AlphaStruxure

The trusted partner in energy transformation

# Speed and Scale for Clean Transportation

## Advanced Energy Group Washington 22Q4 Clean Transportation Stakeholder Challenge

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**AlphaStruxure** enables organizations to achieve ambitious, tailored energy transformations — without the CapEx or complexity.

**Design** | **Finance** | **Build** | **Own** | **Operate** | **Maintain**

CARLYLE Schneider Electric

Purpose built company combining Carlyle's capital backing with Schneider Electric's 185+ year legacy and its track record as the #1 microgrid technology provider, with over 300 successful projects across North America.

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**Recently Completed Microgrid**

- 2 MW Solar Canopy
- 1.5 MW/4.32 MWh Battery Energy Storage
- 1.9 MW RNG Ready Generation
- 4.1 MW of Chargers

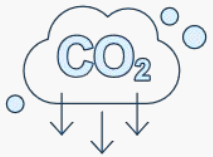
# The Challenge: Speed and Scale

## Climate Targets, Climate Realities, and Magnitude of Transition

**Federal Emissions Target: 50-52% GHG reductions by 2030 and 100% Zero-carbon electricity by 2035**

**Transportation contributes to 29% of total U.S. GHG emissions**

**According to the US Energy Information Administration(EIA), the average US customer experienced 456 minutes of non-momentary electric interruptions in 2020, up from 227 in 2013**




GHG emission reductions

Resilience

Reliability

Cost-stability



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# What is a Microgrid?




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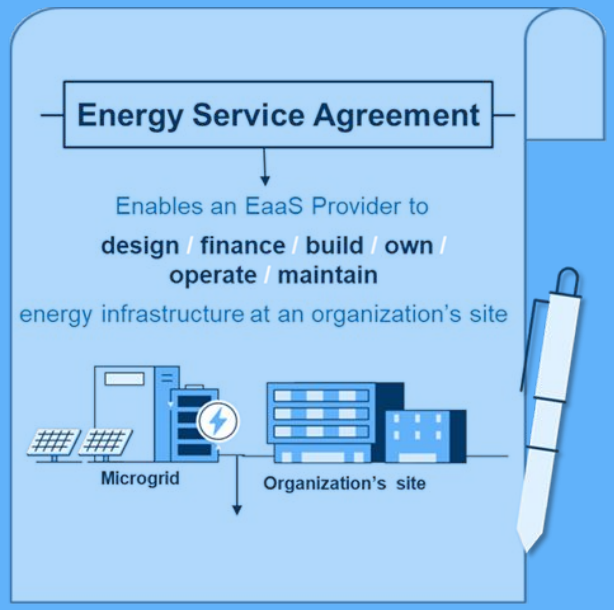
# Microgrid Benefits and Obstacles

## Benefits of Microgrids

- Energy cost certainty & optimization
- Enhanced resilience & reliability
- Accelerated emissions reductions

## Additional Benefits of Energy as a Service Microgrids

- Risk-mitigation
- Reduced Complexity
- Price stability
- Long-term partnership




## Microgrid Design Obstacles

- Difficulty Accessing Energy Usage Data, Feeder Capacity and Level of Infrastructure Redundancy
- Lack of Clarity as to the energy option spaces that are possible across various utility territories

## Microgrid Installation Obstacles

- Stakeholder Involvement
- Permitting Processes
- Interconnection



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Regarding Clean Transportation, to achieve Washington D.C.'s Climate, Health and Equity goals, a critical obstacle to collectively overcome in 12 months is **to create a database that is easy and secure to access by customers across the DC, Maryland, Virginia area for energy usage data, feeder sizing, existing site capacity, and insight into each feeder's quality of resilience. In addition to providing energy option spaces that factor in the site's utility territory and corresponding rules and regulations and can scale to loads from a single passenger vehicle all the way up to a fleet of heavy-duty transit vehicles.**

## Challenge Statement

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