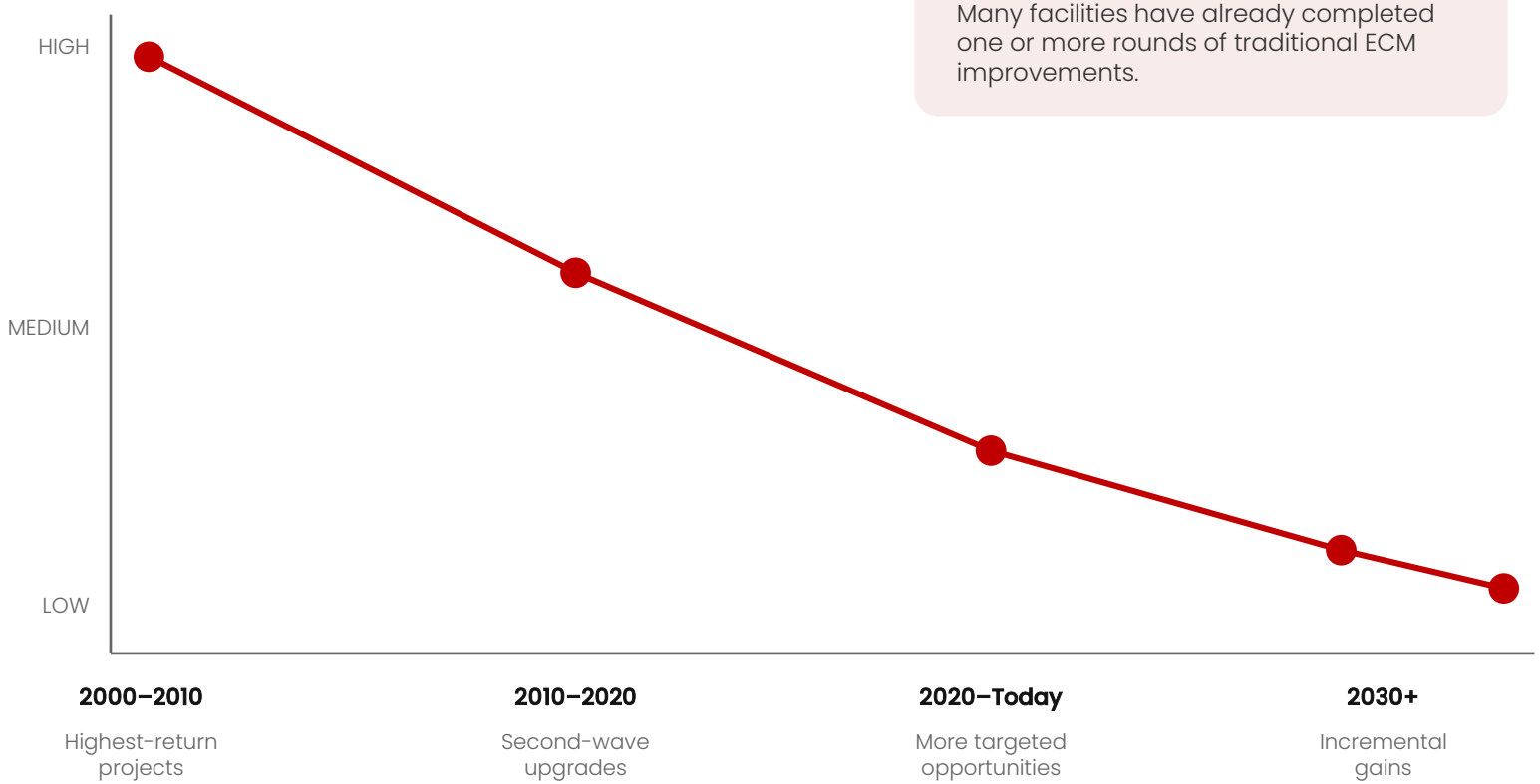
Beyond the Traditional ECM Playbook

Layering deeper efficiency, grid services, and resilience to unlock greater facility value.

The Traditional ECM Playbook Is Maturing

The lowest-risk energy savings have largely been captured.

TYPICAL ENERGY SAVINGS OPPORTUNITY OVER TIME



Many facilities have already completed one or more rounds of traditional ECM improvements.

FOUNDATIONAL ECMs

01 **LED Lighting**
Fixtures and controls

02 **HVAC Modernization**
Higher-efficiency equipment and systems

03 **Controls Optimization**
Smarter sequencing and scheduling

04 **Variable Frequency Drives**
Motor and pump optimization

05 **Water Conservation**
Low-flow fixtures and process improvements

Traditional ECMs remain foundational, but they rarely drive transformational project economics by themselves.

Deep Energy Retrofits Expand Project Potential

Greater savings require broader thinking — and broader scopes.

1. REDUCE THE LOAD

Foundational ECMs

Start with the proven measures that lower baseline energy use.

- Lighting
- Controls
- HVAC
- Water

Foundational — but increasingly incremental on their own.

2. GO DEEPER

Advanced ECMs

Expand beyond equipment swaps and optimize major building systems.

- Building envelope
- CHP + heat recovery
- Geothermal
- Refrigeration
- High-efficiency electrical

More scope but tend to need more capital.

3. OPTIMIZE THE WHOLE BUILDING

30–50%+ **energy reduction potential**

The biggest gains come from combining measures across systems — not optimizing one asset at a time.

THE ECONOMIC TRADEOFF

- Higher capital investment
- Longer payback periods

So the project needs more than energy savings.

Deep retrofits unlock larger savings — but they also create the need to stack additional sources of project value.

Energy Savings Are No Longer the Only Driver

1. **PEAK SHAVING**
   Reduce demand charges
2. **DEMAND RESPONSE**
   Generate revenue opportunities
3. **UTILITY INCENTIVES**
   Leverage rebates and programs

ENERGY SAVINGS
+
RESILIENCE
+
GRID SERVICES

TOTAL PROJECT VALUE

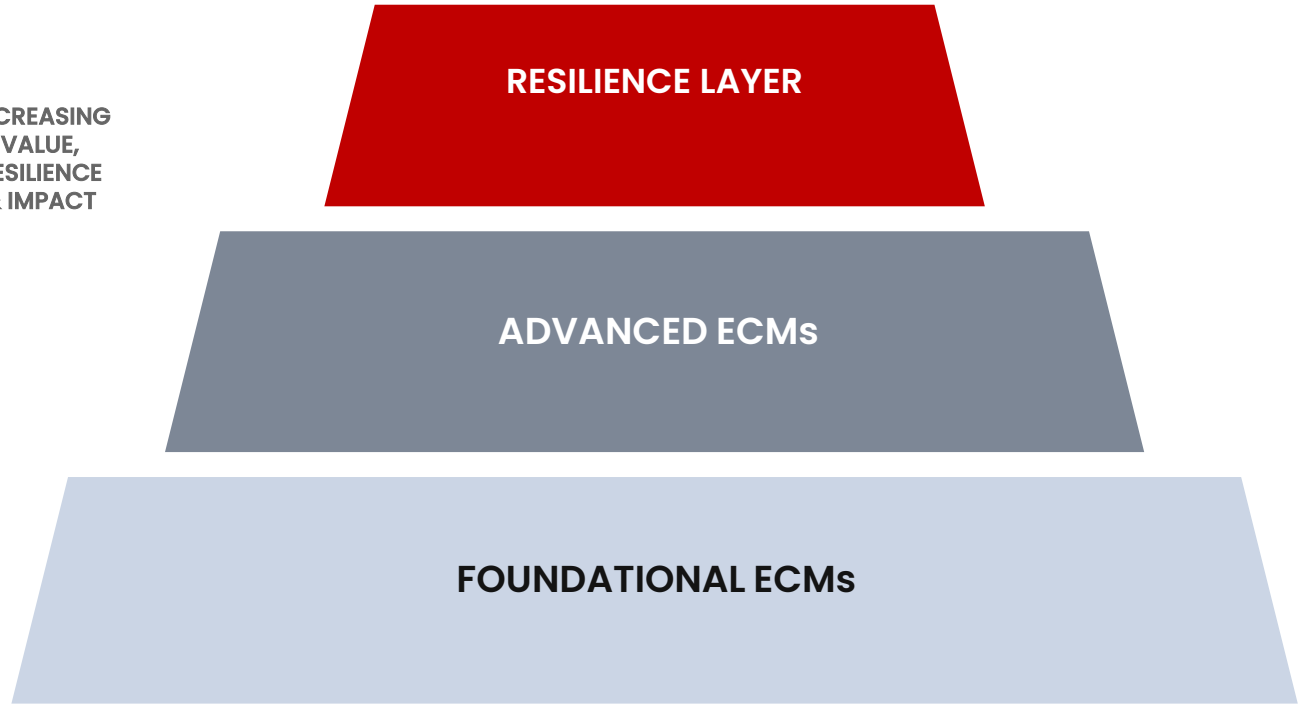
4. **BUSINESS CONTINUITY**
   Maintain critical operations
5. **CAPACITY RELIEF**
   Support grid stability
6. **CARBON REDUCTION**
   Support sustainability goals

> Modern energy projects increasingly succeed because they create multiple value streams—not simply avoided kWh.

Layering Technologies Maximizes Impact

A comprehensive approach delivers the greatest value.

INCREASING VALUE, RESILIENCE & IMPACT



Resilience Layer

- Microgrid controls
- Battery storage
- Distributed generation
- Renewable integration

Advanced ECMs

- CHP / heat recovery
- Geothermal systems
- Refrigeration improvements
- High-efficiency transformers

Foundational ECMs

- Lighting
- HVAC optimization
- Building controls
- Water conservation

+ Energy Savings + Utility Incentives + Creative Financing + Resilience Value = Comprehensive Facility Value

The future isn't choosing between efficiency and resilience. It's strategically combining both.

We know the why, what about the how?
How are we going to pay for this?

Start here: highest savings

Foundational ECMs

- Lighting
- HVAC
- Controls
- VFR
- Water conservation

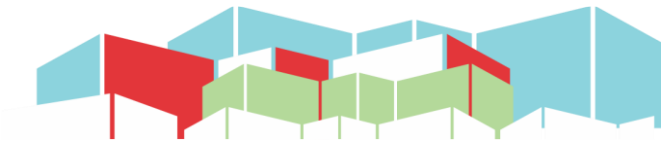
Basic upgrades can pay for themselves, and then some. These are the foundational ECMs.

The next layer:

Advanced ECMs

- CHP
- Heat recovery
- Geothermal systems

Debt service on converting operating expense (OpX) to capital expense (CapX) is funded in part or in full by OpX savings. Avoided capital costs add even more. It's real, obtainable, and calculable.



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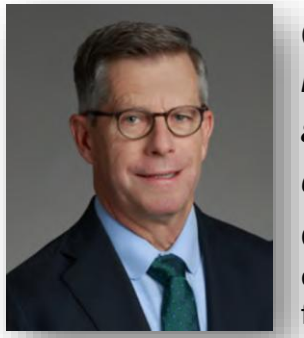
Tim leads the efforts of NAESCO to transform and grow the Energy Services market for its members. Tim has a PhD in Electrical Engineering from the Wichita State University. Time previously was the Deputy Assistant Secretary of Renewable Power at the US Dept. of Energy, and also served as the Director of the Federal Energy Management Program. Tim was also the Vice President of Operations at Custom Energy, an Energy Service Company.



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Charlie is focused on energy savings performance contract financing and essential purpose infrastructure financing on a national basis. Charlie has extensive experience structuring financing with revenue streams including property tax, sales tax, development fees, property/sales tax increment, public improvement fees, energy consumption savings, and various combinations of these revenue streams.



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Mike Gutowski leads sales and business development efforts with PowerSecure's Federal and ESCO teams on both the energy efficiency and microgrid side of their business. Mike has spent a majority of his time in the ESCO industry, working for Fortune 500 companies in the development and execution of performance contracts in the Federal space, along with healthcare, municipal, city, and county level markets.

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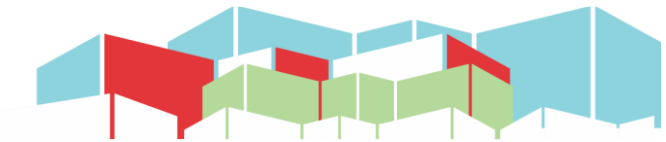

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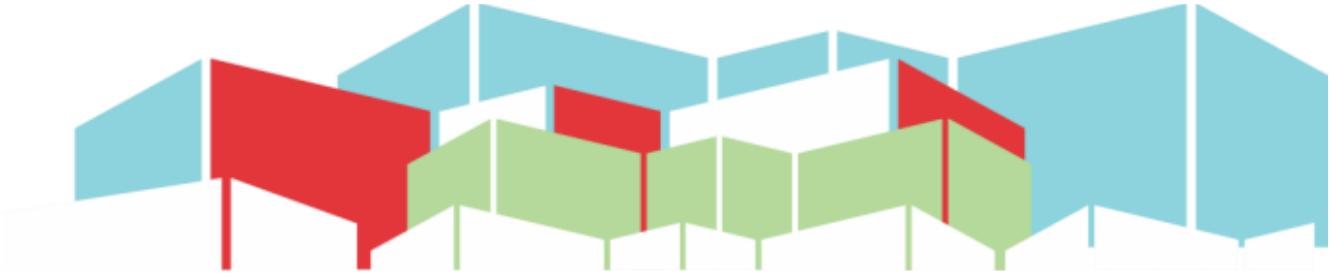

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