

# Energy Efficiency as a Service

own the **solution**,  
not the **equipment**

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# METRUS ENERGY



## Bob Hinkle

*CEO and President, Metrus Energy*

Established Metrus in 2009 after decades of experience in the energy field focused on energy efficiency and business and investment opportunities in the EE space. Bob created the Efficiency Services Agreement that Metrus utilizes to finance large-scale efficiency retrofit projects.



## Noah Goldstein

*Director of Sustainability, Guidehouse*

Dr. Noah Goldstein, PhD, LEED AP, has focused on finding solutions for long-term problems in the private and public sector, at all stages of the sustainability journey, including low-carbon and social responsibility.

His projects have been in the financial sector, real estate, technology and consumer products. He has a background in both sustainability and applied energy, with expertise in the critical technological and the circular economy.

# Agenda

- Sustainability and Energy Efficiency as a Service
- What is Energy Efficiency as a Service?
- EEaaS project life cycle and cash flow
- Project case studies
- Questions and answers





How EEaaS helps  
companies reach  
sustainability goals

# Initiatives driving corporate focus on ESG and GHG



Investor-proof climate-related risk reporting and system development



UN initiative with 2,000+ signatories representing over US\$80 trillion of assets.



8,400+ companies are disclosing their GHG emissions

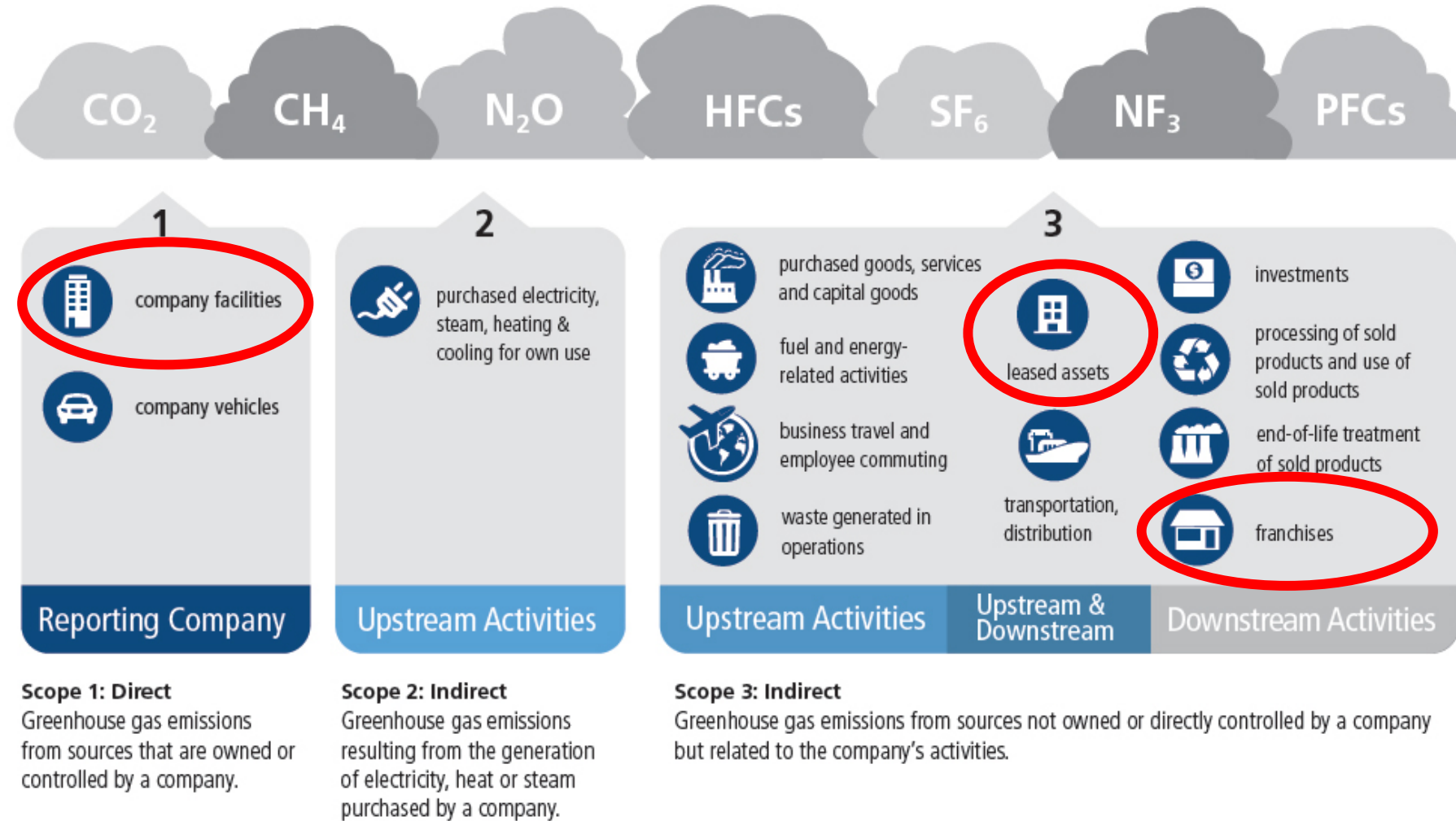


910+ companies



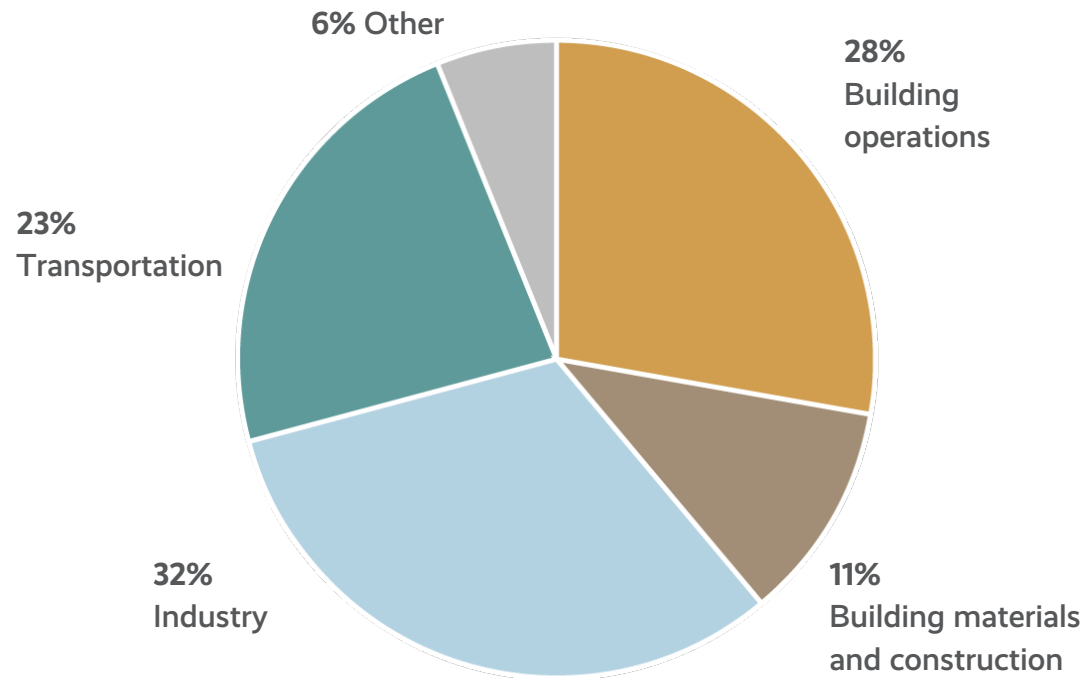
>94,000 LEED projects in over 187 countries

# Goals and approaches: Scope 1 emissions are key



# Energy efficiency: potential impact on GHG reduction

## Global CO<sub>2</sub> emissions by sector



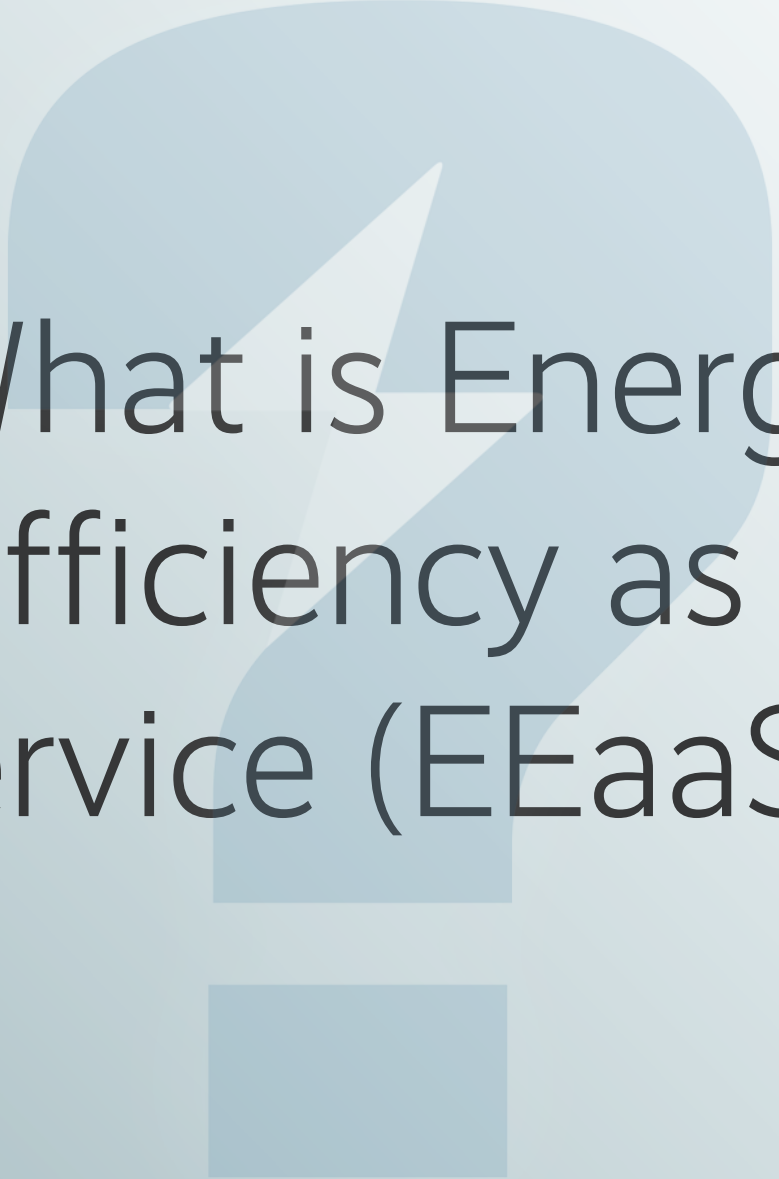
Source: Architecture2030

- Energy efficiency is the lowest cost kWh resource to deploy worldwide <sup>(1)</sup>
- The built environment accounts for 60% or more of global CO<sub>2</sub> emissions <sup>(2)</sup>
- Energy efficiency is central to most global CO<sub>2</sub> emission reduction plans, for example: <sup>(3)</sup>
  - CO<sub>2</sub> emissions must decrease 90% by 2050 to limit global temperature rise to 1.5 °C
  - Energy efficiency can deliver almost half of 90% reduction

(1) ACEEE

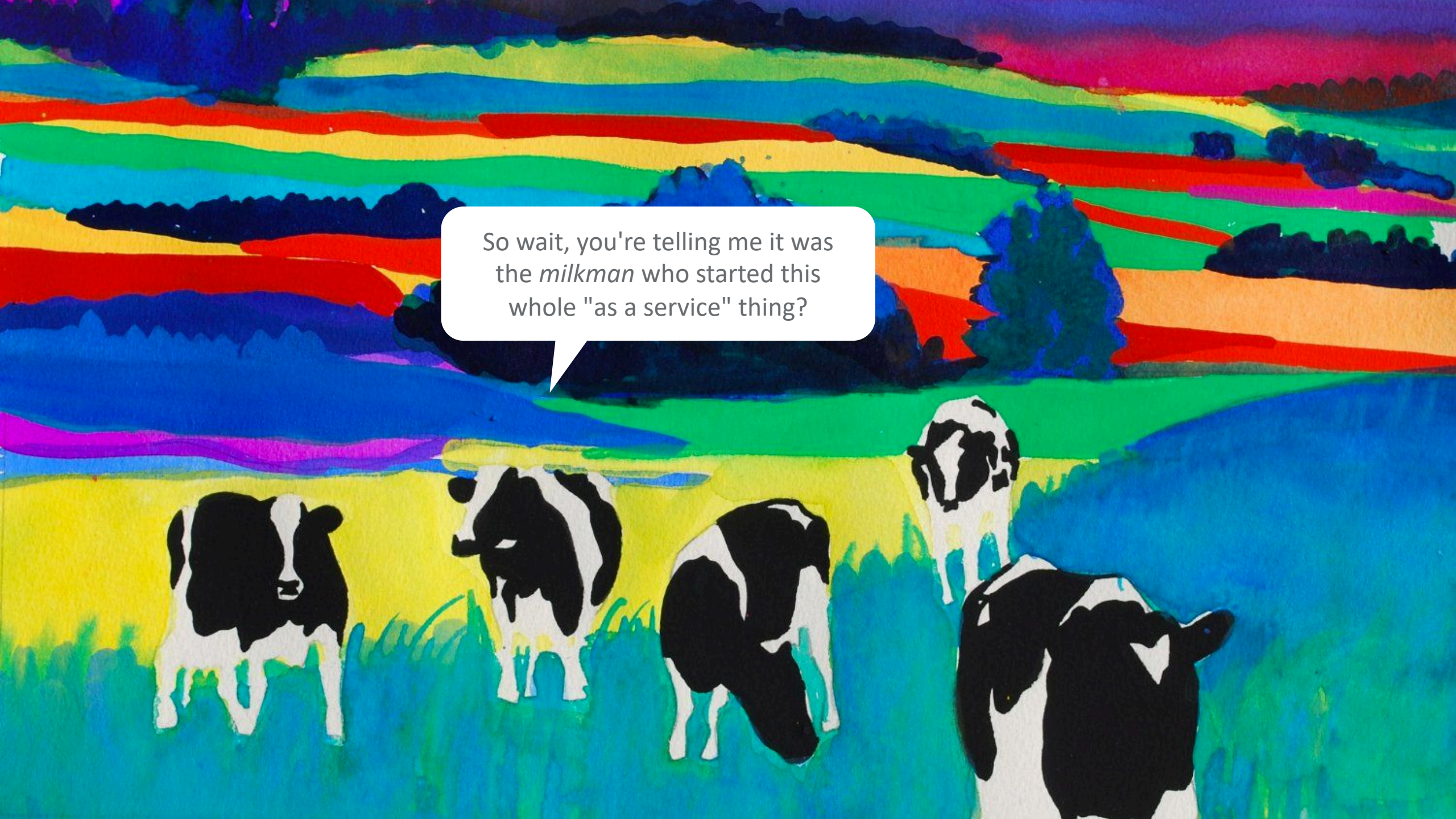
(2) Architecture 2030

(3) International Renewable Energy Agency (IRENA) Global Energy Transformation: A Roadmap to 2050



What is Energy  
Efficiency as a  
Service (EEaaS)?





So wait, you're telling me it was  
the *milkman* who started this  
whole "as a service" thing?

# The evolution of Energy Efficiency as a Service (EEaaS)

## 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



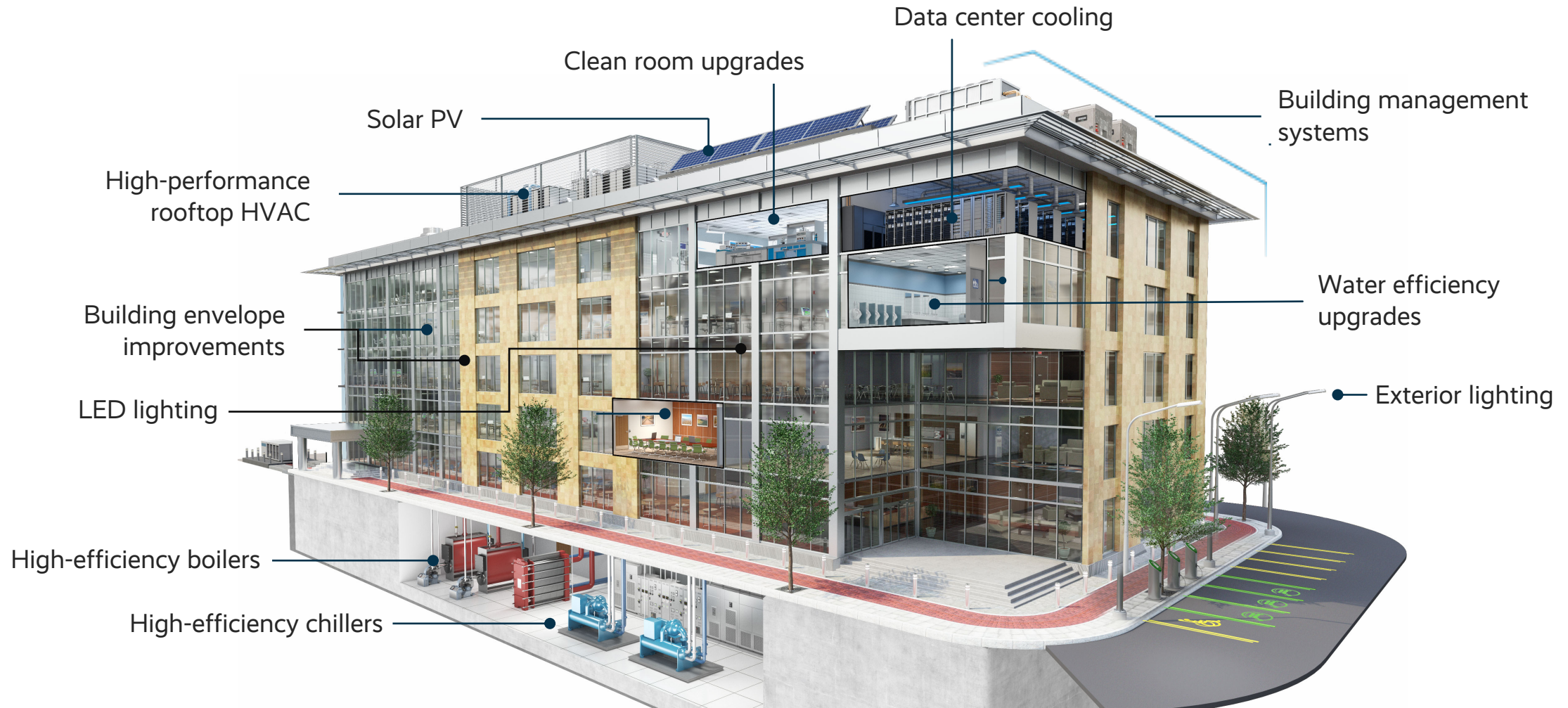
## Cross-cutting innovations

### EEaaS offers:

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



# Typical efficiency measures





# Project contracts

## Efficiency Services Agreement (ESA)

EEaaS provider 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.

# Meeting the needs of diverse stakeholders

STAKEHOLDERS	BENEFITS	
Facilities/operations Real estate Finance Sustainability	<b>Financial</b> <ul style="list-style-type: none"><li>▪ No capital outlay</li><li>▪ Preservation of debt capacity</li><li>▪ Immediate positive cash flow from energy and water savings</li><li>▪ Pay only for realized savings</li><li>▪ Incorporate all available utility incentives</li></ul>	<b>Operational</b> <ul style="list-style-type: none"><li>▪ Turnkey approach with ongoing project management</li><li>▪ Key equipment upgrades that increase resiliency and reliability</li><li>▪ Improved efficiency of building operations and systems</li><li>▪ Ongoing maintenance and monitoring</li><li>▪ Flexibility to add upgrades</li></ul>

# Project life cycle



## Develop

- Identify 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

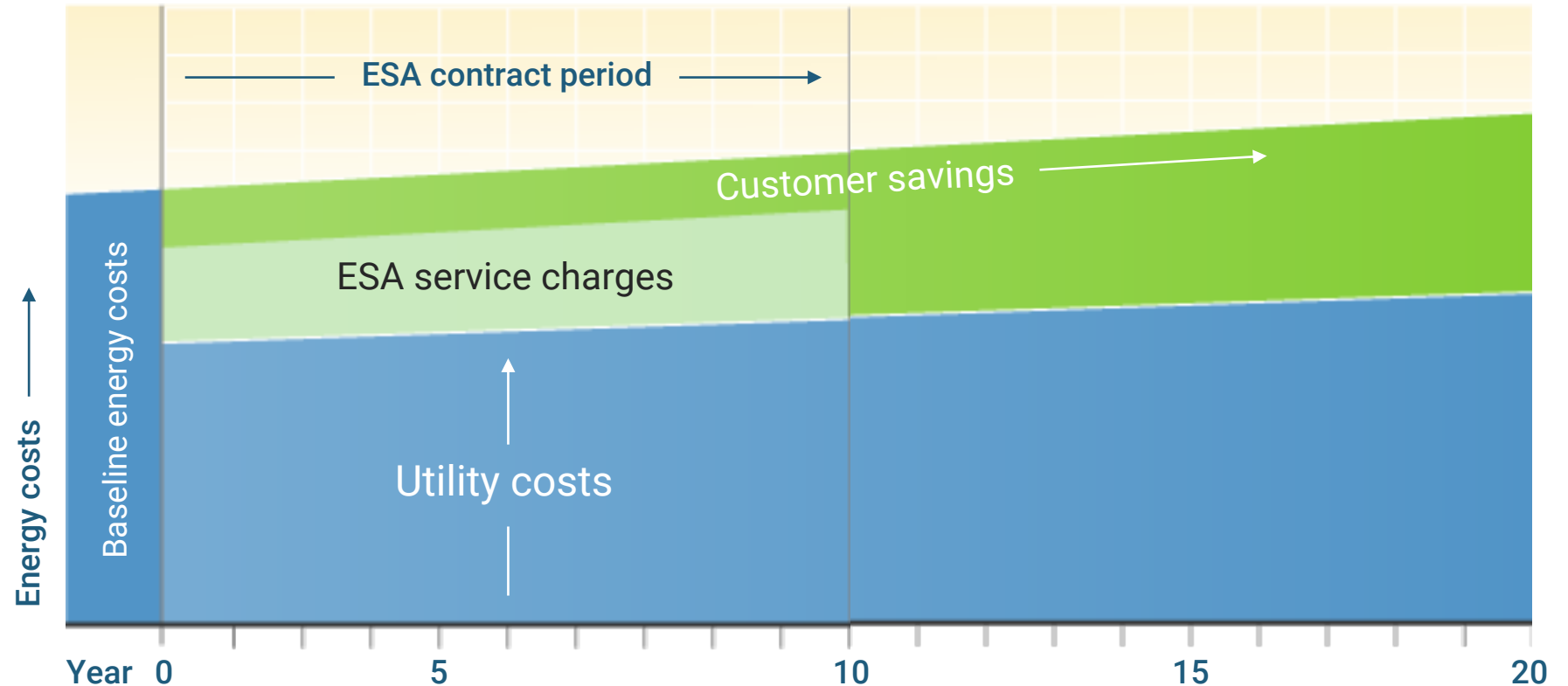


## Reap benefits

- Save energy and lower utility bills
- Increase reliability and resiliency
- Enhance building occupant comfort
- Hit sustainability targets

# Project cash flow

- 1 EEaaS provider funds 100% of project cost in Year 0
- 2 Customers are cash flow positive and utilize savings to pay for ESA service charges
- 3 During ESA term, Metrus pays for project maintenance and monitoring costs
- 4 After ESA term, the customer receives 100% of savings



NOTES: (i) ESA service charges and utility costs are assumed to escalate over time; (ii) Assumes customer purchases EE assets at the end of ESA term; (iii) Useful life of efficiency assets varies but is typically 10 to 25 years

## 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 CO<sub>2</sub> savings:

**15,000**

Tons



## CASE STUDY

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 CO<sub>2</sub> savings:

**138,530**

Tons



## CASE STUDY

### 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 CO<sub>2</sub> savings:

**1,320**

Tons

Q&A



# Contact information



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