AlphaStruxure

A Carlyle Group and Schneider Electric Company

Brookville Smart Energy Bus Depot
Montgomery County, Maryland

The first fully resilient, sustainable Energy as a Service microgrid + EV charging solution

Brookville Smart Energy Bus Depot – Montgomery County, Maryland

Energy as a Service (EaaS) microgrid + EV infrastructure: enabling fleet electrification and providing sustainability, resilience, and reliability through an innovative technical, financial and contractual structure.

Montgomery County's Drivers

Electrification: Converting entire municipal bus fleet to electric over time

Resilience: Extreme weather and extended past power outages make resilience a major priority

Sustainability: Greenhouse gas reduction targets of 80% by 2027 and 100% by 2035

Energy leadership: Schneider-backed EaaS microgrid currently serves two County facilities

Fiscal prudence: Seeking third-party deployment of capital with transfer of risk and operating obligations

AlphaStruxure EaaS Project

Innovative fleet electrification project: EaaS microgrid and EV charging integration

Project uses **Schneider Electric's best-in-class proven technology**

5.6 MW microgrid integrating solar photovoltaic canopies, battery energy storage system, and distributed generation.

2 MW of charging capacity via multi-dispenser plug-in and pantograph chargers

Optimized system design for client use cases: providing full routing and charging flexibility, resilience, and sustainability

AlphaStruxure: the **Trusted Partner in Energy Transformation** enabling fleet electrification

AlphaStruxure

EaaS Enables the Transition to Zero-Emission Fleets

A global shift is underway to clean transportation…

45% ➔ 80%

growth in EV share of global new bus purchases between 2020 and 2040

BNEF

8M by 2030

EVs in commercial and passenger fleets in the United States

McKinsey

~60% EV

Global passenger car sales in 2040

BNEF

…but owner-operators **lack the capabilities** to transition fossil-based fleets to electric…

Fleet operator challenges

- ❑ Maintaining fleet routing flexibility
- ❑ Constrained capital budgets
- ❑ Complex EV technologies
- ❑ Unavailable utility capacity
- ❑ Need for sustainable, resilient and cost-effective energy supply

…creating a major need to **enable customer electrification commitments** with **EaaS.**

EaaS Solution

- ✓ Full fleet utilization and flexibility
- ✓ Zero client CapEx
- ✓ Outcomes-based, de-risked solution
- ✓ Onsite sustainable energy solutions
- ✓ Specified performance for resilience, sustainability and cost optimization

AlphaStruxure

Building on a Track Record of Success

Montgomery County, Maryland Overview

High-tech, knowledge-based economy and suburban population of 1M north of Washington, DC with 400+ county facilities, 9M sq. ft. of real estate, 3,000 vehicles, 9,000 employees. County is a leader in sustainability, with major emphasis on resilience to severe weather and commitments to GHG reductions and vehicle electrification.

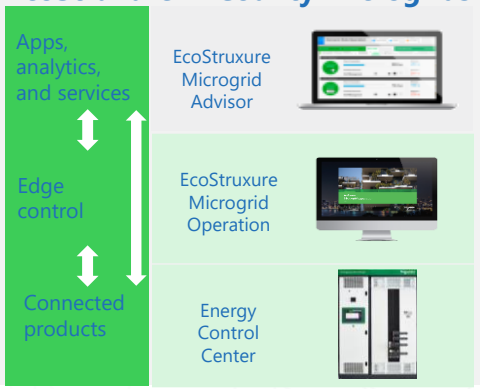
Track Record of Success

Schneider Electric ESS purchases 100% clean energy to power county facilities

NAM Microgrid Competency Center 2018 EaaS microgrid delivers resilient and sustainable energy for Public Safety Headquarters and Correction Facility:

- ✓ One of first EaaS microgrid projects globally
- ✓ Awarded PEER Platinum Certification for excellence in design and operations

EcoStruxure in County Microgrids



Next Frontier: Fleet Electrification

What the County is committing to do next and **why**

Electrification	Statewide momentum toward bus fleet to be 50% zero-emission by 2030
Resilience	History of severe storms and weeks-long utility power outages
Reliability	Short-term grid interruptions affecting operations
Sustainability	County aims to reduce GHG emissions 80% by 2027 and 100% by 2035
...as a Service	Leverage third-party capital, operations and management capabilities

AlphaStruxure

Fleet Electrification Infrastructure Solution for Montgomery County

First-of-its-kind EaaS fleet electrification infrastructure project integrating solar PV, on-site generation, battery energy storage, microgrid controls, and electric bus chargers.

1 Advances the County's sustainability commitments

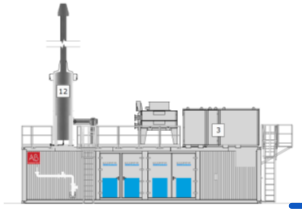
- 62% carbon reduction from buses eliminating lifetime ~155,000 tons of GHG
- Enables e-bus deployment on longest routes for greatest impact
- Maximizes onsite renewable energy generation with solar and BESS

2 Resilient system to enable full e-bus operations

- 99.999% resilience & reliability of operations and sized to handle peak-demand
- Seamless transition, digitized automation and control philosophy
- On-site generation with storage enables ongoing autonomous operation

3 Turnkey *Energy as a Service* solution

- Comprehensive risk mitigation and transfer throughout project lifecycle
- AlphaStruxure financial approach eliminates upfront cost for the County
- High-touch, collaborative design approach, project execution and service
- Future-proofed digital architecture and monitored 24/7 by AlphaStruxure Network Operating Center



Gas Engines
with zero-emission fuel strategy

Storage

Solar Canopy

E-bus Chargers

AlphaStruxure

Delivering *Energy as a Service*

Energy as a Service

Delivering to client:
- Microgrid & charging infrastructure
- Performance criteria for sustainability, resilience & cost
- O&M services

PPA

($)

Payments through long-term contract

AlphaStruxure

EaaS Value Chain: Consult & Advise, Structure, Design, Build, Own, Operate, Maintain, Digitize

Financing & Structuring

THE CARLYLE GROUP

Carlyle Global Infrastructure Fund (CGI): financing & tax equity partner

Schneider Electric

Microgrid controls, cyber security, and electrical distribution

SUNPOWER

Solar canopy

AB

Natural gas generation

heliox

e-bus chargers

THE MOBILITY HOUSE

Charge mgmt. software

Technical Solutions & Project Execution

ARUP

Engineer of Record

Mortenson construction

Construction and BESS procurement

AlphaStruxure has the capabilities across EaaS value chain to deliver customized EaaS solutions

Consult & Advise	Structure	Design	Build	Own	Operate & Maintain	Digitize
Economic and technical 'options space' Supply advisory services and tariff analysis	"Art of the Possible" in contracting with flexibility to tailor for client needs Risk assessment at deal level and portfolio level	Conceptual system design incl. technical and contractual feasibility Initial costing analysis and project finance	Detailed solution design, engineering and specification Integrating diverse DERs to create a comprehensive solution	Financing model and structure with long-term asset owner mindset Ability to de-risk projects or a portfolio of projects	System operations via Network Operating Center with digital twin Ongoing asset optimization and efficiencies	Cloud-based management of data to optimize customer performance and energy efficiency

Integration throughout the value chain maximizes client value and minimizes risk.

AlphaStruxure

Brookville Smart Energy Bus Depot – project visualization

AlphaStruxure

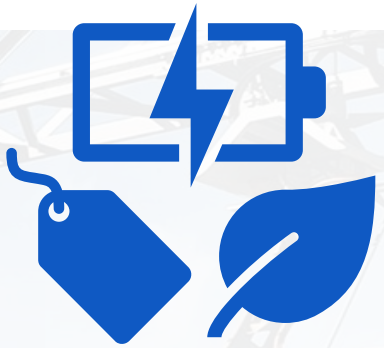
Technical, Financial, and Contractual Innovation

Keep It Simple

Payment and reporting requirements – keep invoicing simple and create meaningful dashboard of metrics for environmental, economic and operational tracking.

Balance Demand Forecast

Efficient build of assets offset by demand build up of charging requirements over a number of years.



Delivering the Value of Resilience

Quantified and delivered the value of operational resilience through on-site generation. Battery Energy Storage System as balancing asset and to enable higher consumption of solar generation for charging (time of day shifting) delivers greater GHG offsets

Energy and Resilience Charge for entire system

Asset Deployment Phasing

Total system value proposition

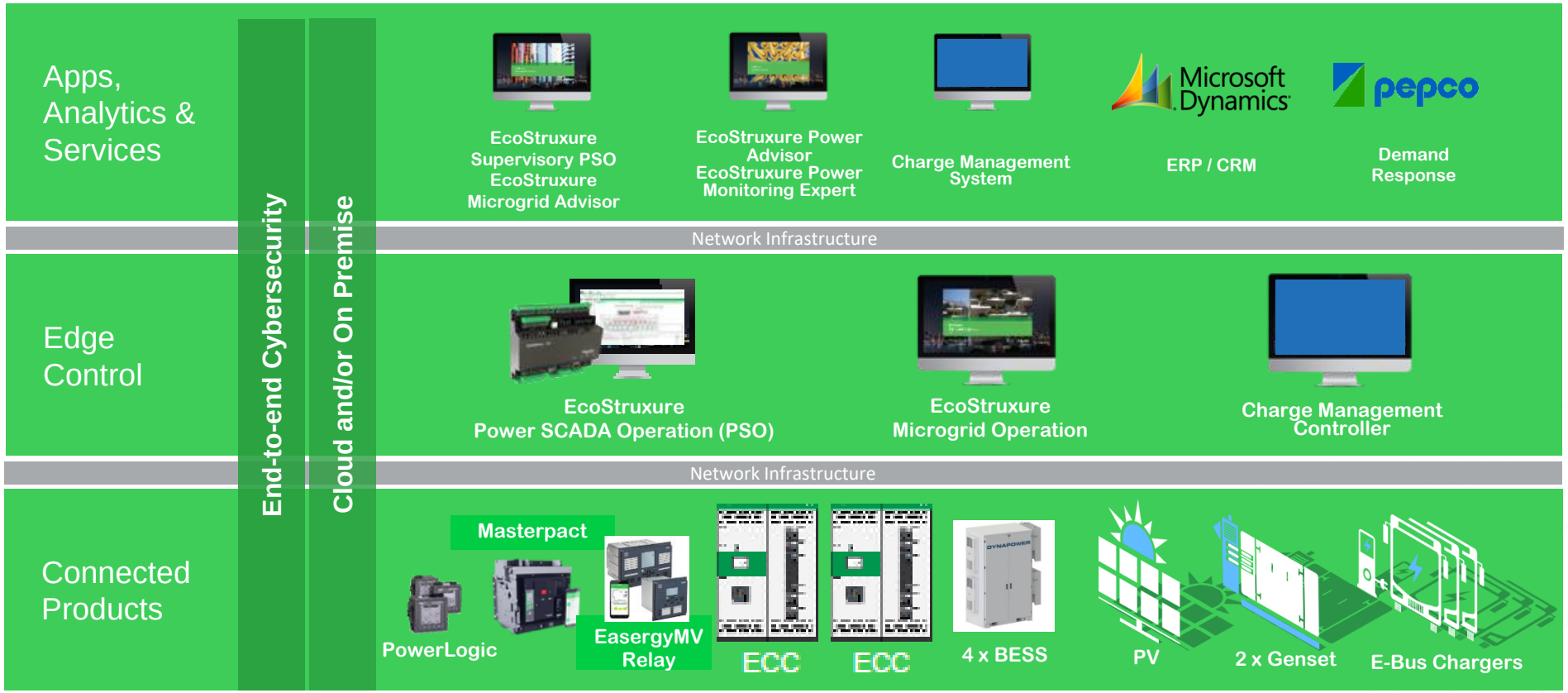
What's delivered

- Deployment of all on-site microgrid and electrification infrastructure
- Provision of energy services meeting specified cost, sustainability, uptime
- Truly turnkey approach: comprehensive operations, maintenance and service

AlphaStruxure

EcoStruxure™ for AlphaStruxure

Implementing the complete Schneider Electric EcoStruxure stack at Brookville Smart Energy Bus Depot, leveraging AlphaStruxure capabilities across Development, Underwriting/Investment, Construction and O&M.



Managed via AlphaStruxure **Network Operations Center**
digital control for all AlphaStruxure projects

Other future digital elements:

OSIsoft. RIB etap AVEVA

AlphaStruxure

Custom Energy as a Service fleet electrification solution

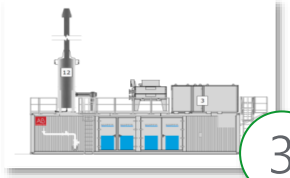
Solar photovoltaic canopy provides cost-effective and predictable clean energy to achieve sustainability goals and enable bus fleet to "drive on sunshine"

1 Solar Canopy

Battery energy storage optimizes energy utilization, maximizing on-site renewable energy usage

2 Battery Storage

Distributed generation provides low-carbon baseload energy while ensuring resilience, reliability, and guaranteed uptime



3 Distributed generation

4 EV Chargers

Pantograph and multi-dispenser chargers provides comprehensive charging solution for eBus fleet

5 Energy Control Center

Schneider ECC combines electrical distribution equipment and industrial controls into an intelligent Power Management System (PMS) to deliver autonomous microgrid solutions managing multiple energy sources and prioritized loads

6 Remote Control

AlphaStruxure network operations center (NOC) provides digital optimization and management of the end-to-end system

AlphaStruxure

About AlphaStruxure

Integrating Energy & Financial Capabilities

Life Is On | Schneider Electric

Global leader in the digital transformation of energy management and automation.

- $30+ billion in global revenue
- 128,000+ employees in 100 countries
- #1 Most Sustainable Company[1]
- #1 Energy as a Service (EaaS) solutions provider[2]
- #1 Energy Service Company (ESCO)[2]
- #1 Microgrid Control Solutions and LV/MV Distribution[2]
- Over 300 microgrid projects successfully deployed
- Leading PPA advisor

*"At Schneider, we believe **access to energy and digital** is a **basic human right"***

1. Corporate Knights; 2. Guidehouse

+

THE CARLYLE GROUP

One of the largest and most diversified global investment firms with $246 billion in assets spanning three core business segments:

GLOBAL PRIVATE EQUITY

- $132b aum
- 640+ active investments
- 256 active portfolio companies
- 25 global offices

GLOBAL CREDIT

- ~$56b aum
- 170 investment professionals
- ~1000 borrower relationships

INVESTMENT SOLUTIONS

- $58b aum
- 97 investment professionals

*"Carlyle's purpose is to **invest wisely and create value** on behalf of its **investors, portfolio companies and the communities** in which we live and invest"*

Figures as of December 31, 2020

=

AlphaStruxure

Uniting Schneider and Carlyle in an industry-leading **Energy as a Service** (EaaS) offering

- Combines Carlyle & Schneider capabilities
- Integrates financial & technology expertise
- Provides best-in-class project delivery
- Delivers digitally-enabled asset optimization
- Eliminates execution, financial and operational risk
- Guarantees specified outcomes for sustainability, cost optimization, resilience and reliability

*"The **trusted partner** in **energy transformation**"*

AlphaStruxure

AlphaStruxure

The trusted partner in energy transformation.

Brookville Smart Energy Bus Depot
Montgomery County, Maryland

Enabling the transition to zero-emission fleets

- Energy as a Service approach: design, build, own, and operate first-of-its-kind fully resilient and sustainable integrated fleet electrification infrastructure project.

- AlphaStruxure's Energy as a Service solution includes solar photovoltaic canopies, battery energy storage, distributed generation with carbon-neutral fuel strategy, eBus chargers and charge management software, and EcoStruxure™ microgrid technology.

Delivering outcomes & benefits including

- **Environmental Sustainability**: 62 percent carbon emissions reduction with electric buses powered by the microgrid and lifetime greenhouse gas benefit of over 155,000 tons.

- **Climate Resilience & Operational Reliability:** Ensures uninterrupted bus services during any long-term power outages caused by severe weather as well as any short-term disturbances or perturbations of the utility grid

- **Financial Benefits:** Eliminates upfront cost to the County for the project including all microgrid and charging infrastructure, and provides long-term cost predictability for energy supply

- **Flexible Fleet Operations:** Avoidance of utility demand charges and time-of-use tariffs provides fleet operations with ultimate dispatch flexibility

AlphaStruxure