Energy Performance Contract – 4 Buildings on Hazen Drive

PRESENTATION TO THE ENERGY EFFICIENCY & SUSTAINABLE ENERGY BOARD

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Why Performance Contracting?

- The State wants to “Lead by Example” in energy efficiency
- Capital funds for energy projects are “trickling” in at best
- Allows for deep retrofits, improves the quality of our buildings, and allows for new technologies and equipment

Law
RSA 21-I:19-d Energy Performance Contracting

- Allows agencies and municipalities to enter into EPCs (Energy Performance Contracts)
- Requires RFP (Request for Proposals) process
- Provides criteria for selecting ESCO (Energy Services Company)
- Limits contracts to 20 years
- Annual allocation dependency clause
- Requires inclusion of all energy measures that fall within 20-year payback window

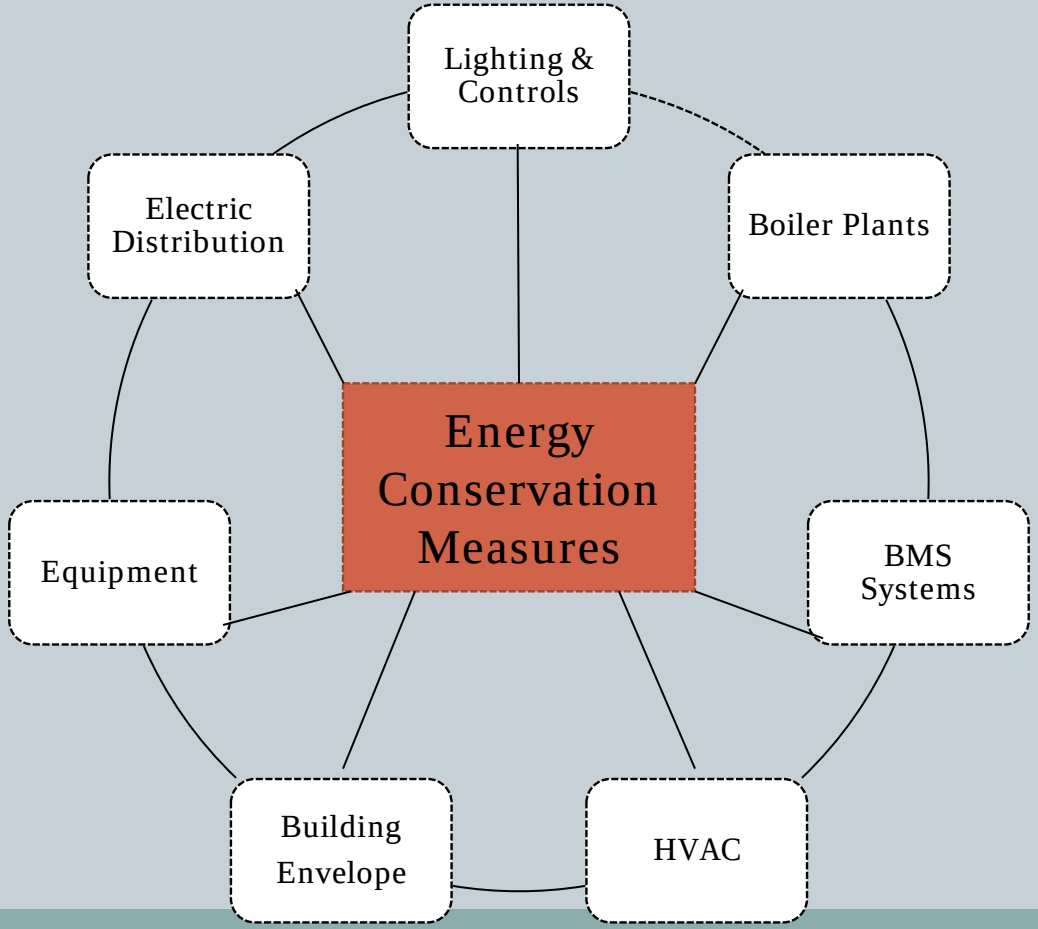
Performance Contract Basics

- Represents an alternative financing mechanism to capital investment
- Accelerates investment in cost effective energy conservation projects
- Is a long-term partnership between the state and an ESCO

How it Works

ESCO's provide energy solutions.

ESCO's Design & Implement Energy Savings Projects



Energy $$ Savings Pay Back the Investment Over a 5-20 Year Period

Buildings and Energy Types

- Morton Building (DOT)
- Division of Motor Vehicles (Safety)
- 27/29 Hazen (DHHS, DES, DoIT, labs)
- 33 Hazen (DOS)

- Looked at reductions in:
  - Natural Gas
  - Electricity

Goals and Scoring Criteria

- Maximize fossil fuel savings within context of RSA (meets 20 year payback)
- Encourage ESCOs to be creative while adhering to basic minimum criteria
- Allowed State to compare proposals objectively

- Lighting Systems and Controls
- BMS
- HVAC
- Motors and VFDs
- Envelope
- Water
- Boiler Plants
- DHW
- Renewables

Scoring

- 50% - Reducing FF use
- 5% - Presentation and responsiveness to RFP
- 15% - Qualifications, experience, and resources
- 20% - Technical approach
- 10% - Management approach

Timeline

- 2012 and Prior – Discussed at IEEC Meetings
- September 2012 – Stakeholders Meeting
- January 2013 – Released RFP
- April 2013 – Received Proposals
- Summer 2013 Selected Vendor
- December 2013 – G&C Approval for Audit Phase
- May 2014 – Audit Report Received
- Summer/Fall 2014 – Contract Negotiations
- Winter 2014/15 – Financing RFP
- February 2015 – G&C Approval for Construction
- 18 months from now until expected completion

ConEdison Solutions

- Selected to conduct EPC from 7 proposals received
- Subsidiary of Consolidated Edison, Inc.
- Started in 1993
- Local office in Burlington, MA
- Ken Nathanson, Director of National Accounts
- John Johnson, Head Engineer
- Many other ConEdison employees and subcontractors will be working on project

Measures

- Morton Building
  - Lighting Retrofits
  - Upgrade Chiller Piping
  - Improve Building Controls
  - Improve Building Envelope
  - Low-flow Restroom Retrofits
  - New Electrical Transformers
  - Power Factor Correction
  - PUC Grant-funded 82kW Solar PV Array
- DMV
  - Lighting Retrofits
  - New Boiler
  - New Building Controls
  - Improve Existing Controls
  - VFDs
  - Improve Building Envelope
  - Low-flow Restroom Retrofits
  - Power Factor Correction

Measures (cont.)

- 27/29 Hazen
  - Lighting Retrofits
  - Chiller and HVAC Replacement
  - Improve Building Controls
  - Improve Building Envelope
  - Low-flow Restroom Retrofits
  - New Electrical Transformers
- 27/29 Hazen
  - Steam Traps
  - VFDs
  - Plug-load Controls
  - Power Factor Correction
  - New Ventless Lab Hoods
  - Air Rebalance in Labs
  - Biomass Boiler

Measures (cont.)

- Department of Safety
  - Lighting Retrofits
  - New Boiler
  - Improve Building Controls
  - Improve Building Envelope
  - Low-flow Restroom Retrofits
  - New Electrical Transformers
  - New Ventless Lab Hoods
  - Power Factor Correction

Highlights

Current Utility Costs	Avg. Cost per square foot	Total Project Cost*	Estimated Savings	Payback (years)*	Energy Cost Reduction	Fossil Fuel Reduction
$2.5 million	$4.10	$12.7 million	$949,508 annually	13.4	36%	71%

*does not include finance costs

3rd Party Financing - Banc of America Public Capital Corp
Interest Rate – 2.5955%
Project Payback w/Interest – 16.95 years
Contract Term – 17 annual payments beginning when construction period ends

Can We Reduce Fossil Fuel Use by Over 70%?

- Natural Gas (100% FF), Electricity (43% FF)
- Annual energy use ~110,000,000 kBtu (about 50/50)
- ~75% is for 27/29 Hazen
- 27/29 Hazen will eliminate nearly all of its NG usage in favor of biomass
- ~82 kW in solar
- Many EE measures reduce electricity and natural gas usage (and thus FF)

The Numbers

- Morton Building

Project Cost	$1,043,878*
Annual Energy Savings	$101,376
Fossil Fuel Savings (kBtu)	3,227,375
% Energy Reduction	33%
% Fossil Fuel Reduction	44%

*Cost does not include $509,517 in rebates/grants

The Numbers

- DMV

Project Cost	$469,069
Annual Energy Savings	$32,187
Fossil Fuel Savings (kBtu)	1,010,293
% Energy Reduction	29%
% Fossil Fuel Reduction	35%

The Numbers

- 27 Hazen

Project Cost	$729,856
Annual Energy Savings	$34,324
Fossil Fuel Savings (kBtu)	898,316
% Energy Reduction	33%**
% Fossil Fuel Reduction	80%**

**Percent reductions calculated on 27/29 Hazen as a whole

The Numbers

- 29 Hazen (Core)

Project Cost	$1,554,143*
Annual Energy Savings	$129,433
Fossil Fuel Savings (kBtu)	1,555,542
% Energy Reduction	33%**
% Fossil Fuel Reduction	80%**

*Cost does not include $174,890 in rebates/grants
**Percent reductions calculated on 27/29 Hazen as a whole

The Numbers

- 29 Hazen (Labs)

Project Cost	$8,280,826
Annual Energy Savings	$590,279
Fossil Fuel Savings (kBtu)	48,489,494
% Energy Reduction	33%**
% Fossil Fuel Reduction	80%**

**Percent reductions calculated on 27/29 Hazen as a whole

The Numbers

- Safety

Project Cost	$613,509*
Annual Energy Savings	$61,908
Fossil Fuel Savings (kBtu)	1,635,834
% Energy Reduction	20%
% Fossil Fuel Reduction	24%

*Cost does not include $287,584 in rebates/grants

Lessons Learned

- **Engage champions** – define roles at the beginning of project and include $$ in project for additional help
- **Be specific** – in order to compare proposals, we learned the more that can be specified (energy rates, baseline energy data, finance calcs, etc.) the more consistent the proposals
- **Work ahead when possible** – in order to shorten the timeline, draft contracts, for example, can be worked on while audit is taking place

Lessons Learned (cont.)

- **Cooperation** - This project has been successful due to the contributions of many team members. Dozens of state employees were needed to make this happen:
  - RFP and contract writers and reviewers
  - Facilities staff to guide vendors through buildings
  - Selection team to review proposals and interview ESCOs
  - Treasury staff to provide funding mechanism
  - Cooperative tenants

What's Next?

- Cannon project is moving forward with EPC and taking audit contract to G&C
- DAS is working internally on vetting other projects and revising RFP
- Many agencies in the queue, interested in future EPCs

Questions?