

Deploying Electric Vehicles and Electric Vehicle Supply Equipment

Tiger Teams Offer Project Assistance for Federal Fleets

The U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP) helps federal agencies reduce petroleum consumption and increase alternative fuel use through its resources for Sustainable Federal Fleets. To assist agencies with the transition to plug-in electric vehicles (PEVs), including battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), FEMP offers technical guidance on electric vehicle supply equipment (EVSE) installations and site-specific planning through partnerships with the National Renewable Energy Laboratory's (NREL's) EVSE Tiger Teams.

What Are EVSE Tiger Teams?

NREL's EVSE Tiger Teams help agencies overcome obstacles to deploying alternative fuels and advanced vehicles and make informed choices to reduce their petroleum consumption. Tiger Teams include electrical engineers and PEV experts who can help agency fleet managers minimize EVSE installation costs, plan for future vehicle and charging needs, and efficiently meet multiple objectives. The teams conduct site assessments, review assumptions, provide technical input, and offer ongoing support for PEV and EVSE deployment.

Learn More About Technical Assistance from FEMP



Workplace charging may be co-located with fleet EVSE or installed simultaneously to achieve cost savings. Here, an electric vehicle is plugged into a charging station in the NREL parking garage. *Photo by Dennis Schroeder, NREL 26669*

Start Planning an EVSE Project

Before calling in a Tiger Team, agency fleet managers should identify the types of electric vehicles they would like to acquire, potential sites for locating EVSE, electrical power availability, and workplace charging needs. The following steps are intended to guide fleet managers through the planning process and optimize Tiger Team efficiency.

- 1. Plan PEV acquisitions and approximate utilization.** The first step in identifying infrastructure needs is to determine how many PEVs you plan to acquire. Thinking beyond the current acquisition period can minimize construction costs in the long term. PEV battery range and charging speed vary by model, and faster chargers are necessary for more frequent or lengthier trips, while Level 1 charging may be the most affordable solution for overnight charging.
- 2. Assess likely EVSE locations and electrical power input.** Tiger Teams can provide better, more detailed analysis after the fleet manager has begun surveying prospective locations. The parking area for

replaced vehicles is a good starting point, but many facilities offer several options. Available power input is an important factor in this determination. Level 2 charging generally requires 208–240 VAC and a branch circuit breaker rated at 40A. Level 1 charging generally requires 120 VAC and a branch circuit breaker rated at 20A. Trenching through concrete for wire conduit can be the most expensive part of installing EVSE. Minimizing distance from available electric service can save significant amounts of money.

- 3. Consider employee workplace charging.** Federal agencies are authorized to offer workplace charging to promote sustainable commuting practices. Workplace charging may be co-located with fleet EVSE or installed simultaneously to achieve cost savings. Find more information on the [DOE Workplace Charging Challenge](#) website or email WorkplaceCharging@ee.doe.gov.

Please complete the accompanying Federal Fleet EVSE Planning Questionnaire, attach a site plan, and discuss the project with FEMP prior to scheduling a Tiger Team visit.

FEMP helps federal agencies implement and manage sustainable and energy-efficient alternative-fuel fleets. Contact Karen Guerra at 202-586-4272 or federal_fleets@ee.doe.gov to learn more about working with FEMP and an NREL EVSE Tiger Team.