

Spring 2023

NET ZERO BUILDINGS & THE VEHICLE-TO-GRID SOLUTION

revel

An aerial, isometric view of a city grid. The city is rendered in shades of grey and white, with a prominent blue river or canal winding through it. Scattered throughout the city are various blue electric vehicles (EVs), including cars, scooters, and bicycles. Several blue charging stations are also visible, some with cars plugged in. The overall scene represents a smart, electric city.

**Revel's mission is to
accelerate EV adoption in
cities by providing the
infrastructure and services
that make it easy to go
electric.**

How is Revel Solving the Dilemma?



Superhubs

Our fast-charging Superhubs will not only support our all-electric Rideshare fleet, but offer accessible fast charges for any EV.



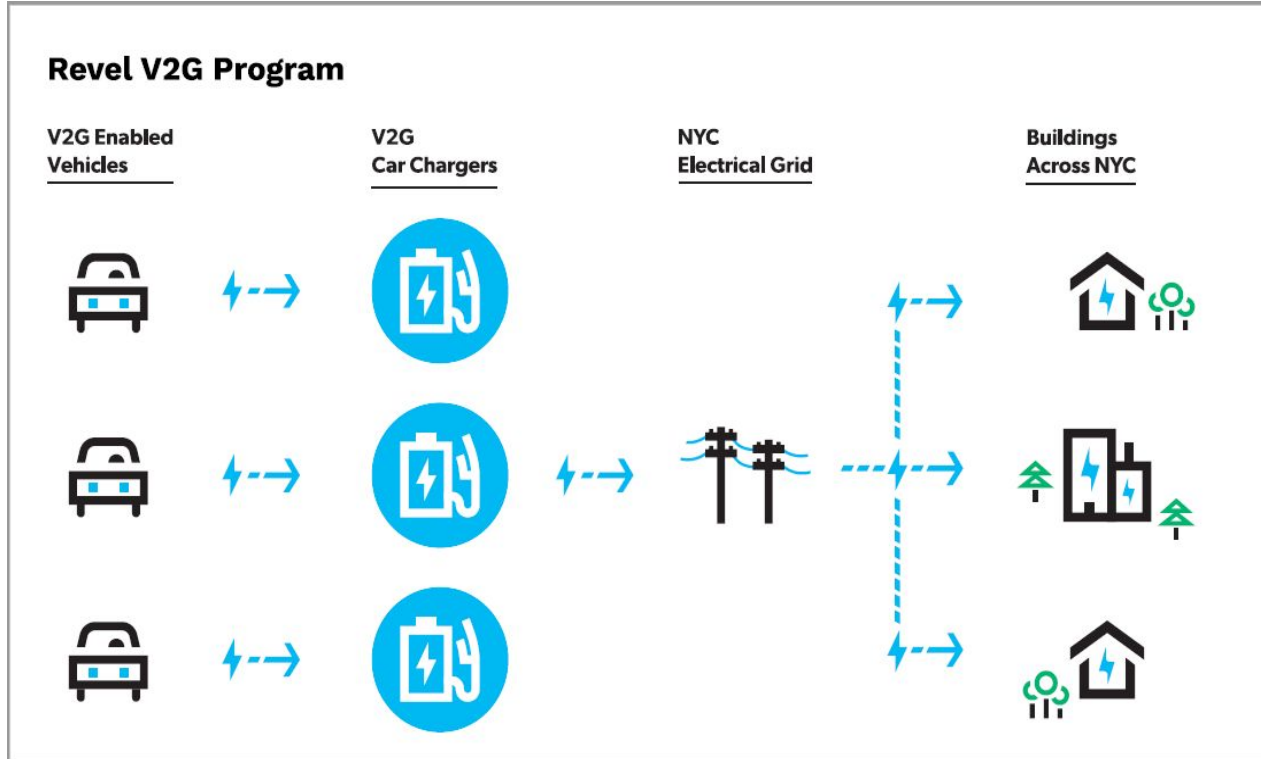
Rideshare

Our all-Tesla, all employee driven fleet elevates the everyday rideshare experience offering passengers more control and comfort.

Revel's Superhub Model

- Level 3 fast charging **150-400 kW**
 - 10-15 minutes for a full charge vs current average fast speed rates of 1 hour
- **Universally compatible** with any EV make or model
- Load management promotes **grid resiliency**
- Our flagship site in Bed-Stuy has 25 DC fast chargers and is the **largest fast charging depot in the Americas.**
 - Charged over 2.6 M kWh, providing over 10M electric miles and **offsetting over 4k metric tons of CO2**
 - **One way we are helping NYC meet its Clean Energy Goals**
 - **V2G can help Building reach Net Zero**

FIRST VEHICLE TO GRID PROJECT CONNECTED TO NYC NETWORK SYSTEM



Purpose: Support Con Edison's electrical grid by exporting power from car batteries to grid during high energy usage

- Mon – Fri; July – Sept;
14:00 – 18:00 Hrs.

Location: Red Hook, Brooklyn

System Specs:

- 3 – Fermata Energy Bidirectional chargers (FE - 15)
- 3 – '22 Nissan Leafs; 60 kWh x 3 (45kWh/hr)

NYC Apartments use
300kWh/month (10kWh/day)*

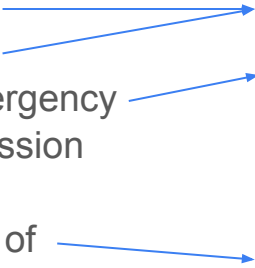
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*Source: <https://www.nyenergyratings.com/blog/how-many-kwh-does-an-average-nyc-apartment-use/#:~:text=NYC%20Apartment%20Electric%20Usage,of%20300%20kWh%20per%20month.>

FERMATA ENERGY

EV CHARGING, PARTICULARLY V2G CAN HELP NEW YORK MEET ITS NET ZERO BUILDING REQUIREMENTS

Net Zero Building Requirements vs. V2G Comparison

- Maximizes Energy Efficiency
 - Flexible Loads
 - Fossil Fuel Combustion for Emergency
 - Produces or Procures Zero Emission Electricity
 - Considers Health and Wellness of Occupants
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- Provides “Mobile” version of Stationary Battery
 - Displace the need for stationary energy storage and decreasing reliance on firm [always-on] generators, such as natural gas
 - Opportunity to reduce fossil fuel combustion.
 - A typical passenger vehicle emits about 4.6 metric tons of carbon dioxide per year.*

All per New York’s Carbon Neutral Buildings Roadmap

*Per EPA 2022

CHALLENGES & OBSTACLES

Infrastructure for Ultrafast charging and bi-directional charging

- Utility time frames

Switchgear lead-times

- Dependent on material backlog and supply chain issues

Planning and Zoning

- Current regulations do not always prioritize EV charging as a use case



- Focusing on this increases the opportunity for sites to make available for bi-directional charging

THE STATEMENT / THE ASK

- *Regarding building decarbonization and electrification, to achieve New York's Climate, Health and Equity goals, a critical obstacle to collectively overcome in 12 months is **UPDATING CURRENT PLANNING & ZONING REGULATIONS TO ALLOW FOR FAST TRACKING THE PERMITTING OF EV AND V2G LOCATIONS WHEREVER THEY ARE PROPOSED TO BE INSTALLED (PARKING & VACANT LOTS, NEW BUILDINGS).***