

# Workplace Electric Vehicle Charging Guide



## Value of Electric Vehicle (EV) Charging Stations for Employers:

- Demonstrates corporate leadership
- Supports sustainability efforts and social responsibility
- Provides a valuable amenity to attract new talent and retain current workers
- Gains points toward LEED certification
- Shows an example of meeting employees' requests and future needs

## Value of EV Charging Stations for Employees and Visitors:

- Provides a convenient place to charge that extends driving range for extra trips and errands
- Increases visibility of EVs and can be a great way to share electric driving experiences
- Encourages EV adoption: According to the U.S. Department of Energy, people who are able to plug in at work are six times more likely to drive an EV than those without the option

## Charging Station Installation Checklist

### Step 1: Develop a Workplace Charging Strategy and Identify a Project Champion

Identify goals, discuss budget considerations and funding, and determine a timeline for implementation. Select an employee to oversee the charging station installation process and program development. Consider a facilities representative, an EV driver or a sustainability manager. Choose someone who can dedicate time to researching and planning to make the workplace charging program a success.

### Step 2: Survey Employees

It is essential to survey employees to learn about current and future charging demand, commute profiles, the types of EVs they may drive, etc. Results will inform how many charging stations to install and how to plan ahead.

### Step 3: Review Electrical Access and Select Parking Spaces

Select parking spaces based on overall availability, proximity to the power source, Americans with Disabilities Act accessibility and visibility. Charging station installation is less expensive if the equipment is close to a power supply. Determine if there is access to an electrical panel or circuit from the parking area, or if any electrical upgrades will be needed. In addition, review options for metering the charging stations. Contact your electric utility to provide assistance with this step.

#### Step 4: Select Charging Stations

Select the charging power level (Level 1, Level 2 or DC Fast Charge) that best fits your needs. The most common type of charging for workplaces is Level 2.

- **Level 2** offers charging through a 240-volt or 208-volt electrical service. These installations are generally hard-wired for safe operation (although a wall plug connection is possible). Level 2 infrastructure requires installing charging equipment and a dedicated circuit of 20 to 80 amps, though most use a dedicated 40-amp circuit. Level 2 stations typically add 10-20 miles of vehicle range per hour of charging.

In addition to identifying the desired level of charging, decide if there is a need to track and report charging usage or remotely check on charger status or availability. If there is, consider a station with network capabilities. These cost more but come with added functionality, including payment systems. You can explore charging station options by using GoElectricDrive's Charging Equipment Showroom at [www.goelectricdrive.org/charging-ev/charging-equipment-showroom](http://www.goelectricdrive.org/charging-ev/charging-equipment-showroom).

#### Step 5: Hire a Contractor

Hire a contractor or electrician to manage the installation process. Work with the contractor to develop a site plan and contact your electric utility. The electrician and your utility will help determine if any panel upgrades, service upgrades or new metering is required. The contractor can also assist you with contacting your local permit office to see if there are requirements regarding the permitting, installation and inspection of the stations.

#### Step 6: Install and Inspect Equipment

Your contractor will handle this step. To save money in the future, plan for charging expansion by installing conduit (and pulling power or communications wires if desired) for additional stations. Annual inspections can also help ensure that connectors and cords are in good condition and not in need of repairs.

#### Step 7: Add Way-Finding Signage

Signage helps drivers easily spot your charging stations and can increase awareness of EVs for those new to the technology. There is a universal symbol for charging stations, but you are not required to use it.

Feel free to have fun and make the signage blend in with your location and branding.

#### Step 8: Create a Policy

Put together a workplace charging policy to help navigate issues associated with charging, including time limits, driver etiquette, safety, charging fees, enforcement and maintenance.

#### Step 9: Promote Your Stations

- **Host a Ribbon-Cutting Event** - Let your employees, community and the media know about your new charging stations by hosting a ribbon-cutting event. Invite local stakeholders and your electric utility to attend.
- **Educate Your Staff** - Make sure your employees are aware of the new amenity. Consider hosting a training to explain what EVs are and demonstrate how a charging station works. Also, send out information through an email or your website.
- **Register Your Stations on PlugShare and the AFDC** - Inform drivers of your new stations by adding them to a search database. PlugShare and the Alternative Fuels Data Center are the most popular websites and apps for finding places to charge.
- **Join Plug-in NC** - Plug-in NC ([www.pluginnc.com](http://www.pluginnc.com)) recognizes North Carolina organizations that have taken a leadership role by installing charging stations or adding EVs to their fleets. Membership is free, and benefits include promotion on the Plug-in NC website, in quarterly newsletters and on social media.

#### Step 10: Use Your Data If You Are Gathering It

To see how your charging stations are doing, track how many visitors they receive and how much energy they use. Some stations are equipped with data tracking software, but others will require you to track it manually. Create a tracking program that works best for your location.

The following table provides additional details on a number of topics of interest regarding workplace charging.

Topic of Interest	Details
<b>Installation Costs</b>	Generally, the charging station itself can range from a few hundred to several thousand dollars depending on mounting needs and desired features. Installation costs also vary based on site-specific needs, such as boring, pavement cutting and panel upgrades. Learn more about charging station options by using GoElectricDrive’s Charging Equipment Showroom - <a href="http://www.goelectricdrive.org/charging-ev/charging-equipment-showroom">www.goelectricdrive.org/charging-ev/charging-equipment-showroom</a> .
<b>Charging to Charge</b>	There are a number of reasons that workplaces may decide to charge a fee for EV charging: to recover equipment and installation costs; cover ongoing operating costs, including electric rates and maintenance; manage charging station use; and limit unnecessary charging. Fees can be collected by a parking permit that is managed by your company or by network cards and credit cards, which are usually managed by a third-party vendor. Consult with your real estate, fleet, tax and/or legal representatives to determine which methods are permitted in your area.
<b>Effect on Energy Bill</b>	<p>Energy usage on a per-session basis is often only 5-7 kWh, or 120 kWh per month with a single EV using the charging station every weekday. Given electricity prices are often around \$0.10 per kWh for commercial members, energy costs will likely be around \$12 per month per charging station.</p> <p>If a facility is under a demand rate, it should consider whether the charging stations might increase the peak period normally experienced and, if so, by how much.</p>
<b>Internal Policy, Including Access Control</b>	Companies need to determine what their objectives are in providing charging services, along with any liability concerns of providing access to non-employees. Some businesses may decide that there is a benefit to allowing visitors and non-employees to access the stations; others may want to restrict access. In these cases, stations should be placed behind a controlled area or have an access feature. A company policy, along with signage, is also recommended to detail usage and etiquette expectations.
<b>Taxes and Amenity Issues</b>	There are no specific regulations that call out taxable implications for the provision of free EV charging services. Some companies have likened the value of the electricity to that of coffee provided, and thus de minimis and not reportable. It is up to the tax specialists at a company to consider their own interpretation of whether free charging services should be reported as a taxable benefit. If a reasonable fee is charged, tax issues may not be relevant.
<b>Employee Equity Between EV and Non-EV Owners</b>	Fringe benefits such as this are often based on sustainability goals of the enterprise or on how to attract and retain talent. Other benefits such as allowances for mass transit, downtown parking or designated parking spots for low emission cars are common yet do not equally apply to all employees. If a reasonable fee is charged, then equity issues may not be relevant.

For additional workplace charging information or if you have any questions, visit the Plug-in NC website at [www.pluginnc.com](http://www.pluginnc.com).