

SCION iQ ELECTRIC VEHICLE FLEET

OVERVIEW

The UCI Advanced Power and Energy Program (APEP) is home to 30 Scion iQ electric vehicles provided by Toyota Motor Sales, USA, Inc. Toyota only produced 100 of these cars globally, 90 of which have been deployed in the United States. The iQ EV is designed as a “city car”—ideal for around-town commuting. APEP was selected as the first of only three US entities to receive these specialty vehicles for deployment primarily in commuter ride-sharing programs.



2013 Scion iQ EV

GOALS

- Evaluate the iQ in a car-sharing application
- Provide vehicle use and performance data to Toyota
- Monitor charging behavior and its impact on the grid

DEPLOYMENTS

ZEV•NET

APEP deployed four iQ EVs in its ZEV•NET (Zero Emission Vehicle Network Enabled Transportation) program, and will soon be expanding to eight. Since 2002, ZEVNET has assisted commuters to the Irvine Transportation Center in addressing the “last mile” quandary—how to get from the Transportation Center to their office in a convenient, economical and time efficient way. Companies enroll in ZEV•NET, and their employees can reserve the vehicles for commutes between the Transportation Center and their office, as well as for business travel during the day (such as commuting between offices, attending off-site meeting, etc.)

IRVINE SMART GRID DEMONSTRATION

APEP has deployed 19 iQ EVs to households participating in the Irvine Smart Grid Demonstration Project (ISGD)—a collaboration between APEP, Southern California Edison and other partners to verify the viability of various smart grid technologies and their effect on the power grid. Three streets in the University Hills community adjacent to the UC Irvine campus are being outfitted with varying degrees of smart appliances and technologies. As part of this effort, the homeowners have been provided iQ EVs to test the impact of electric car charging on the grid.

VEHICLE INFORMATION

The Scion iQ EV is an all-electric, battery powered “city car” with seating for four, designed specifically for local urban driving, and short freeway commutes. The car features an ultra-compact high-output lithium-ion battery with a power consumption rate of 104 Wh/km. Its 12-kWh battery has a range of up to 50 miles in ideal stop-and-go driving conditions, and a top speed of 78 mph. The car can be fully charged in approximately three hours at 240V. Its short wheel base and 13.5-foot turning radius make it very maneuverable and well suited for congested areas where streets are narrow and parking spaces are limited.



iQ EV Interior



iQ EV Rear Seating

RECENT PUBLICATIONS/PAPERS

Heling, M., Saphores, J.-D. M., & Samuelsen, G. S. (2009). User Characteristics and Responses to Shared-Use Station Car Program: Analysis of ZEV-NET in Orange County, California. In Transportation Research Board 88th Annual Meeting. Retrieved from <http://trid.trb.org/view.aspx?id=882188>

PERSONNEL

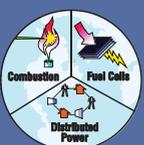
Graduate Students: Renee Cinar, Li Zhang
Staff: Brendan Schaffer, Jean Grigg
Principal Investigator: Scott Samuelsen



ZEVNET iQs at the Irvine Transportation Center



iQ parked at an ISGD home



ADVANCED POWER & ENERGY PROGRAM

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Project Sponsors: Toyota
Advanced Power and Energy Program