



Reinventing “Energy Efficiency as a Service”: Lessons Learned and New Models

Wednesday, 2:00 –
3:15 PM

Efficiency as a Service

- Today's speakers:
 - Angela Ferrante, SparkFund
 - Bob Hinkle, Metrus Energy



 **Spark Fund**

About SparkFund

- 1) Project financing - custom + integrated into a partner's offering (ESCO, contractor, manufacturer)
- 2) Technology + financing to sell equipment "As a Service" and manage transaction complexity with this mode of sale.

The

“As A Service” **Opportunity**

Financed Project vs “As a Service”



LED Project-Purchase

Sell lights with a cash or financed purchase. Optional add-ons may include M&V or maintenance.

Products:

LEDs	\$16,458
Lighting Controls	\$2,204
Building Controls	\$850

Labor: \$6,573

Service: \$1,200

Ongoing M&V: \$800

Financing:

Rate 9.2% -

Term ROI 3 Years

Total Project Cost: - \$34,569



LEDs As a Service

Sell the use of LED lights over time, bundling in ongoing maintenance and M&V.

Products:

- T8 LEDs
224 Lighting fixtures to be installed
- Lighting Controls
Central Panel and monitoring system
- Building Controls
4 consoles and temperature monitoring equipment

Services: 1

- Ongoing M&V
Upkeep and monitoring every 3 months
- Installation
Upkeep and monitoring every 3 months

Total Monthly Payment: 1 \$2,200

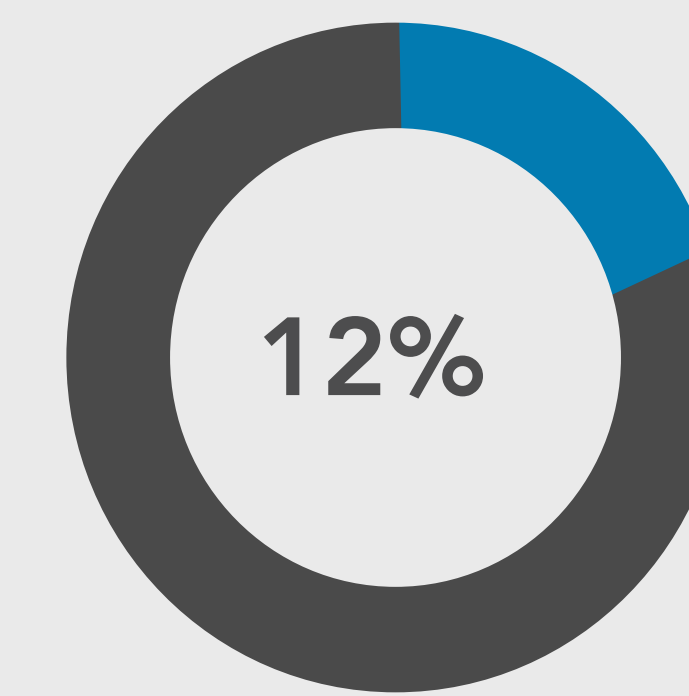
Total Monthly Savings: 1 \$2,800

Selling “As a Service” is Effective

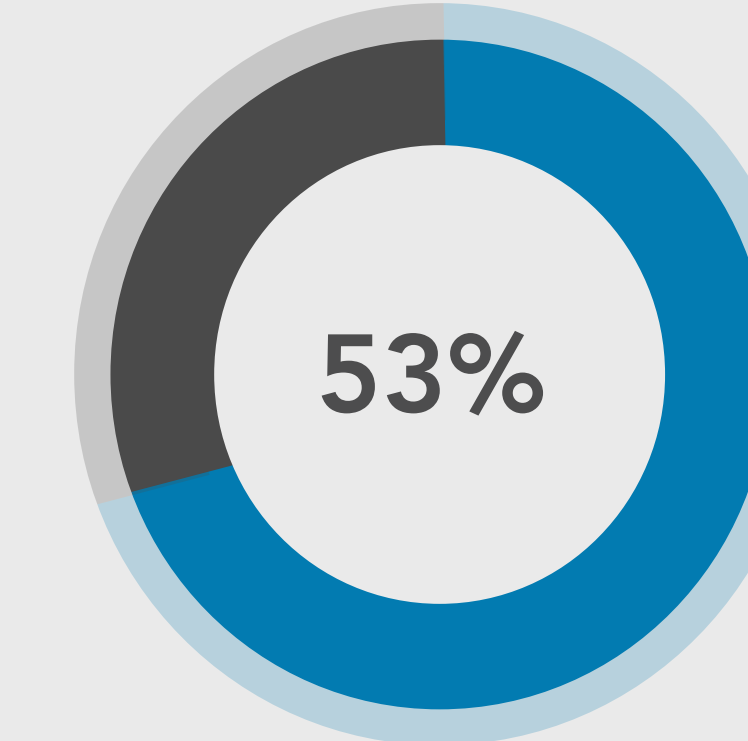
4.4X Increase In Conversions

SparkFund has seen a larger average project close rate compared to traditional lease & loan financing.

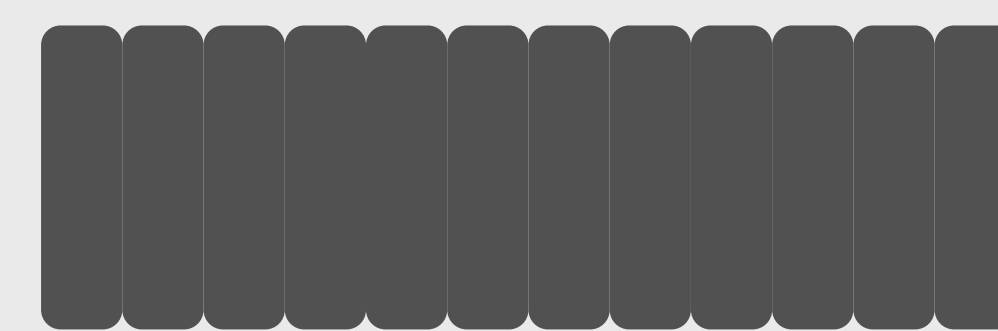
Traditional Financing



As a Service



Traditional Financing
130 Days



As a Service
27 Days



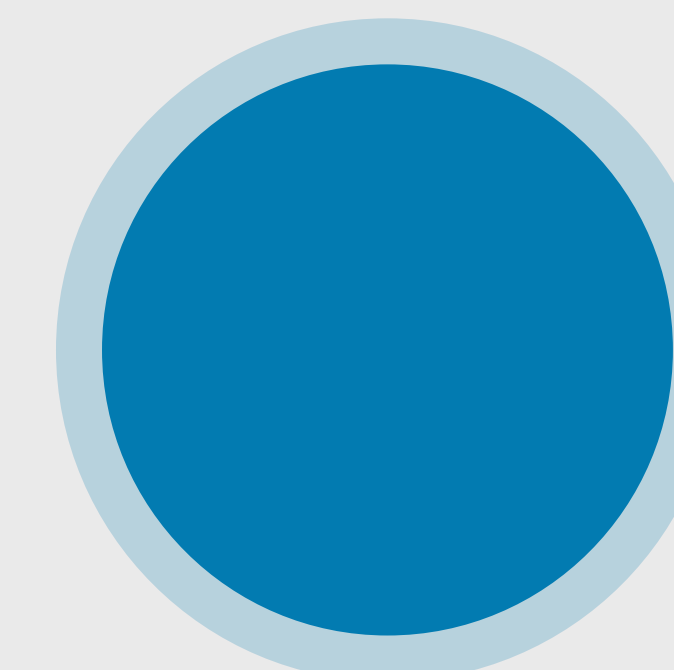
4.8X Faster Time to Close

Many As a Service projects take less than a month to close, making the sales cycle much shorter than that of traditional loans or leases.

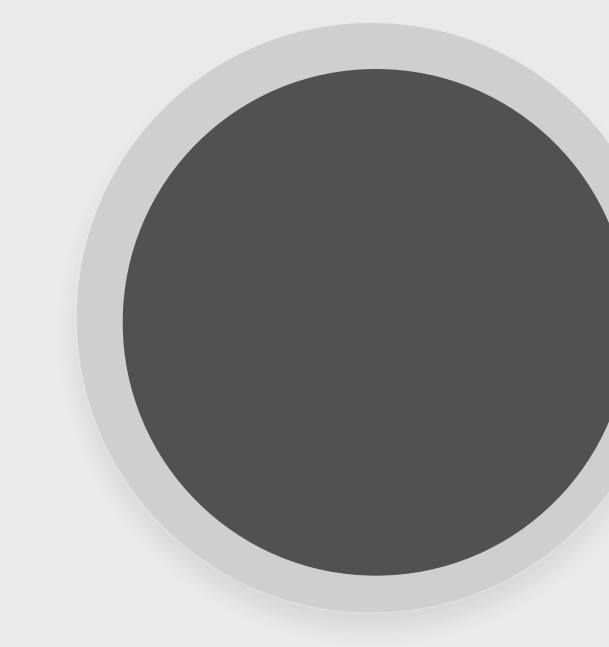
1.3X Larger Projects

As a Service projects are larger on average. With no cash upfront and no balance sheet impact, it's easier for customers to choose to roll out equipment across multiple locations.

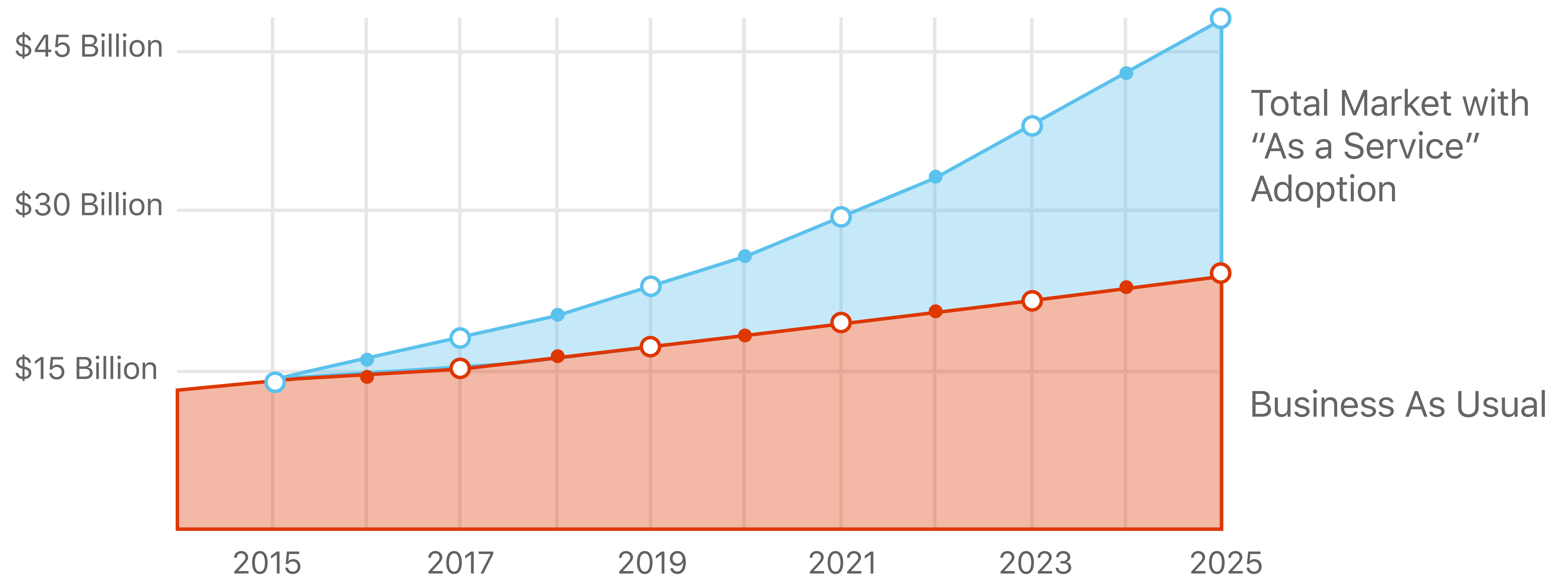
As a Service
\$172,000



Traditional Financing
128,000



The Future of Energy Equipment Sales



Projected market growth with adoption of Service Model vs. status quo

+ \$8 Billion

Expected increase (+42%) in annual revenues for energy efficient products and services by 2020 considering "as a service" uptake.

+ \$20 Billion

New investment in commercial efficiency unlocked between 2016 and 2020 by "as a service" utilization.

+ \$48 Billion

By 2025, the service model may double the total annual energy efficiency market to \$48 Billion.

Selling “As a Service”
is complex

Why is mainstream “As a Service” hard?

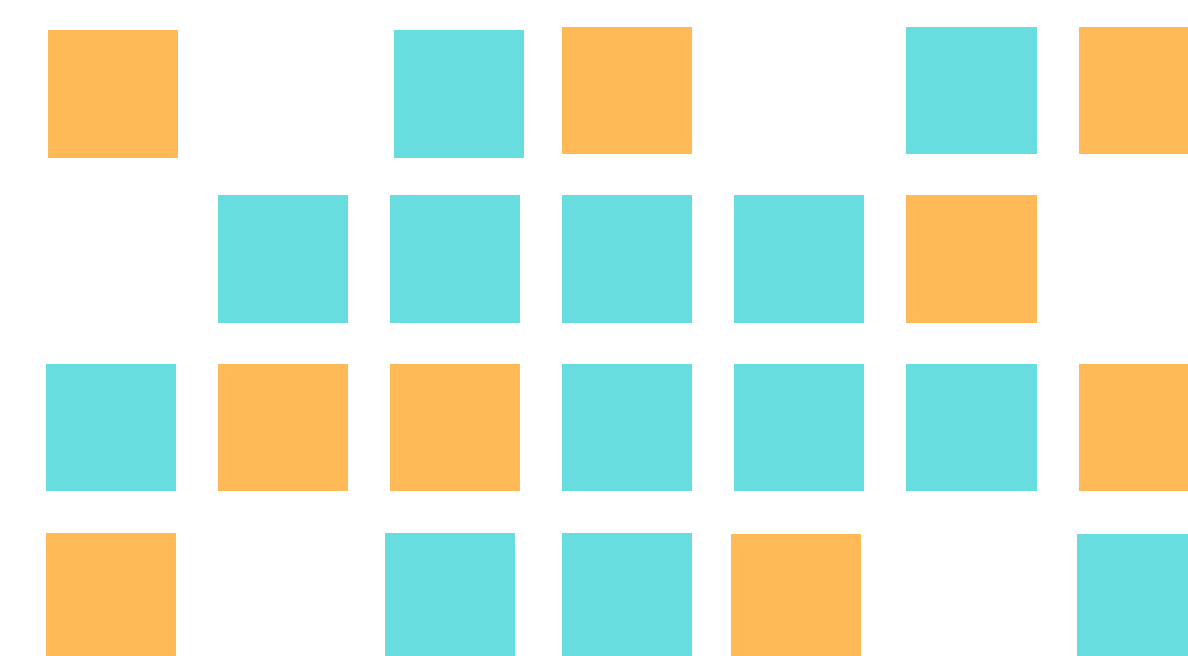
Energy services businesses must adjust to three challenges to administer an “As a Service” solution:

Larger Corporate Rollouts



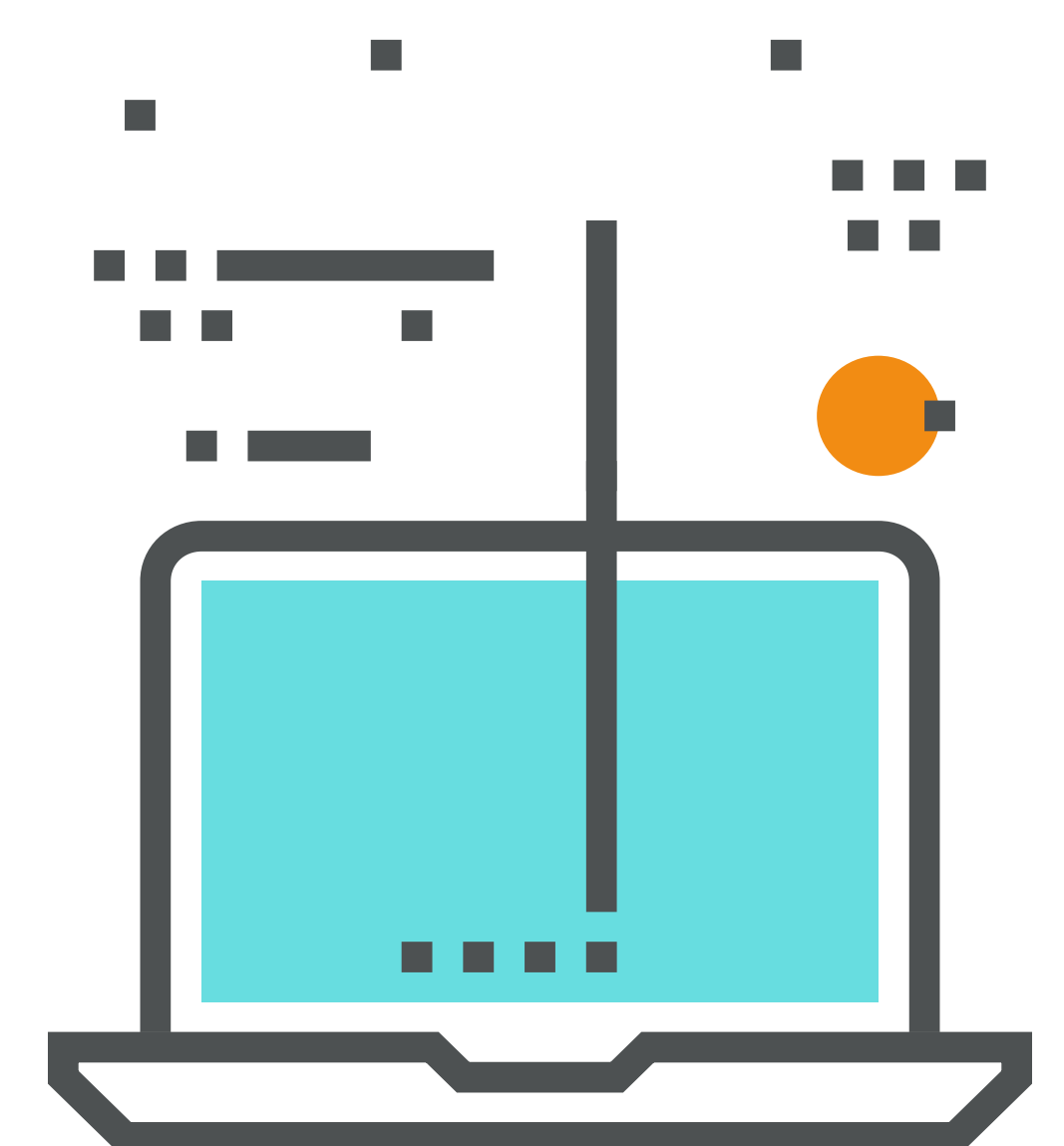
Without balance sheet constraint, corporates are choosing to consume energy saving technology at scale.

C&I Fragmentation



Falling cost of technology means smaller project sizes and more customers to service.

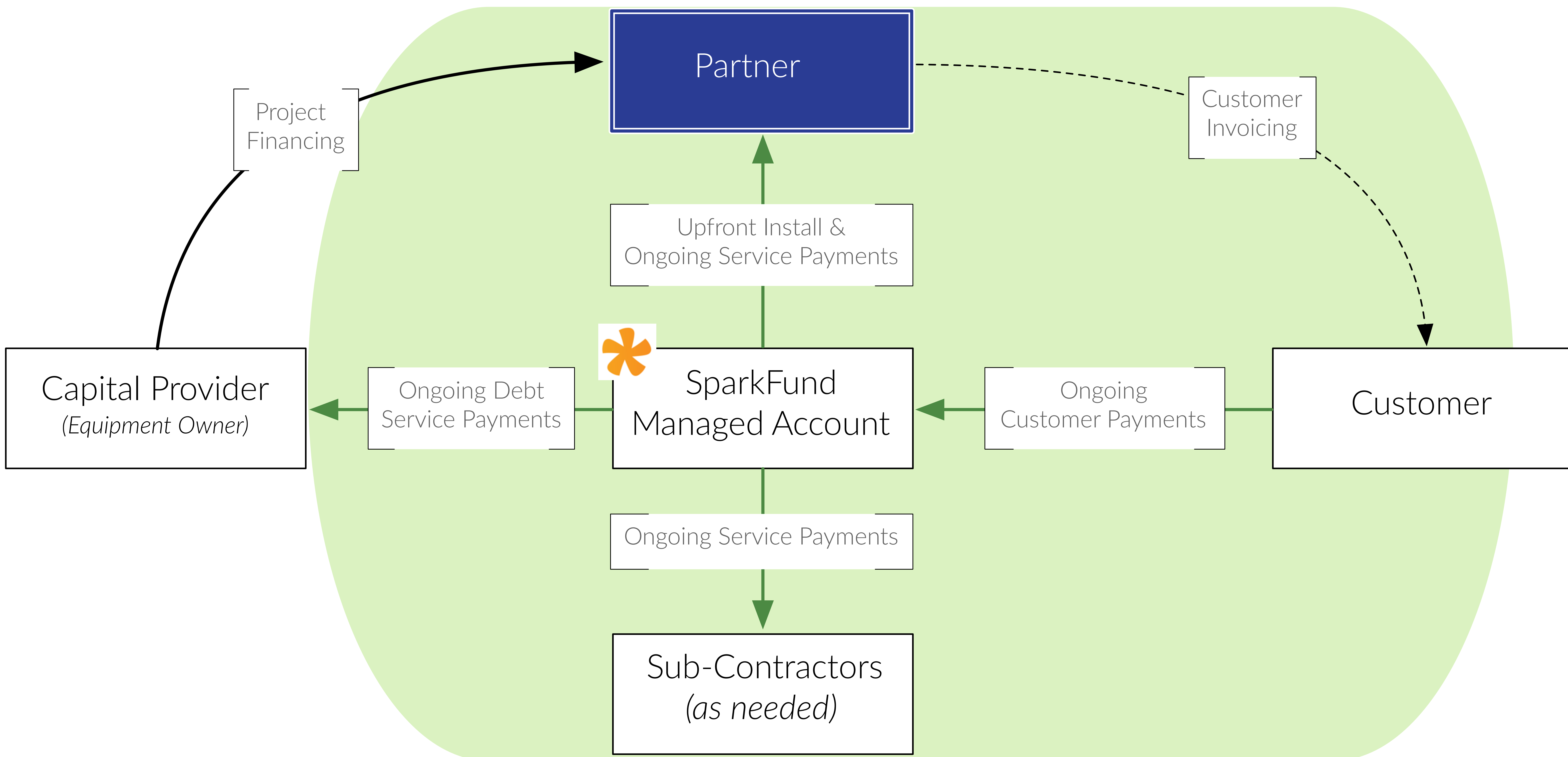
Complex Transactions



“As a Service” projects are more complicated, with more servicing tasks required each month.

SparkFund's "As a Service" Structure

SparkFund automates everything in the green shaded area.



SparkFund's "As a Service" Platform

We provide the necessary pieces to make selling "As a Service" successful and low-cost, from end to end.

Customer Pricing Interface & Sales Support



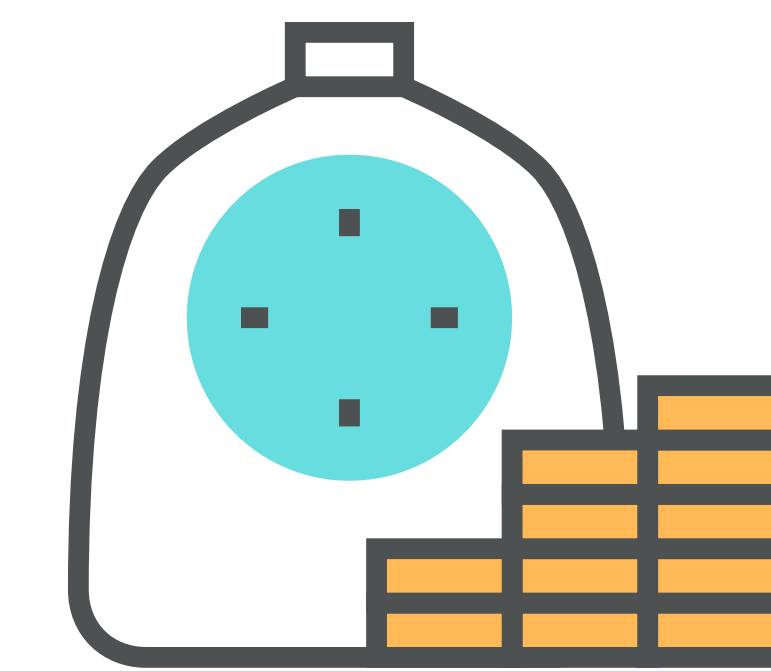
Web-tools to help make sure your team presents a simple, streamlined offer to customers each and every time.

Customer Risk Assessment



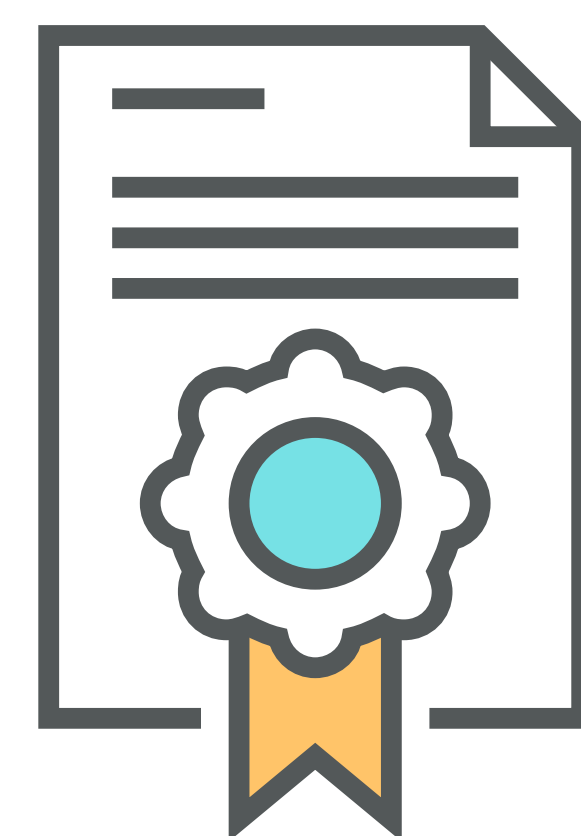
We'll underwrite each customer, even if they don't have a public rating.

Upfront Financing



So you get paid for your project right away and can recognize revenue upfront.

Contracts



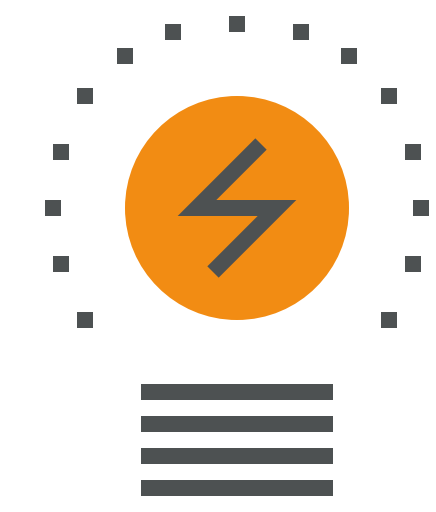
Including all the legal documents needed to sell "as a service".

Transaction Management

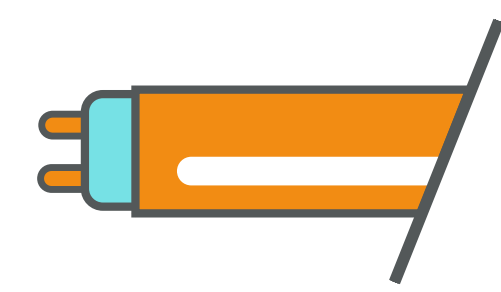


We handle the back-end flow of funds with no fixed cost.

As a Service Technologies



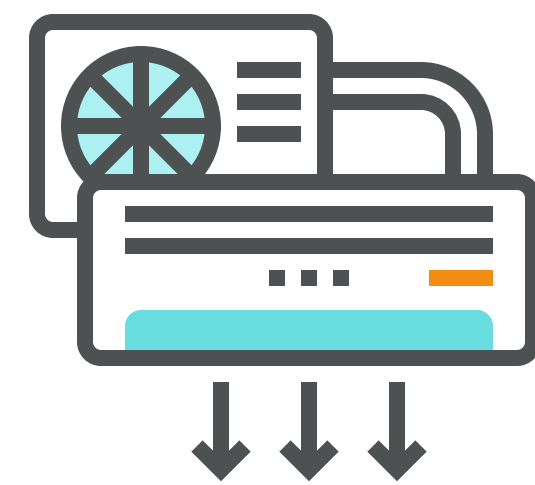
Lighting (Bulbs In Ceiling)



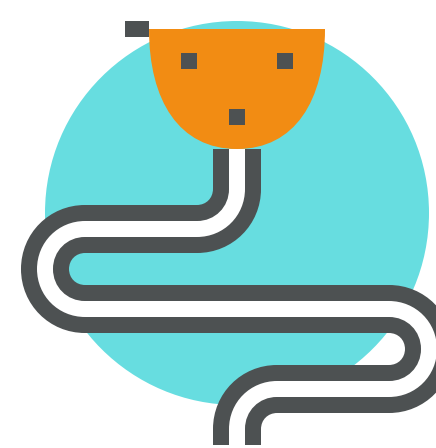
Lighting (Troffers/Ballasts)



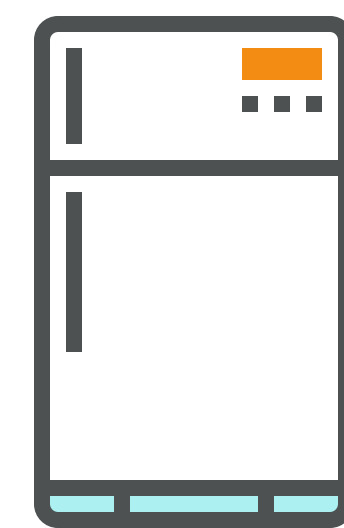
Building Controls



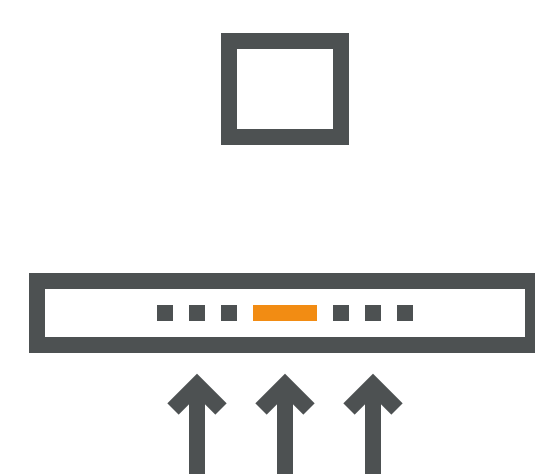
VFD & HVAC



EV Charging Stations



Refrigerator Units




Refrigerator Fans & Monitoring


As a Service Case Study: Midas Auto




Midas Auto Service Experts


South Carolina auto repair shop upgrades to LEDs for performance and energy savings


 Industry: Automotive

 Equipment: Alumen8E RKS and GE T8 LEDs

 Financing Term: 68 Months

 Expected Savings: \$2,118 per year

 CO₂ Reduction: 178,950 lbs
(Over project lifetime; based on eGrid)

 Location: Columbia, SC









As a Service Case Study: Essex Condo



Essex Condo Association

Washington, D.C. condo upgrades lighting with LED "pay as you save" program

-  **Industry:** Multifamily Housing
-  **Equipment:** Commercial Grade LED Lighting
-  **Services Agreement Term:** 60 months
-  **Expected Savings:** \$13,900 per year
-  **CO₂ Reduction:** 2,437,000 lbs
(Over project lifetime; based on eGrid)
-  **Location:** Washington, DC



Metrus – Paying the Way for Energy Efficiency



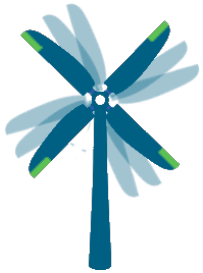
Metrus – What We Do

- Metrus develops, owns and operates large-scale EE projects for C&I clients nationwide
- Metrus partners with leading ESCOs/contractors to design, construct, maintain projects
- Metrus is an energy efficiency “independent power producer” selling efficiency as a service
- Metrus operates projects with Fortune 500 companies and major institutional customers



Origins of the Metrus ESA

Power Purchase Agreement



Wind turbine/farm



Utility power plant



Solar PV System



Traditional Performance Contract



Federal/Municipal



Institutional



K-12, Public Universities

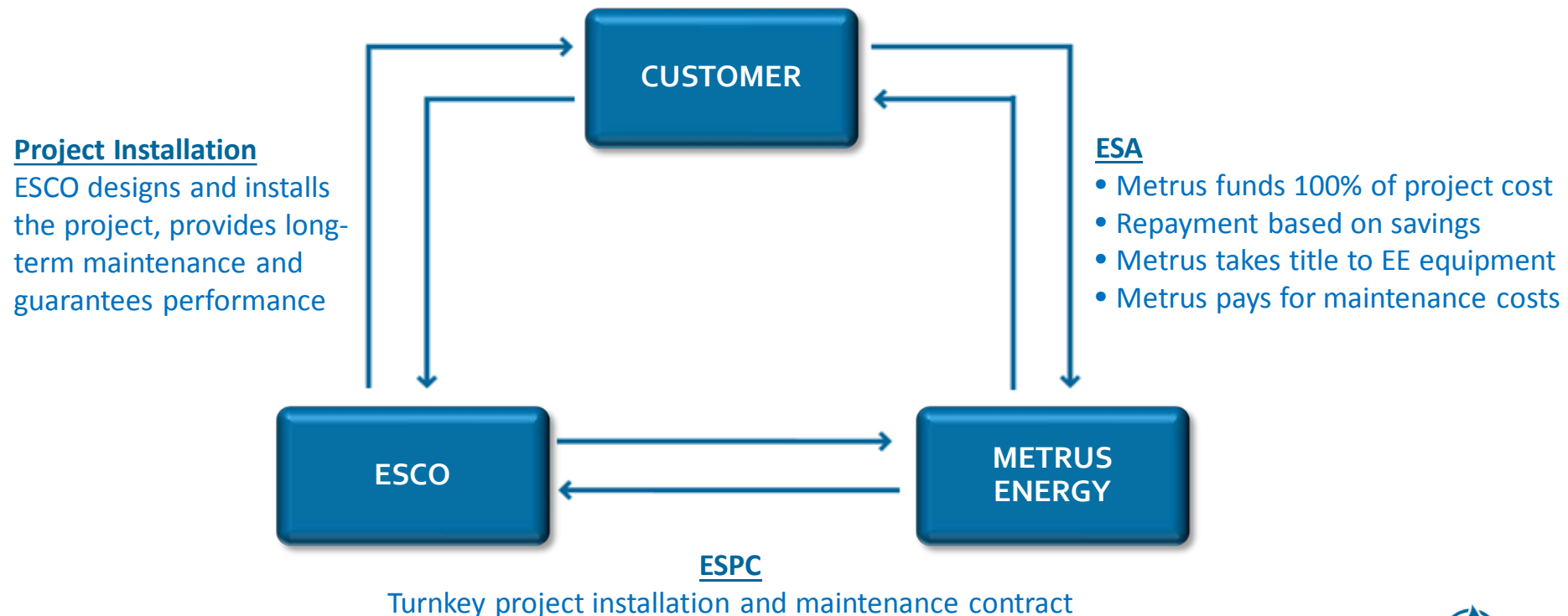
Efficiency Services Agreement

- Funds 100% of project costs
- Third-party ownership of EE assets
- Pay-for-performance structure
- Covers Construction, O&M and M&V
- Private sector focus – C&I, Institutional

ESA Defines the Relationships

Two key contracts govern each project:

1. Efficiency Services Agreement (“ESA”) with the Customer;
2. Efficiency Services Performance Contract (“ESPC”) with the ESCO/contractor



Financial Benefits

- No capital outlay (cap-ex dollars can be invested in core business)
- Preservation of debt capacity
- Immediate positive cash flow = bottom line improvement
- Pay-for-performance structure de-risks the transaction



Operational Benefits



- Resiliency (added reliability) via new equipment + O&M services
- Increased visibility through M&V
- Portfolio (multi-site) solution; ability to include water efficiency
- Flexible structure, add new EE measures over time
- Healthy buildings; improved working environment

ESA – Service Charge

$$\text{Service Charge} = (\text{physical units of savings}) * (\text{Service Rate, \$/unit}) + \text{Non-Energy Savings}$$



Savings created by:

- (1) Year 1 service charge is \leq avoided utility cost
- (2) Fixed annual escalation is \leq expected utility rate increase

Billing Period	Quarterly
Basis	Quantity of energy units saved (e.g., kWh of electricity)
Service Charge	\$ per unit of energy units saved
Non-Energy Savings	% of project savings attributed to operational (non-energy) benefits
Annual Escalation	Service charge escalates at a fixed annual rate

Customer Profile

Market – Private Sector



Total Energy Spend

Electricity + Natural Gas
+ Fuel Oil + Water > \$1 million

Location



Credit Quality



Project Profile

Typical Efficiency Measures

- Building automation & controls
- Lighting retrofits & controls
- Heating, ventilation & air conditioning (HVAC)
- Central plant systems
- Boiler replacement & system improvements
- Pumps, fans, motors & drives
- Cogeneration (onsite generation of electricity)
- Water efficiency measures

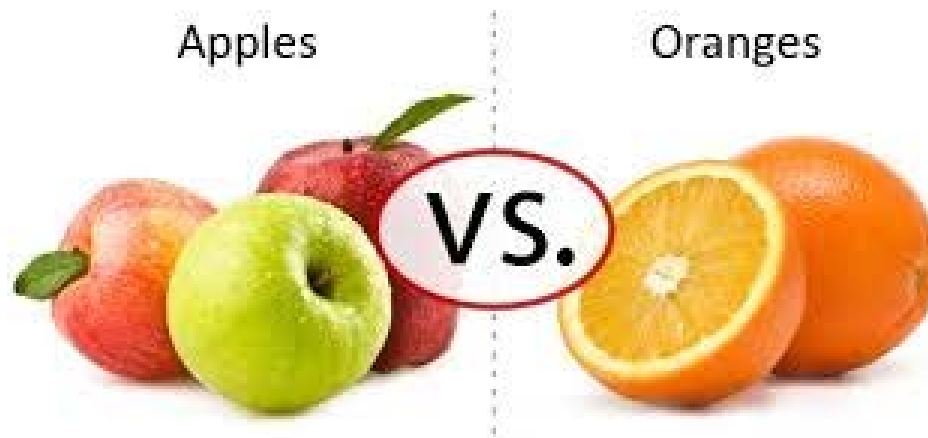
Typical Project Profile

- Integrated energy efficiency retrofit projects
- Project size is generally \$1-10 million
- ESA (project) term is generally 10 years



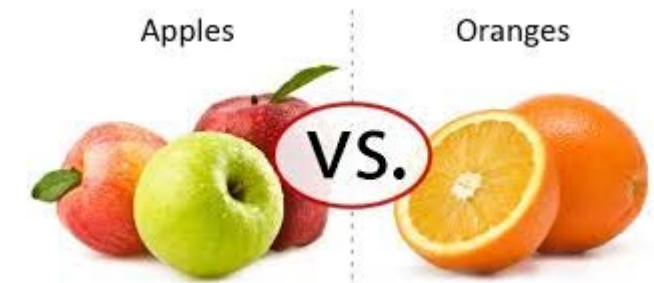
If the ESA is a services agreement...

...how do we compare it to other financing options?

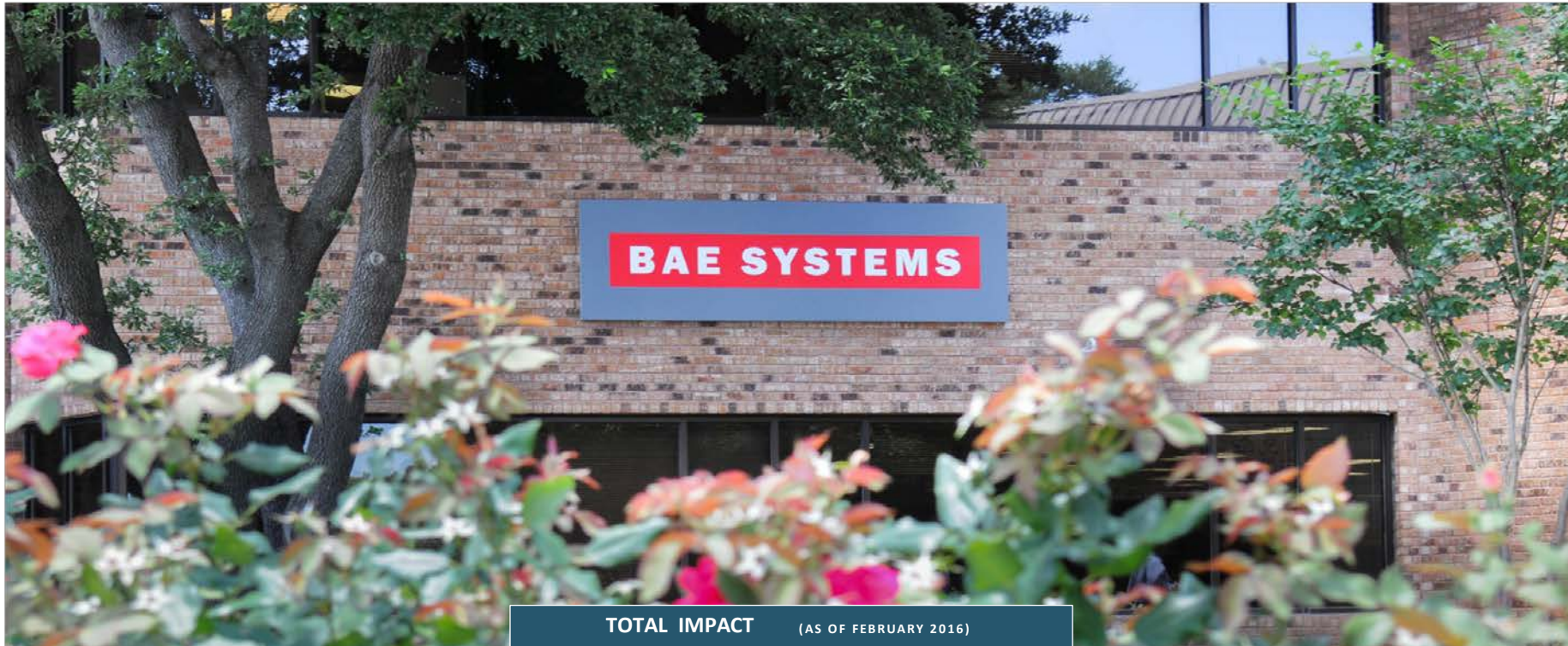


ESA Compared to Alternative Financing Options

Attribute	ESA	Lease	PACE	Cash
Down Payment	No	No	No	Yes
Origination Fees	No	Yes	Yes	No
On Balance Sheet	No	Yes	??	Yes
Pay-for-Performance	Yes	No	No	No
O&M	Yes	No	No	No
M&V	Yes	No	No	No
Funding Amount	100%	100%	100%	100%
Tenor or Term	5-15 years	5-15 years	20 years	N/A
Interest Rate	No – service agreement	Yes – lease payments	No – tax assessment	N/A
Liens	No	No	Yes	N/A



CASE STUDY: BAE Systems Multi-site Program



TOTAL IMPACT (AS OF FEBRUARY 2016)

NO. OF SITES

5

TOTAL INVESTMENT

\$10
MILLION

TOTAL SAVINGS

\$4.1
MILLION

TOTAL CO₂ SAVINGS

15,000
TONS

- Lighting retrofits (interior and exterior)
- Building automation and controls
- Air compressor, boiler & chiller replacement
- Transformer replacement
- Demand control ventilation
- Building envelope improvements
- Operational best practices

CASE STUDY: **Kuakini Medical Center**



TOTAL IMPACT (AS OF FEBRUARY 2016)

TOTAL INVESTMENT
\$5.8
MILLION

TOTAL SAVINGS
\$ 1.76
MILLION

TOTAL CO₂ SAVINGS
4,730
TONS

- New chiller plant
- Lighting upgrades
- Energy management system (EMS)
- New steam boilers
- Air-handling unit VFDs
- New booster pumps and fire pumps

CASE STUDY: Fortune 50 Industrial EE Retrofit



TOTAL IMPACT (AS OF FEBRUARY 2016)

TOTAL INVESTMENT

\$3.1 MILLION

TOTAL SAVINGS

\$ 500,000

TOTAL CO₂ SAVINGS

3,615 TONS

- Lighting retrofits (including new LEDs)
- Demand control ventilation
- Building automation system and controls
- Chiller replacement

CASE STUDY: Fortune 500 Efficiency Upgrade



TOTAL IMPACT

TOTAL INVESTMENT

\$4.2
MILLION

TOTAL SAVINGS

\$ 550,000

TOTAL CO₂ SAVINGS

7,300
TONS

- Lighting retrofits
- Variable frequency drives and controls

To get started with Metrus, please contact us at:

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