

## The Nation's Foremost Utility Champion of Electric Transportation

For more than 20 years, Edison International's electric utility, Southern California Edison (SCE), has been the nation's leading utility champion of electric transportation advancement. SCE operates the nation's largest fleet of electric vehicles. Since the program's inception, SCE's 300 electric vehicles have traveled more than 18 million miles, reducing greenhouse gas emissions by 9,600 tons and pollutants by more than 2,200 tons.



*SCE holds the nation's largest private fleet of electric vehicles.*

## The Future – Cleaner, More Secure Transportation Fuel



Recent product announcements by Ford, GM, Toyota, Nissan, Mitsubishi and others have made clear that the transportation industry is turning to plug-in vehicles – battery electric vehicles and hybrids – to enhance fuel efficiency, help achieve environmental goals and address the nation's energy-security challenges.

Currently, the U.S. transportation sector is responsible for 20 percent of the nation's greenhouse gas emissions – 40 percent in California. Plug-in hybrid electric vehicles could reduce such emissions by 50 to 60 percent.

### Why Use Electricity?

- Electricity is a secure, domestic fuel.
- It costs about one-half the price of gasoline.
- Transportation with electric fuel produces far fewer greenhouse gas emissions than relying on the internal combustion engine alone.
- It is generated with multiple energy sources, including renewable generation such as wind and solar.
- The nation's electric grid is the only source of alternative transportation fuel with a ready-made infrastructure connecting every home and business.

## SCE's Vision – Filling Up at the Plug

SCE electric transportation engineers lead the national evaluation of how the U.S. might someday fuel light cars and trucks from the power grid. SCE supported independent research released by the Electric Power Research Institute (EPRI) and the Natural Resources Defense Council. The study concluded that by 2050 the widespread adoption of plug-in hybrid electric vehicles could reduce annual vehicle emissions of greenhouse gases by more than 450 million metric tons, the equivalent of removing one-third of today's light-duty cars and trucks from the road.



*President Barack Obama visited SCE's Electric Vehicle Technical Center in March 2009 to announce stimulus funding for automotive battery development.*

## Advancing Electric Transportation Research

**Light-Duty Plug-In Hybrid Development** – SCE is collaborating with Ford, GM and other automakers, as well as the Electric Power Research Institute, the DOE and the South Coast Air Quality Management District to evaluate the potential impact and help support the development of the next generation of electric transportation technologies.

**Medium-Duty Plug-In Hybrid Development** – SCE has joined forces with EPRI, Ford and Eaton to establish a plug-in hybrid utility bucket truck evaluation and demonstration program with prototypes built on the Ford F550 chassis – now in prototype evaluation at SCE.

**Heavy-Duty Hybrid Utility Bucket Truck Development** – SCE helped create the nation's first plug-in hybrid heavy-duty utility bucket truck. The project spurred a 14-utility consortium that partnered with industry to develop a diesel hybrid production version delivering a 30 percent reduction in fuel consumption. SCE has ordered 18 additional hybrid utility bucket trucks for use in its street light maintenance fleet and expects to take delivery later this year.

**Technology Testing** – SCE's Electric Vehicle Technical Center is a nationally recognized testing facility for all forms of electro-drive and advanced energy storage systems. SCE is currently testing automotive-grade Lithium-Ion batteries for use in stationary applications in the electric grid. The company plans to begin field testing batteries soon for several different applications such as small home storage devices and large central plant uses at SCE substations connected to wind farms.