



Charging Stations at General Electric

This project was initiated as a research and development project by General Electric (GE) to obtain data on the operation of its charging systems and to monitor them over time. The stations were also requested by employees who drive electric vehicles (EVs) to work to extend their available range.

The EV charging stations were installed in a public parking lot on the GE campus. This installation is a fully functional demonstration model for GE equipment and cutting-edge technologies, and it brings attention to the industry and the charging equipment. The distribution equipment is primarily GE construction; however, a third-party produces the system's inverter.

The stations are maintained by GE and are used to test the company's charging station equipment to understand how it performs in a long-term, real-world situation. GE selected an array of five Level 2 DuraStation units to be used and tested. The facility also acts as a "test bed," where charging equipment is lab tested with regular usage in the parking lot. The data acquisition system installed on these stations monitors their impact on the grid and allows for smart charging, grid communication, and smart controls.

Use of the stations has been consistent by employees. The technologically savvy employees at GE fit the typical early EV adopter demographic and have embraced workplace charging. GE also owns a fleet of plug-in hybrid electric vehicles that are commonly plugged in when on-site. Currently, five to 10 EVs are driven to this facility every day, meaning that use sometimes exceeds the number of available ports.

Lessons learned from this project include the benefits of a company testing its own products in an on-site test lab. While the decision to use the equipment was largely a local one, it was entirely consistent with GE's overall sustainability objectives. GE employees have the benefit of seeing the technology on a daily basis, which helps build awareness and receptiveness to EVs. More employees purchased EVs once the stations were made available. Though the market suggests range anxiety is the top challenge for EV adoption, GE's experience has shown the real challenge is a lack of education. In similar projects at GE facilities in Plainville, Connecticut, and Atlanta, Georgia, solar carports were installed with the charging stations. The infrastructure is so visible from the street that members of the public often pull into the parking lot simply to inquire about the equipment.

ELECTRIC VEHICLE CHARGING STATIONS:

Five Level 2 stations

LOCATION: Global Research Headquarters in Niskayuna, NY

VENUE: Workplace; stations are available to employees and visitors



New York State has a goal of having over 3,000 public and workplace charging stations statewide by 2018 through ChargeNY. New York State Energy Research and Development Authority (NYSERDA) supports several charging station projects across the State.