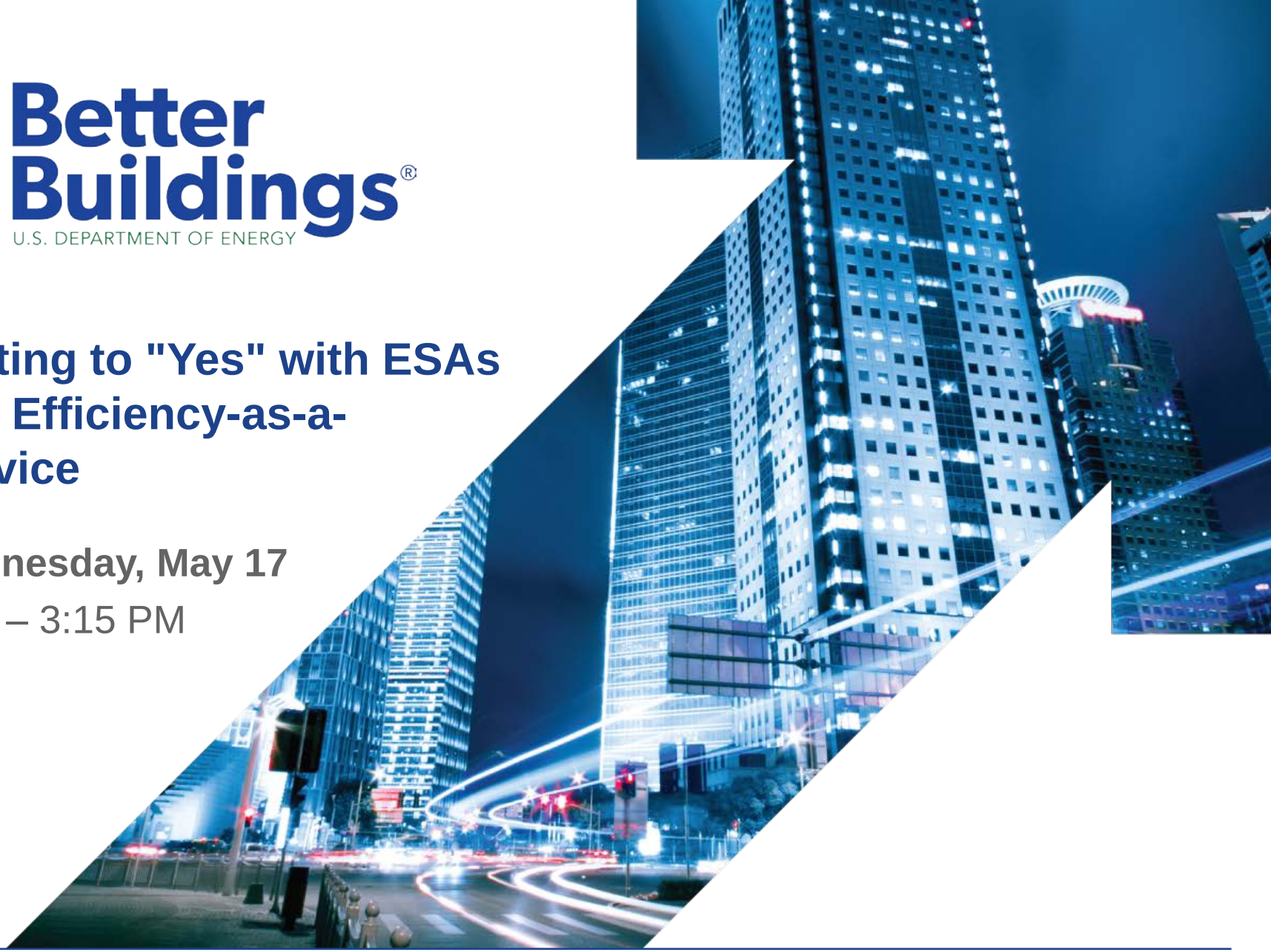
Better Buildings®
U.S. DEPARTMENT OF ENERGY

Getting to "Yes" with ESAs and Efficiency-as-a-Service

Wednesday, May 17

2:00 – 3:15 PM



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Panelists

- Bob Hinkle, Metrus Energy
- Bruce Schlein, Citi
- Pier LaFarge, SparkFund
- Joe Indvik, JDM Associates

Bob Hinkle

Metrus Energy

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Metrus Energy – Selling Energy Efficiency "As-a-Service"

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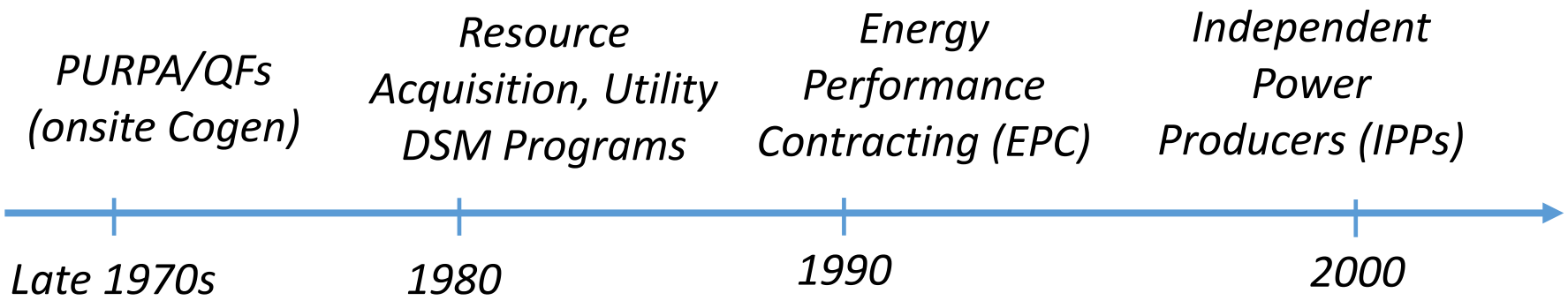
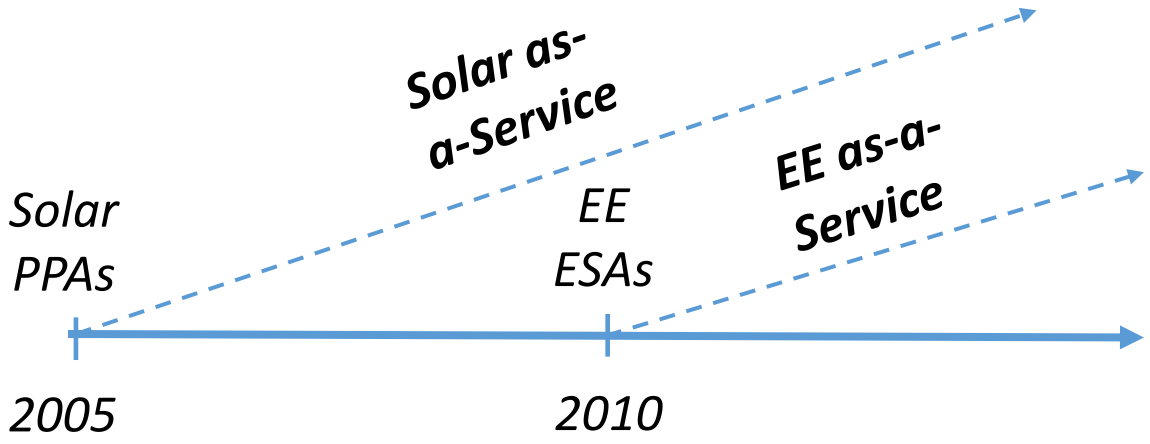
Metrus Energy

Advent of Efficiency "As-a-Resource"



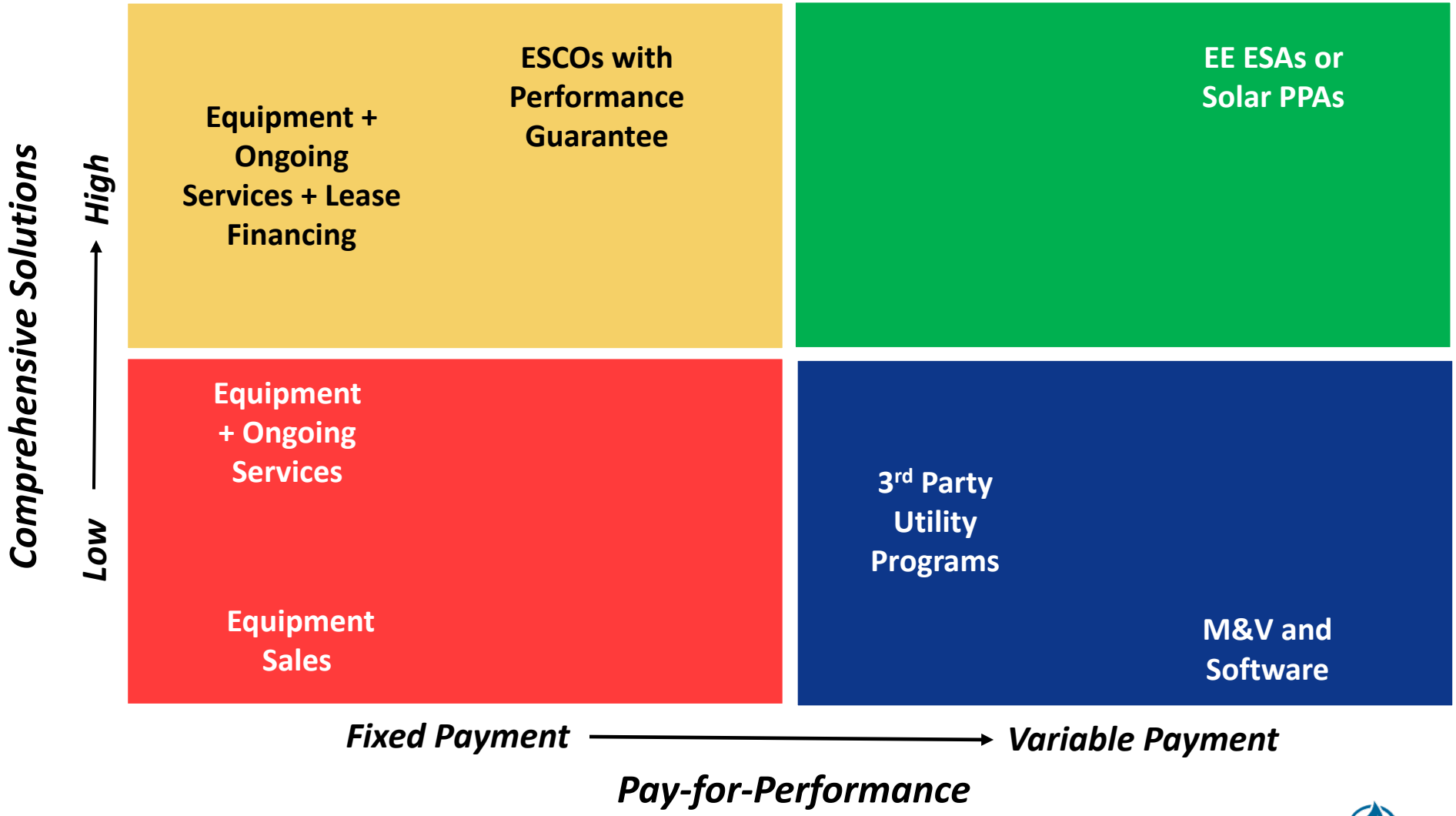
- PURPA fostered efficiency in energy production by encouraging non-utility generation and the use of cogeneration and smaller scale renewables
- Utility demand side management (DSM) programs purchased (acquired) energy efficiency savings via financial incentives and technical assistance
- ESCOs industry emerges to serve DSM programs; state and federal programs coupled with international M&V protocols spur growth in EPC financing
- Deregulation in mid-1990s opens up the generation market for IPPs that sell power via long-term power purchase agreements (PPAs)

Emergence of Efficiency "as-a-Service"



- PPAs drive growth of small scale (250 kW and up) solar PV systems
- End-users start to buy *solar power and not solar panels*
- Efficiency Service Agreements (ESAs) build on solar PPAs to fund efficiency retrofits and kick off the era of energy efficiency (EE) as-a-service

"As-a-Service" Landscape in Clean Energy



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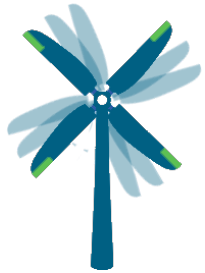
Origins of the Metrus ESA

Power Purchase Agreement



Wind turbine/farm

Utility Power Plant

Solar PV System

+

Traditional Performance Contract

Federal/Municipal

Institutional

K-12, Public Universities

=

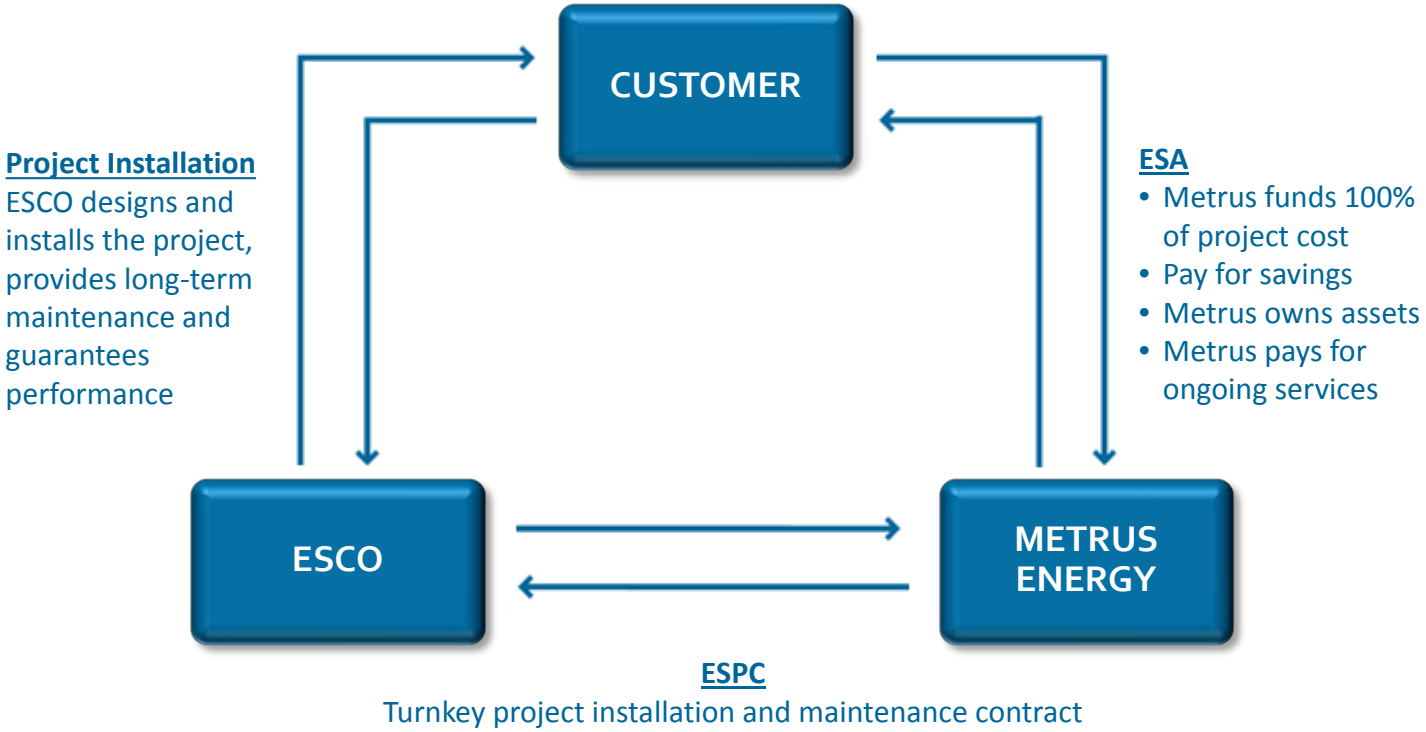
Efficiency Services Agreement

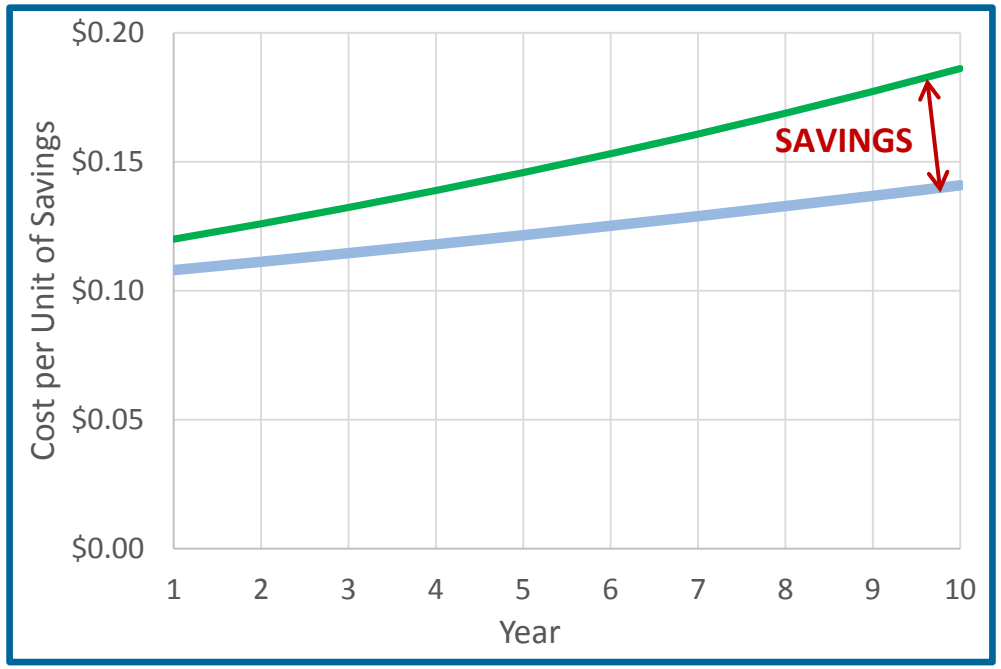
- Funds 100% of project costs
- Third-party ownership of EE assets
- Pay-for-performance structure
- Covers Construction, O&M and M&V
- Private sector focus – C&I, Institutional

Metrus Energy

ESA Defines the Relationships

- Two key contracts govern each project
- Output (unit of efficiency) pricing mechanism





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Lessons Learned Selling EE as-a-Service

- *Trade kilowatts for negawatts* – Truly selling efficiency-as-a-service requires pricing efficiency service on a pay-for-performance basis
- *Monitor and measure* – Selling as-a-service requires accurate project monitoring
- *Offer a flexible platform* – Provide an open platform for customers
- *Bundle upgrades* – Combine electric and thermal efficiency upgrades in projects
- *Mitigate risks* – (1) Charge only for realized savings, (2) reduce downtime by providing ongoing maintenance services
- *Finance, save & repeat* – Add or substitute efficiency measures to existing projects
- *Look beyond energy savings* – Developing projects that include water efficiency and other operational savings

Bruce Schlein

Citi

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Better Buildings 2017 | Energy Services

Corporates with advanced energy efficiency programs that have harvested most of the “low-hanging fruit” face three options: 1) curtail the program; 2) change internal hurdle rates; or, 3) pursue third party finance

Corporate Energy Efficiency Programs

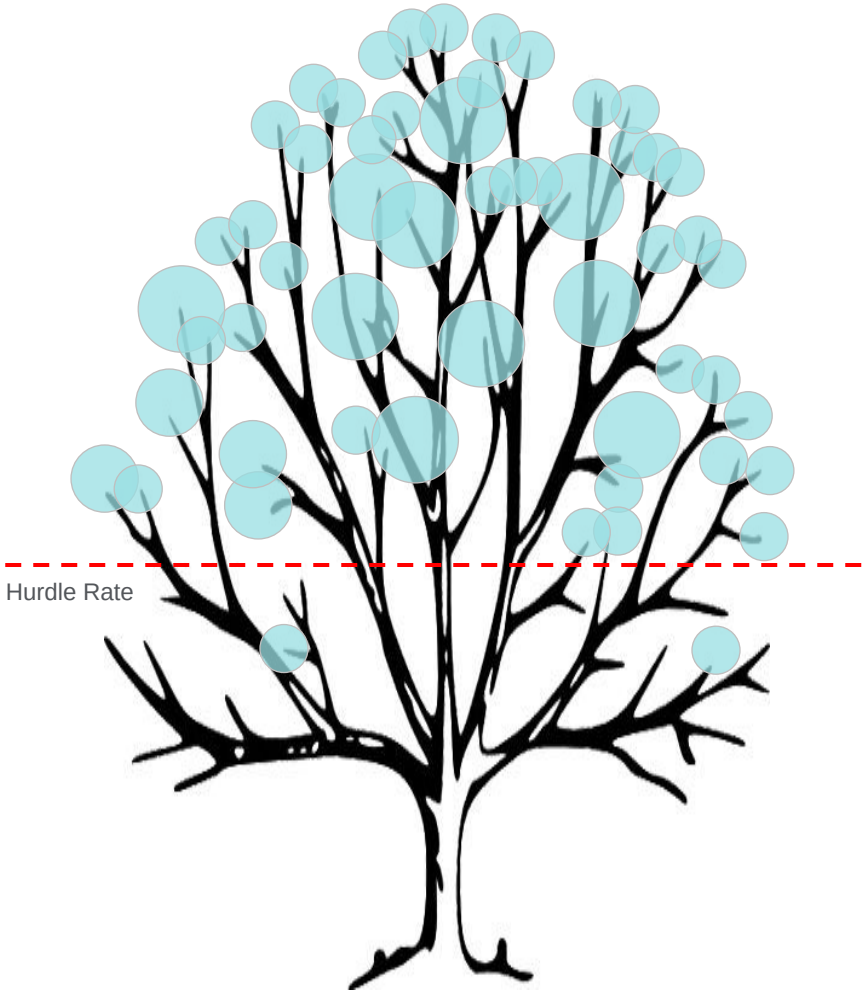
- Driven by energy and cost savings, and to help meet greenhouse gas and other environmental goals.
- Developed and led by operations and corporate sustainability teams.
- Typically self-financed with internal hurdle (ROI/payback) rates no greater than 24 to 36 months.
- Becoming increasingly sophisticated with global energy management systems that elevate to senior management energy use, costs, and improvement opportunities.
- Advanced programs; programs that have been in place for 10+ years, have harvested most of the “low-hanging fruit” (the opportunities that meet internal hurdles).
- Programs in this position have three options going forward:

  1) Curtail the program (contrary to cost-saving and environmental goals)

  2) Change internal hurdle rates (challenging, given other competitive uses of capital)

  3) Pursue third party finance (the genesis for Citi establishing, and utilizing for its own energy efficiency improvements, the Energy Services Agreement product)

Challenge of Internal Hurdle Rates



Pier LaFarge

SparkFund

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"Efficiency-as-a-Service is
a procurement strategy
not a purchase option."

Get new, better equipment, at no risk.

What does that mean?

New better equipment, at no risk.

We make a simple list of functions

that describe exactly how your new system will work and put it in an easy to understand contract that is just four pages long.

New better equipment, at no risk.

If it doesn’t work, you don’t pay.

The service agreement commits the supplier to maintain the equipment so it performs exactly as specified in the contract. If it doesn’t you don’t have to send the next payment.

Efficiency-as-a-Service is cost-competitive and delivers the greatest benefit of the equipment procurement strategies.

$100,000 Example Project	$31,200 Annual Savings	60 Month Term	7% Rate

	Cash	Lease/Loan	Efficiency-as-a-Service
Monthly Payment	$2,500	$1,980	$2,079
Monthly Tax Benefit From Deductions	$357	$423	$623
Lifetime Benefit	$9,430	$44,590	$68,677

Raise your hand

if you have something better to do than use your cash to buy lights?

Raise your hand
if you've tried to do a lighting upgrade
but didn't have the funding?

Questions?

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Thank You

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