Emerging Opportunities: Models such as Energy-As-A-Service

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Delivering Efficiency as a Service: The Metrus ESA

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Overview

- Metrus develops, finances, owns, and operates large-scale efficiency projects. Customers include colleges, hospitals, Fortune 500 companies, and Public Sector.
- Metrus sells efficiency as a service (EaaS) through our Efficiency Services Agreement (ESA).
- Metrus has operational energy and water efficiency projects in 26 different states, resulting in savings of over 1.5 billion kWh.
The Evolution of Efficiency as a Service (EaaS)

**EaaS offers:**
- Third-party ownership, off balance sheet
- Pay for performance (or service)
- Open source platform
- Efficient use of resources

**Cross-Cutting Innovations**

**Traditional Efficiency Performance Contract**
- Federal/ municipal
- K-12, public universities
- Institutional

**Power Purchase Agreement**
- Solar PV system
- Wind farm
- Traditional power plant

**‘As a Service’ Market**
- AWS
- Slack
- Airbnb

**Traditional Efficiency Performance Contract**

**Power Purchase Agreement**

**‘As a Service’ Market**
Project Contracts

Efficiency Services Agreement (ESA)

Metrus funds 100% of project cost, takes title to equipment, and pays for ongoing maintenance and monitoring. Customer pays service charge for realized savings.

Efficiency Services Performance Contract (ESPC)

ESCO (contractor) designs project, installs efficiency equipment, and provides long-term maintenance and monitoring services.
Key Customer Benefits

**FINANCIAL**
- No capital outlay
- **Optimized procurement process**
- Preservation of debt capacity
- **Immediate positive cash flow from energy and water savings**
- Customers only pay for realized savings
- Incorporate all available utility incentives

**OPERATIONAL**
- Turnkey approach with ongoing project management
- **Key equipment upgrades that increase resiliency and reliability**
- Improved efficiency of building operations and systems
- **Ongoing maintenance and monitoring**
- Flexibility to add new upgrades
Typical Project Profile

- Integrated energy and water efficiency retrofits
- Project size is generally $1 million to $50 million
- Upgrades from different facilities are bundled into a single project
- Typical weighted average payback period is 7 to 10 years
- ESA project term is generally 7 to 15 years (20-year term is possible)
Efficiency Measures

- High-performance rooftop HVAC
- Building envelope improvements
- LED lighting
- High-efficiency boilers
- High-efficiency chillers
- Data center cooling
- Clean room upgrades
- Building management systems
- Water efficiency upgrades
- Exterior lighting
Project Lifecycle

**Develop**
- Identify efficiency upgrades
- Design project scope
- Structure financing solution
- Ensure competitive pricing on project implementation and equipment

**Finance**
- Fund 100% of project costs
- Pay contractor for construction
- Own project assets
- Monetize available incentives

**Operate**
- Measure performance and savings
- Cover ongoing maintenance costs
- Identify new savings opportunities

**Reap benefits**
- Save energy and lower utility bills
- Increase reliability and resiliency
- Enhance building occupant comfort
- Hit sustainability targets
Things to Consider

- How long are you planning to be in a facility?
- What is the credit of the contractor/ESCO? – value of performance guarantee
- Do you need to go to RFP for both finance and construction or just one or the other?
- What utility escalation rate is appropriate? If any?
- Avoid only doing low hanging fruit – faster payback items can pay for longer payback items.
- If you require off-balance sheet accounting treatment, involve your auditor early in the process.
### What can State Government do to help?

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<tr>
<th>Procurement/Finance</th>
<th>Policy</th>
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<td>▪ Many States have pre-approved vendors for energy services – considering adding financing</td>
<td>▪ Establish energy efficiency goals for local government, school districts and businesses</td>
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<td>▪ Construct a pre-vetted ESA financial contract</td>
<td>▪ Consider a monetary benefit similar to some renewable energy programs – instead of energy generated, credit energy saved</td>
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<td>▪ List ESA providers on State agency websites</td>
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<td>▪ Establish grant for initial audits</td>
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C A S E   S T U D Y

Wells College

- High-performance LED fixtures
- Building envelope improvements
- Building automation systems (BAS) upgrades
- Steam trap repair and replacement

Total investment: $2.2 Million
Total annual savings: $229,427
Annual CO₂ savings: 1,190 Tons
C A S E  S T U D Y

Fortune 100 Technology
56 SITES • 23 STATES
• LED lighting upgrades
• Building management systems

Total investment: $74.3 Million
Total annual savings: $16.9 Million
Annual CO₂ savings: 138,530 Tons
CASE STUDY

BAE Systems

6 SITES • 3 STATES

- Lighting retrofits (interior & ext.)
- Building automation & controls
- Boiler and chiller replacement
- Transformer replacement
- Demand control ventilation
- Building envelope improvements

Total investment: $12 Million
Total annual savings: $4.1 Million
Annual CO₂ savings: 15,000 Tons
Bristol Hospital
• LED lighting retrofit
• Energy management system
• Power factor correction
• Steam trap replacements
• HVAC and AHU replacement
• Water efficiency

Total investment: $4.2 Million
Total annual savings: $525,000
Annual CO₂ savings: 1,320 Tons
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Energy-as-a-Service

Shawn Bennett
4 Oct 2019
EaaS Overview

A long-term arrangement with a single industry provider to comprehensively and cost-effectively deliver reliable, resilient and efficient energy to mission owners at an Air Force installation

- Deliver holistic view of energy assurance & eliminate silos
- Leverage resources from industry

Vision: Ensure the Air Force has the power when, where and how it’s needed so Airmen can focus on the mission
EaaS Structuring

Contractual Framework for Services Sought

EaaS Objectives

Integration
Operational Efficiency
Flexibility

Commodity
Utility Distribution System
Onsite Generation
Efficiency & End Use

Scope of Work
Contractual Performance
Technical Performance

Contractual Performance

Integration
Operational Efficiency
Flexibility

EaaS Objectives

Integrity - Service - Excellence
## Procurement Pathway

**Combined contract for:**

1. Utility services
2. Energy savings

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<td>Sole source with local electric utility</td>
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<td>National Rural Electric Cooperative Association</td>
<td>Massachusetts Clean Energy Center</td>
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<td>RFP issued Oct 2018</td>
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Energy as a Service