
AABC Commissioning Group

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Citi Expands the Market for Energy Efficiency

Course Number: CXENERGY1817



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Course Description

A 2009 McKinsey & Company report cited a potential \$520 billion marketplace to retrofit building systems such as lighting, HVAC and windows. Problem is, this order of magnitude requires capital-market and institutional investor participation. This presentation examines “efficiency as a service” a flexible, market-proven solution that turns kilowatts into “negawatts” (units of saved energy) by financing 100% of the project cost and monetizing the energy savings. This presentation examines a real life example of this financing method and demonstrates its vast potential to the energy retrofit marketplace.



Learning Objectives

At the end of the this course, participants will be able to:

1. Understand the "Efficiency as a Service" model and how it relates to large scale, multi-location energy retrofit projects that can have a significant impact on sustainability, conservation of natural resources, and reduction in greenhouse gas emissions.
2. Learn how the lack of appropriate financing structures and sufficient aggregation have been hindering the energy retrofit market.
3. Learn how the efficiency as a service model can finance and implement retrofits at sites that are thousands of miles apart under a single contract enabling corporations to negotiate contracts that attain economies of scale while at the same time ensuring compliance with laws, codes, zoning, regulations, and standards at a local level and create healthier environments at site level.
4. Learn how the drive to reduce carbon-dioxide emissions is creating an increasingly larger demand for energy efficiency projects at scale and how one such project already underway is expected to eliminate 20,000 tons of annual carbon-dioxide emissions, contributing greatly to city-based urban planning and emissions goals.



This concludes The American Institute of Architects
Continuing Education Systems Course

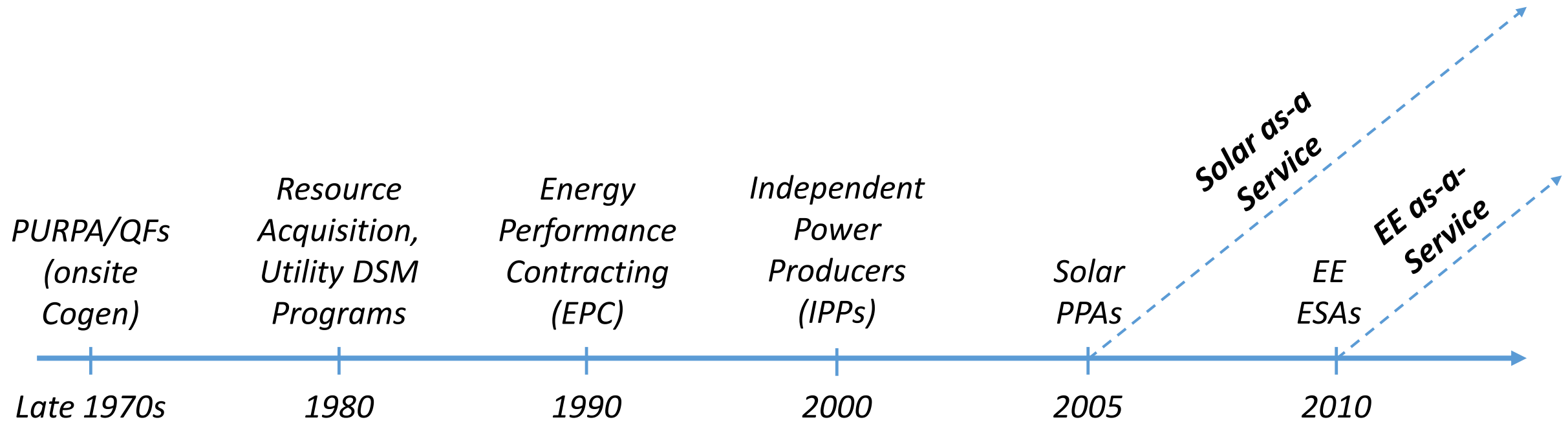
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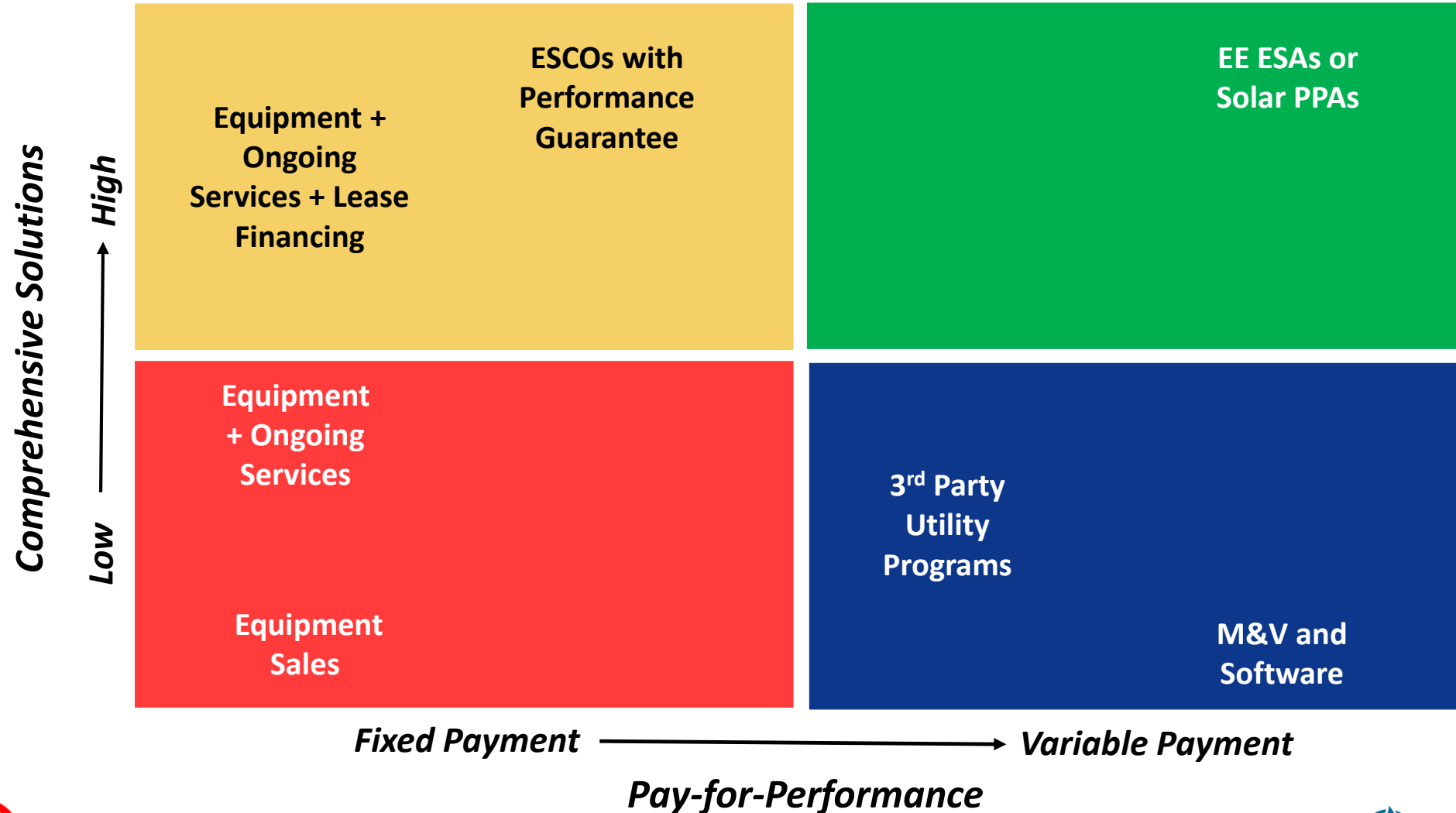
Selling Energy Efficiency “As-a-Service”



Advent of Efficiency "As-a-Resource"

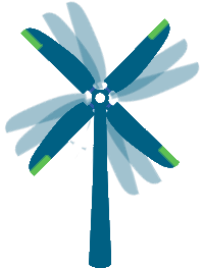


“As-a-Service” Landscape in Clean Energy



Origins of the Metrus ESA

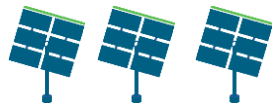
Power Purchase Agreement



Wind turbine/farm



Utility Power Plant



Solar PV System



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

Traditional Performance Contract



Federal/Municipal



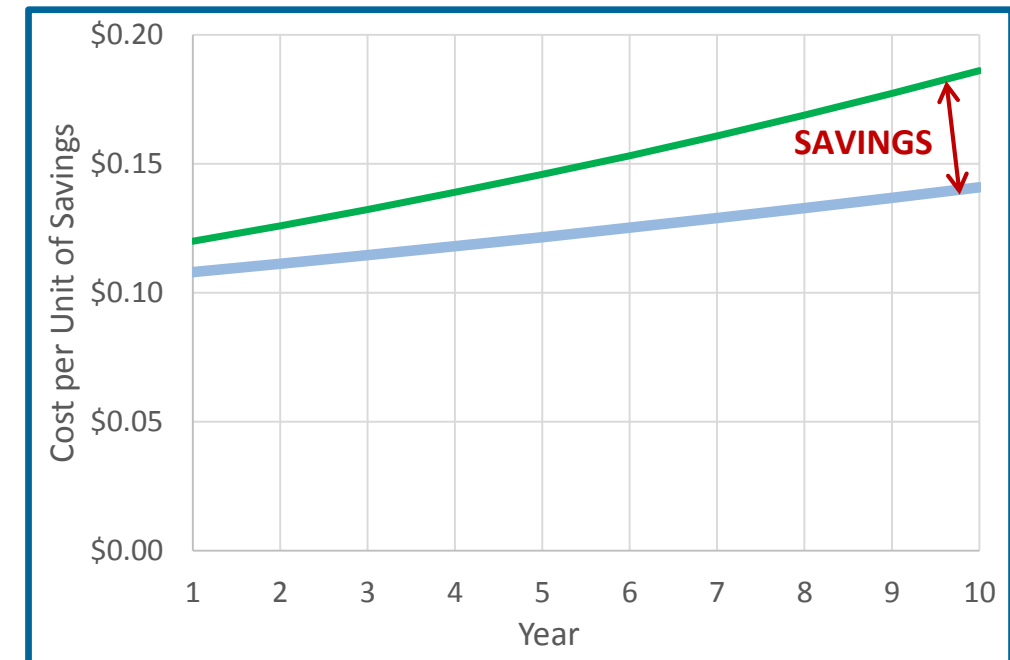
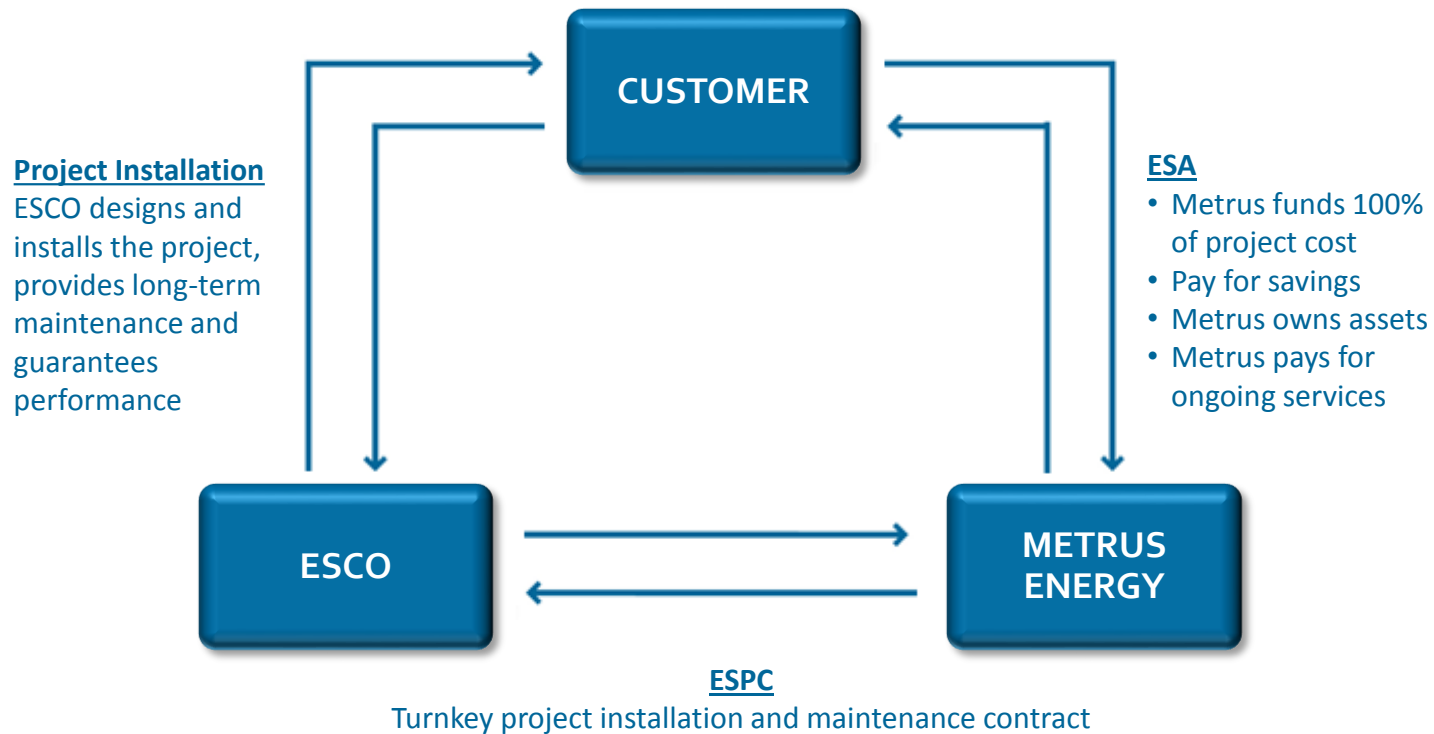
Institutional



K-12, Public Universities

ESA Defines the Relationships

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



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