

Partnership Helps Alleviate Electric Vehicle Range Anxiety

NREL, Clean Cities, and industry leaders join forces to create the first comprehensive online locator for electric vehicle charging stations.

The National Renewable Energy Laboratory (NREL) and the U.S. Department of Energy's Clean Cities program, sponsor of the Alternative Fuels and Advanced Vehicles Data Center (AFDC), have teamed up with more than 200 other key players to make sure drivers of plug-in electric vehicles (PEVs) can easily find charging stations across the United States. These leaders in PEV deployment form the GeoEVSE Forum—a government-industry collaboration designed to ensure that the AFDC's database of stations keeps up with the expanding EV charging network.

The database provides an accurate, comprehensive source of locations for electric vehicle supply equipment (EVSE)—better known as charging stations—from all manufacturers and installers. Although most initial charging is expected to take place at drivers' homes, public charging stations extend the range of PEVs, providing opportunities to power up while on trips or running errands.

Consumers can quickly find nearby charging stations online through the AFDC's Alternative Fueling Station Locator using a computer or a smartphone. The database's information on more than 4,000 publicly accessible EVSE locations includes maps, detailed directions, types and number of charging units, phone numbers, payment methods, URLs, and business hours.

NREL updates EVSE data on a bi-weekly basis, and station information is supplemented by GeoEVSE partners. Information is then made available to leading aggregators of data for vehicle systems, such as TomTom, Google, MapQuest, and Navteq. Eventually, navigation systems using this data are installed by GeoEVSE automotive partners, including Chrysler, Fisker Automotive, Ford, Toyota, Tesla, Nissan, and General Motors.

Software developers can subscribe to NREL's Developer Network website (developer.nrel.gov) and receive automated EVSE data feeds for use in their own mobile and Web applications. This provides developers with comprehensive, validated, and current EVSE data, while expanding the reach and impact of the Forum partnership.

As EVSE networks grow and drivers become more comfortable using PEVs for long-distance trips, the AFDC Station Locator and the Forum's efforts to provide accurate navigation coordinates will play a vital role in getting drivers to their destinations and support PEV deployment activities across the United States.

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A mobile application gives drivers-on-the-go the ability to find the nearest charging sites using their iPhone, Blackberry, or Android smartphones.
Photo by Patrick Corkery, NREL/PIX 18186

Key Research Results

Achievement

Bringing key players together has created a single, definitive repository of EVSE information.

Key Result

The comprehensive data provided by the GeoEVSE Forum makes it possible for drivers to easily find EVSEs across the country. The AFDC Station Locator can be accessed online (www.afdc.energy.gov/stations) and via mobile applications (www.afdc.energy.gov/stations/m/).

Potential Impact

The GeoEVSE partnership will help ensure new EVSE locations are added to the system, providing one go-to source for location data and ultimately encouraging wider PEV adoption and deployment.