

QUEENS COLLEGE, NEW YORK

Electric Vehicle to Grid (V2G) Specialty Energy Storage/Microgrid

Peak Efficiency:

94.5%

IMPROVEMENT DETAILS

- Added 6 electric vehicles (EV-Nissan Leaf)
- 5 V2G Princeton Power Charging Stations (bi-directional) and 1 traditional EV charging station (uni-directional) – 10 kW of power provided by each
- 60 kW available as back-up power for critical loads

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GOALS AND CHALLENGES

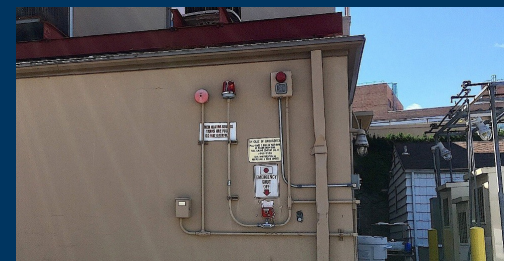
Established in 1937, Queens College is a public university with 40 buildings across 80 acres. Through partnerships with Willdan | Genesys, NRG, and Con Edison, the College aimed to improve the energy efficiency, energy management, and resiliency of the campus by using cost effective and energy efficient/generating dual inverter electric vehicles and charging stations.

SOLUTIONS AND OUTCOME

Vehicle to Grid (V2G) is an electric vehicle system, developed by the University of Delaware and used by NRG, which is comprised of dual converter electric vehicles and charging stations that can be connected to the grid. This allows vehicles to serve many purposes, including energy storage.

The college can now better manage its energy by using the vehicles for peak shaving, time-shifting, demand response, and frequency regulation.

The college improved its climate resiliency by having additional back-up power for critical loads in the emergency shelter on campus.



A new solar energy system mounted on the roof of the Summit Apartments (via a connection of V2G and SHINES – solar-plus-storage-system) for charging campus electric vehicles provides a potential future local usage of PV power.