



Glenwood Management Leads in New York City with High-Value Aggregated Energy Storage Portfolio

Scaling intelligent behind-the-meter storage systems across a dozen properties to multiply energy savings and benefits

Leading by example: Glenwood Management is one of New York City's largest owners and builders of luxury rental apartments. The company is also committed to leading in corporate sustainability and distributed energy resource (DER) deployment, including energy storage and solar-plus-storage. It has demonstrated that commitment with a dozen DER projects across its high-rise urban property portfolio. As a result, Glenwood has achieved its goals of using clean, renewable energy and delivering sound economic returns.

Glenwood and its tenants have experienced the disruption and impact that rapid load growth has on the city's grid, including voltage instability and occasional outages. The company's management team fully supports statewide efforts to build a more reliable and resilient grid. Through ongoing implementation of the company's behind-the-meter storage systems, renewables and other programs, Glenwood can now provide significant benefits to the grid, along with enhanced value to their buildings and greater resiliency for residents.

Discovering the benefits of energy storage: To optimize returns for the company and its properties, Glenwood participates in Consolidated Edison's demand response (DR) programs aimed at shedding loads during peak periods. For more than five years, Glenwood has partnered with Demand Energy on storage-based solutions at multiple residential properties. The systems are controlled by Demand Energy's Distributed Energy Network Optimization System (DEN.OS), which aggregates and optimizes performance and financial returns of behind-the-meter storage systems.

The first of these projects was installed in 2012, when Glenwood added a 225 kW/2 MWh battery storage system controlled by DEN.OS at its Barclay Tower property. Since then, the company has been working closely with Demand Energy on an ongoing rollout of 1 MW/4 MWh storage and solar-plus-storage systems across ten additional buildings for distributed grid support and increased savings.

Glenwood's DER deployments offer multiple benefits. One is their relative compactness and portability, enabling storage resources to be installed in constrained spaces like garages and basements. Another benefit is that intelligent DEN.OS software allows for the simultaneous co-optimization of demand charge reduction, energy arbitrage on the city's day-ahead energy markets, and participation in demand response opportunities. The program also provides Con Edison with a more granular, location-based response to peak electricity demand across different areas of the city.

DEN.OS can also act as a virtual power plant (VPP), aggregating Glenwood's energy resources to make it possible to participate in different revenue-based grid programs. The software intelligently combines building portfolios into "smart groups" aligned with the ConEd grid, and enables site-specific and VPP (aggregated) demand response co-optimization. This advanced capability facilitates intelligent participation across ConEd's networks, each of which has different location-based program call windows.

The overall result is an intelligently controlled distributed energy resource network that supports Glenwood's commitment to sustainability and good corporate citizenship; enables Con Ed to leverage aggregated assets to ensure grid stability and reliability; and delivers solid financial returns.



Glenwood Management is a New York City-based private, multi-generational real estate developer, owner, and manager focusing on multifamily apartment rentals. Glenwood's footprint spans the entirety of Manhattan from the Upper East Side to Downtown Tribeca. For more information, visit <http://www.glenwoodnyc.com>.



Glenwood portfolio

- 13 buildings
- 13 systems (typical size 100 kW/400 kWh)
- Grid Services: Demand charge reduction, demand response, leverage day-ahead pricing

"At Glenwood, we have always believed that it is our duty to support load reduction on the grid during the critical summer power season. With the flexibility of Demand Energy's solution, we can participate in the summer DMP program and then use the energy storage systems to reduce demand charges during the off-season."

- Josh London, SVP of Management for Glenwood



DEN.OS™ intelligent software

DEN.OS is based on patent-pending control and economic optimization technology, maximizing the economic returns of behind-the-meter storage systems alone, or in combination with distributed generation. The DEN.OS platform was architected to facilitate the design, integration and operation of energy assets/ services, providing users with the greatest financial returns across the broadest range of energy storage applications, utility rate structures and economic use cases. The platform is a scalable end-to-end solution that can cover any market segment, including grid-side (utility) storage, microgrids, and traditional generation and distribution networks.

Demand Energy

Demand Energy, an Enel Group Company, has developed a best-in-class Distributed Energy Network Optimization System (DEN.OS) that aggregates and controls DERs, optimizing multiple value streams from energy storage and microgrids for utilities and C&I users. The company provides a turnkey solution (hardware, software and services) that ties together modeling, design and simulation with installation and operational monitoring, control, and financial optimization, to deploy storage-plus-DG systems at speed and scale. The DEN.OS software platform was designed as a scalable end-to-end solution that delivers differentiated value across the entire project life cycle. For more information, visit <http://www.demand-energy.com>

