

# AlphaStruxure to Design, Construct, and Operate JFK's New Terminal One Microgrid, With Largest Rooftop Solar Array in NYC and Grid-Independent Operation

*Vanderweil provided MEP/FP power & utilities engineering design services for New Terminal One Microgrid at JFK.*



BOSTON, Ma.— Today, AlphaStruxure, a leader in Energy as a Service (EaaS) solutions, announced an agreement to design, construct, and operate integrated microgrid infrastructure at the New Terminal One (NTO) at John F. Kennedy International Airport. The microgrid will provide NTO with sustainable, resilient, locally generated, and cost-predictable energy. It will deliver immediate greenhouse gas emission reductions of 38 percent over grid-sourced energy and lead to cleaner air for the surrounding communities by eliminating the emission of criteria pollutants. The electricity generated by the microgrid is enough to power 3,570 average U.S. homes for one year. The project will feature the largest rooftop solar array in New York City, and on any airport terminal in the United States, with all available and viable rooftop areas being used for solar.

NTO—a consortium of labor, operating, and financial partners including Ferrovial, Carlyle, JLC Infrastructure, and Ullico—is building the privately-financed world-class all-international terminal at John F. Kennedy International Airport, in partnership with the Port Authority of New York and New Jersey (PANYNJ). The 2.4 million square foot terminal will serve as a global gateway to the New York metropolitan area and is estimated to generate over 10,000 jobs. The first gates are expected to be open in 2026, with full completion anticipated by 2030.

Upon project completion, NTO will be the first resilient airport transit hub in the New York region that can function independently of the power grid, to maintain 100 percent of airport operations during power disruptions across the 23 gates and more than 177,000 square feet of dining, retail, lounges, and recreational space.

The 11.34 megawatt microgrid will include 7.66 megawatts of rooftop solar, 3.68 megawatts of fuel cells, 2 megawatts/4 megawatt-hours of battery energy storage, and utilize re-claimed heat to generate chilled water and heating hot water. The microgrid will consist of four “power islands,” with each island functioning as a local, integrated energy system with sources of generation, storage, advanced automation and control. The rooftop PV system will have over 13,000 solar panels, and electricity generated by the solar array alone is enough to power the equivalent of 1,039 average U.S. homes for a year.

The microgrid will be delivered to New Terminal One stakeholders by AlphaStruxure, a joint venture of global investment firm Carlyle (NASDAQ: CG) and Schneider Electric (SU.PA), that designs, builds, owns, operates, and maintains tailored energy infrastructure. As

strategic partners for the project, Carlyle is financing the microgrid, while Schneider Electric is delivering leading microgrid technology, software, and services. The project is delivered through an Energy as a Service (EaaS) contract, a long-term agreement ensuring predictable operating costs and guaranteed performance without upfront capital expenditures.

The system's performance is managed by AlphaStruxure's Integrate™, a cyber-secure digital platform that optimizes microgrid operations by compiling and analyzing data across the on-site energy infrastructure. 24/7 operators predict and respond to the system in real-time through the AlphaStruxure Network Operations Center. With an intelligent microgrid in place, the terminal will work toward eliminating power disruptions while maximizing distributed energy resources for resilience.

“This New Terminal One infrastructure project illuminates a new pathway to decarbonizing the air transportation sector. We're thrilled to provide a holistic microgrid solution that will keep NTO powered through outages and advance the city, state, and Port Authority's ambitious decarbonization goals,” said Juan Macias, CEO, AlphaStruxure. “This project is paving the way for all transportation hubs and municipalities across the country. Not only is it about resilient energy, it's about decarbonization, risk transfer, and cost predictability via the Energy as a Service business model.”

“Sustainability and resilience have been core values for the New Terminal One, and we are proud to unveil our partnership with AlphaStruxure to achieve these goals,” said Dr. Gerrard Bushell, CEO, The New Terminal One Development at JFK. “This is future-focused infrastructure that will facilitate the transition away from fossil fuels and sets a new standard for large-scale renewable development in New York and in the air transit sector. The partnership with AlphaStruxure also provides New Terminal One with a resilient energy solution that has price certainty, de-risking the terminal from the volatile energy markets. Further, the local community of Southeast Queens will benefit from cleaner air, economic development, and the jobs accompanying this investment. AlphaStruxure's microgrid is a fundamental building block of this terminal, and we look forward to the many benefits it will provide to travelers and the community for decades to come.”

“Microgrids solve two of the most serious challenges, resilience and decarbonization, with a single solution,” said Annette Clayton, Chief Executive Officer, Schneider Electric North America. “The New Terminal One project at JFK shows that Schneider Electric's microgrid technology is ready to transform our nation's most critical infrastructure — including one of the busiest airports in the country — into a sustainable airport of the future.”

“We believe this is the kind of energy infrastructure that's needed throughout the country to become more resilient to outages while providing a path to work toward achieving sustainability goals,” said Pooja Goyal, Chief Investment Officer, Carlyle's Global Infrastructure business. “We're very proud to be financing the New Terminal One microgrid project at JFK that's providing such a valuable model for the private and public sectors.”

AlphaStruxure's microgrid solution is designed to achieve ambitious New York State, City, and PANYNJ's sustainability mandates, and will contribute towards the New York State Climate Leadership and Community Protection Act (CLCPA) requiring 70 percent of electricity generation from renewable sources by 2030 and 100 percent by 2040.