# A New Funding Solution for Infrastructure Replacement

*Ideas for Municipalities, Universities, Public Housing, Multifamily Housing, Schools and Hospitals, Today and Tomorrow*

APOLLO
Engineering Solutions

National Facilities Management and Technology Conference

# Learning Objectives

1. Review an alternate approach to debt-financing or CapX to address infrastructure replacements.

2. Define the service approach compared to traditional infrastructure replacement programs.

# Agenda



- State of Play in *Municipalities, Universities, Schools and Hospitals (MUSH market)*
- What Are the Capital Infrastructure Issues Facing Clients?
- What Are the New Solutions?
- How Would "**as a Service**" Work?
- How Do We Pay for "**as a Service**"?
- Mitigating Risk; Why Is "**as a Service**" a Viable Option for the MUSH Market?
- Summarize "**as a Service**"; Q&A

# Historical Perspective



- Energy Savings Performance Contract (ESPC), Energy Performance Contract, Performance Contract, and Guaranteed Energy Savings Agreement are used synonymously
- Budget neutral solution
- Replace obsolete energy/water systems
  - Reduce costly system repairs and maintenance costs
- Consolidate parts inventories, e.g., uniformity in single procurement purchase for toilets
- Improve health and comfort
- Leverage energy and water savings; leaving capital funds for more emergent needs
- Reduce Greenhouse effect by lowering the consumption of coal, gas and oil
- Create local green jobs

# Infrastructure Replacement - State of Play



- Nation's infrastructure received overall grade of D+ in four-years Infrastructure Report Card (American Society of Civil Engineers)
  - Categories, including aviation, dams, shipping ports, drinking water, inland waterways, levees, roads and transit.
- Cities, municipalities, and universities have responsibility over diversified set of facilities
  - Complex underground networks to buildings, as well as roadway systems, parks and equipment necessary to support of infrastructure
- Municipal infrastructure not protected from usage, aging, climate, geological conditions, or changes in use.
- Inadequate funding or inappropriate support technologies, neglected infrastructure components are responsible for decline in efficiency, safety and operational readiness

# Traditional Funding Sources



- Lease-purchase agreements
- Lines of credit
- Energy financed funds (Bonds)
- Power Purchase Agreements (PPA)
- Capital/Reserve Funds
- Affordable Housing Market
  - Rental Assistance Demonstration (RAD) Program
  - Tax credits
  - Capital Fund Financing (CFFP)
  - Operating Fund Financing (OFFP)

# Barriers to Traditional Funding Sources



- Some banks unwilling to commit capital w/o collateral
- EE is not generally valued in real estate evaluation and appraisal
- Process is too complicated – 12 to 18 month to get installation
- Lack of education on the part of lenders
- Energy conservation is not core mission
- Investors perceive a lack of investment opportunities at scale with attractive returns, strong risk management and sufficient volume

# Why “as a Service”, Why Now?



- Federal, city, municipality governments need reliable sources of funding if they are going to provide the infrastructure that their residents need and demand
- Local governments have neither the resources nor the financial capacity to pay for all of their badly-needed infrastructure improvements
- Hard truth is that it may take raising some taxes. In a political time when tax-cutting is fashionable, that will be a difficult position for local policymakers
- Successful cities get financial support from their central governments, or local government is granted significant tax authority

# What Are Capital Infrastructure Issues Facing Clients?



- They MUST replace infrastructure but don't have funds to pay for upgrades (e.g., elevators, boilers, roofs, windows, etc.)
- Need immediate facility upgrades and speed is critical
- Understand how owning is often a disadvantage
- Run-to-fail risks are outsized
- Need full proof reliability, durability and performance
- Are driven by ROI
- Have other pressing needs for available funds
- Want lowest, long term cost of needed infrastructure upgrades
- Want to leverage existing funding levels
- Debt averse

# What is "As A Service" Solution

## Utility Model Approach

What matters most to a utility client?

When I need service, flip of a switch away!

I pay only, for what I use!

My utility service is reliable!

My fees are affordable, increasing asset value of my asset!

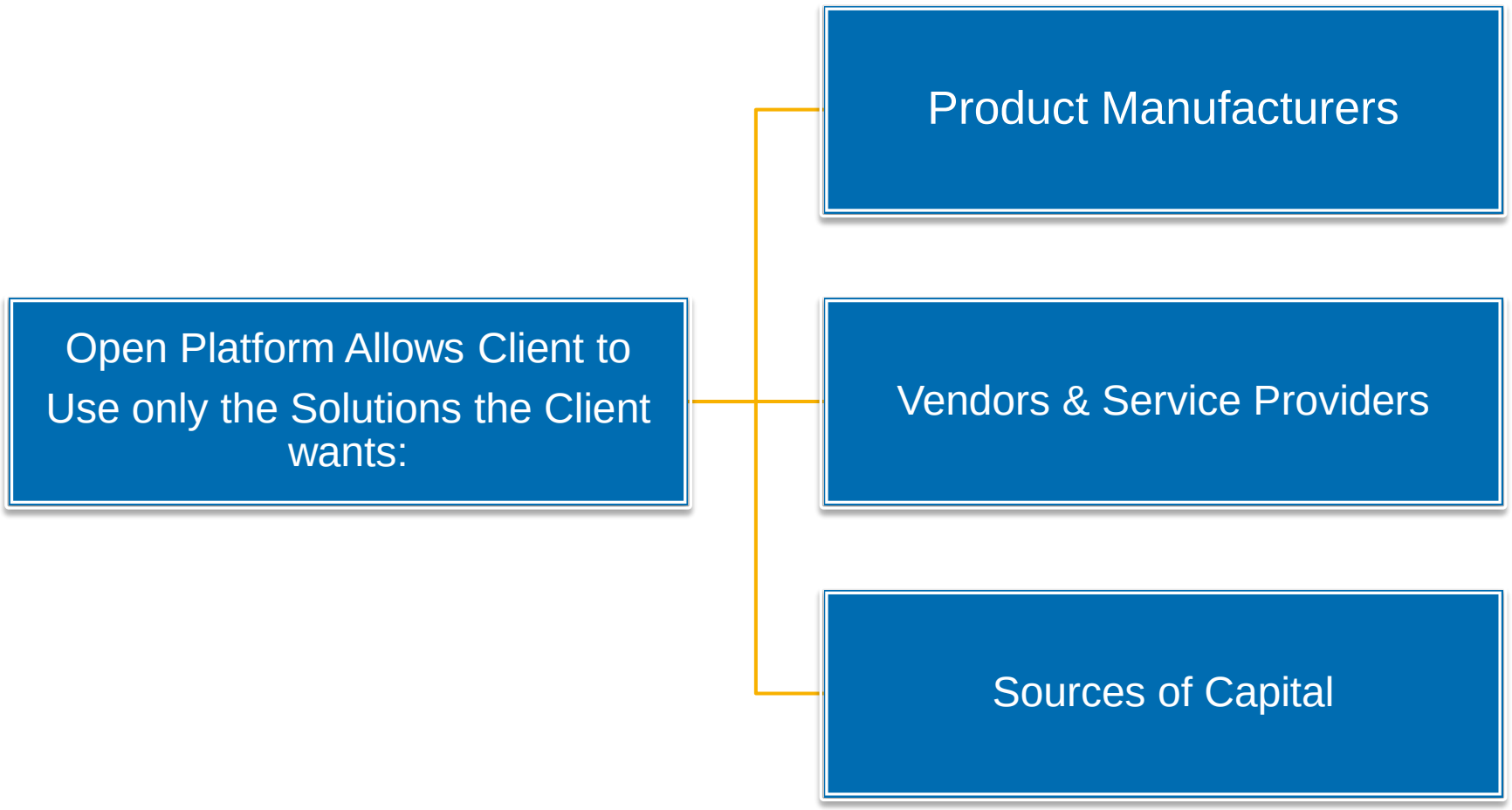
# What is “as a Service” Solution?



- Immediately addresses client deferred maintenance and Run To Fail issues and help to accelerate your future goals and GHG reduction efforts
- Offers the most significant client savings with the least risk vs others
- Is responsible for procuring assets and paying for fees prior to the use of essential services

# Best-in-Class Platform Solution





# How Would “as a Service” Work?



Adds focus and proprietary capital for upgrading essential services

1

You don’t purchase any product or installation

2

We pay for everything: materials, installation, maintenance & upgrades

3

You only pay a small fee for usage

# How “as a Service” Works?



Meet with team

Show us an important problem you need solved

Define integrated timeline & execute agreements

Install sub-meters and establish baseline usage

With all details defined, execute notice to proceed

Sit back and let us do the work

Installation, commissioning and ongoing maintenance by Firm

Enjoy the benefits!

Why implement only some of your infrastructure projects, when together, we can implement them ALL!

# “as a Service” Can Deliver…



LED lighting &
Smart City technology solutions

Refueling stations (CNG/LPG)

Boilers, chillers and refrigeration

Smart plumbing controls; Low flow water-efficiency solutions

HVAC retrofits; building envelope energy efficiency

Smart/precision irrigation systems

High-efficiency motors/starters

Roofs; Building envelope upgrades

Smart motor controls (VFD)

Waste systems

Elevators

# Ongoing Benefit for Client



Accelerate facility infrastructure transition from reactive to proactive by allowing finance to work with facilities team to replace and upgrade infrastructure when optimal

Decouple availability of capital to client's ability to replace at-risk infrastructure. Once our agreement is in place, client can use platform as an alternative procurement solution for upgrading infrastructure, thereby eliminating numerous alternatives which are expensive and inflexible

Can help to accelerate the implementation of the sustainable initiatives which provide a comprehensive vision for client's upgrades and improvements

# How Do We Pay For “as a Service”?



**Financially Self-Sufficient**

Have our own capital (just like any other utility company)

**Monitor & Verify Our Upgrades**

Meter all of the upgrades by installing our own usage meters on each major device

**Direct Meter Billing**

Repaid by invoicing you directly from the new product meters based on your usage of the equipment

**You keep the benefits from reductions in utility bills, maintenance costs, disruption to operations and improved systems!**

# How Does Client Pay For "as a Service"?



**Financially Self-Sufficient**

**We have our own capital (just like any other utility company).**

**Monitor and verify our upgrades**

**We meter all of the upgrades by installing our own usage meters on each major device.**

**Direct meter billing**

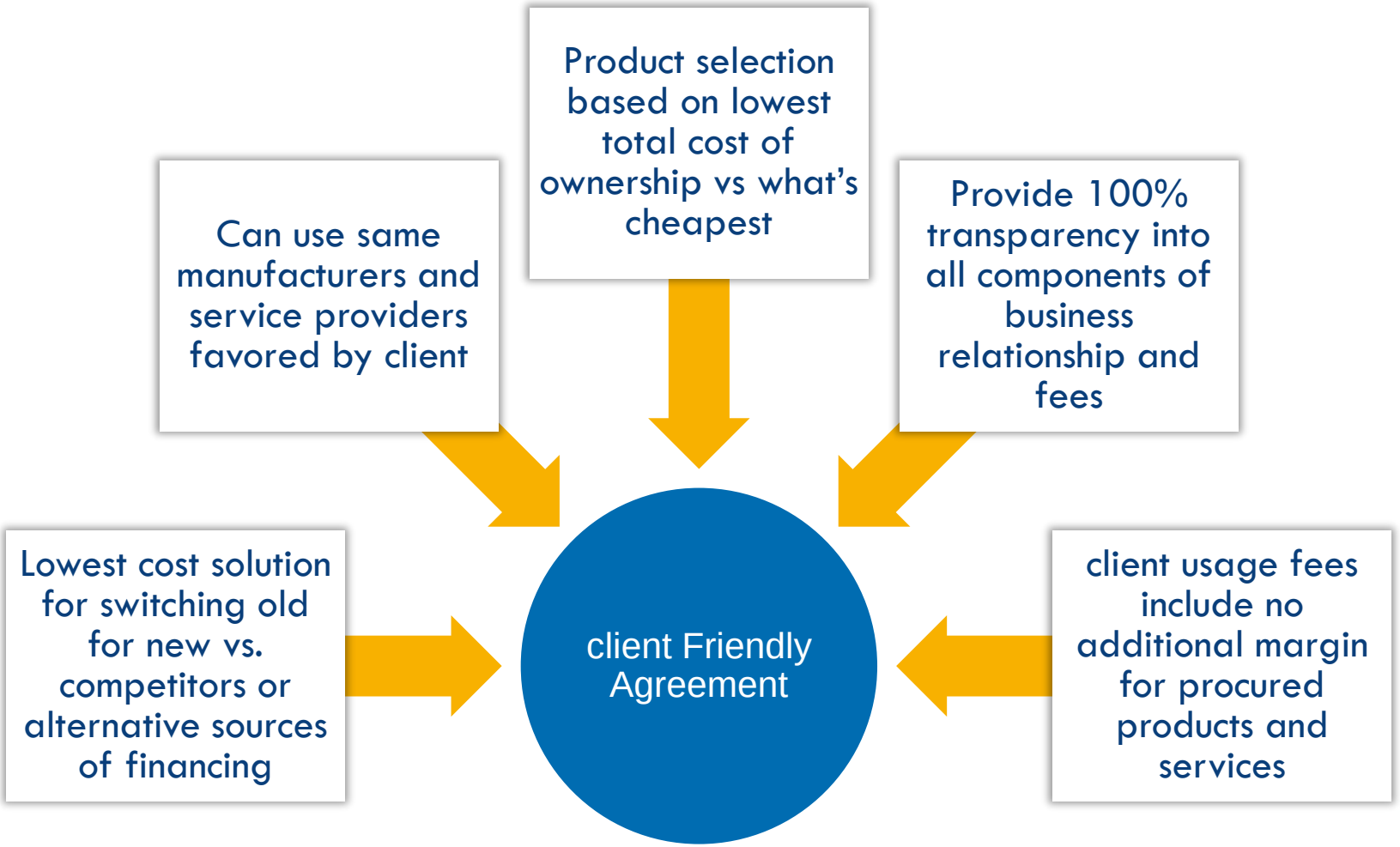
**We are repaid by invoicing you directly from the new product meters.**

| | Cost/KwH | KwH Usage | Billing | Total | | |
|---|---|---|---|---|---|---|
| Old Lighting | $0.09 | 71,964 | $6,476.76 | $6,476.76 | | |
| New Lighting Utility | $0.09 | 30,000 | $2,700.00 | | 58% | Energy Savings |
| Service Usage Fee | $0.03 | 30,000 | $900.00 | $3,600.00 | | |
| | | | Total Savings | $2,876.76 | 44% | Utility Cost Savings |

**You keep the benefits from reductions in utility bills, maintenance costs, disruption to operations and improved systems!**

# Client-Centric Agreement





# Why Is "as a Service" a Viable Option for Municipalities, Universities, Schools and Hospitals?



1. Investors bring the capital to the table; investors want to invest in MUSH market projects; Firm takes the risk
2. Client pays only for what is used; Firm owns assets, like a utility company
3. Firm and client goals are aligned
    a) Client is looking for high performance, high value equipment that is reliable and maintenance free, including safety for its residents
    b) Firm and its investors wants high performance equipment, to reliably provide equipment demand services in exchange for a usage fee
4. Simplifies procurement through Cooperative Purchasing Agreement or RFQ for investment; install equipment on a faster timeline
5. "as a Service" approach mitigates clients' risk by owning/maintaining equipment
6. Firm requires no facility guarantees, minimums or multi-year contracts
    a) The new infrastructure is simply paid for by usage fees
    b) All efficiency savings goes to the client

# Who is Considering "as a Service" Solutions?



- Applications
  - Airports, Highways, Streets, Parking
  - Cities, States, Parks, Recreation, Police, Fire Stations
  - Rail Systems
  - Shipping Ports
  - Hospitals
  - Schools and Universities
  - Water and Power Utilities
- Future Federal Opportunities
  - GSA/DOE – Federal Energy Management Program (FEMP)
  - Public Housing Authorities

# Client Self-Assessment



- What are my options for addressing capital infrastructure needs?
- What is the Total Cost of Ownership (TCO) of existing equipment? What is the TCO of replacement equipment including Installation, maintenance, upgrades, insurance, finance charges, staff benefits, capacity; skills capability
- Is it less expensive to use “as a Service” vs own; least-purchase; bond financing, etc.?
- How important is equipment reliability to my portfolio?
- How long can I afford to wait for replacing critical components?
- At what point does TCO exceed total usage fee of “as a Service” ?
- Am I willing to give up ownership and traditional debt-based financing for greater reliability, performance, and reduced maintenance costs?

# Program Comparisons



**NOT** a loan, lease, financing agreement, bond, ESCO, installment purchase, rental, or ordinary sharing-agreement; **we pay 100% of materials, installation, maintenance and upgrades.** You are protected from economic risk and can lower your infrastructure costs at the same time.

| | Term Length | Minimum Monthly Charge | Agreement Complexity | Is it CAPEX | Maintenance Included | Upgrades included | Fees to Cancel | Required Guarantees |
|---|---|---|---|---|---|---|---|---|
| "As A Service" | Monthly | NO | 7 page | NO | YES | YES | NO | NO |
| Loan | 5-20 years | YES | 15 page | YES | NO | NO | YES | YES |
| Lease | 5-10 Years | YES | 20 page | YES | NO | NO | YES | YES |
| Financing agreement | 3-10 Years | YES | 25 page | YES | NO | NO | YES | YES |
| ESCO | 7-30 Years | YES | 120 page | YES | NO | NO | YES | YES |
| Ordinary sharing-agreement | 10+ years | YES | 7 page | YES | NO | NO | YES | YES |

A lot of companies offer to help you implement energy savings solutions, but how many also offer to pay for them?

# Summarizing “as a Service”



**Why**

- Improves the efficiency, health, safety and security of working and living environments in buildings, campuses and institutional facilities

**How**

- Combines capital, specialists, systems and risk management to build sustainable utilities and infrastructure inside facilities

**What**

- Designs, builds, owns and upgrades utilities and infrastructure inside facilities
- Actively manages air conditioning, heating, water systems, lighting and security
- Utilities are cloud-based, intelligent, efficient, predictable and upgradable
- Delivers substantial client savings by reducing operating expenses, maintenance and run to fail while contributing to a healthier, greener and more secure working environment

# Knowledge Check

- "as a Service" does not require debt service financing. True or False
- "as a Service" offers significant client savings with the least risk versus traditional debt service financing approaches. True or False
- Under "as a Service" approach, the client only pays for the utility it uses. True or False
- Under an "as a Service" approach, the equipment maintenance and upgrades are included. True or False

# Thank You



Water Pumps, Boilers
Roofing Sytems

Heating Systems
Turbines, Motors/Compressors
Air Conditioning Systems

Escalators, Elevators
Lighting & More

**Dick Santangelo, P.E.**
Apollo Engineering Solutions, LLC
"We Engineer Energy Business Solutions"
Business Phone: 703-627-7161
www.ApolloEngineeringSolutions.com

APOLLO
Engineering Solutions