



**Coulomb  
Technologies**

# **Meet Employee Demand for Electric Vehicle Charging and Energize Green Initiatives at the Workplace**

*ChargePoint Network Electric Vehicle Charging Infrastructure*

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# Introduction

Electric cars are here. Auto manufacturers are responding to market demand and global interest in reducing dependence on oil imports, reducing greenhouse gases, and reducing fuel costs by introducing a range of capable, energy-efficient, low emissions, electric-powered vehicles. In 2010, major auto manufacturers will make electric vehicle models available for sale to the public. Projections estimate that by 2012, twenty models will be available and that by 2015 there will be over three million plug-in electric vehicles in use worldwide.

Why should corporations be interested? The new wave of electric vehicles entering the world marketplace has created employee demand for electric vehicle (EV) charging services at their workplace. Although employees will charge their vehicles overnight at home, the limited range of early electric vehicles makes having charging stations where people work a necessity.

Addressing employee demand for electric vehicle charging also creates opportunity for a progressive corporation to:

- Fulfill corporate green initiatives.
- Steward greenhouse gas reduction beyond corporate facilities.
- Obtain LEED points to demonstrate leadership in energy independence with LEED certification.
- Strengthen relationships with environmentally conscious customers, business partners and employees.

With the emerging and rapidly changing electric vehicle market, how does an employer, eager to take advantage of these opportunities, make the best choice for employees and make the best business choice for their company?

## Challenges

### Reliability

Employees will rely on the company's electric vehicle charging stations for their transportation and will have high expectations for the level of service from their company. Therefore, an EV charging solution should, with minimal on-going effort and cost, be highly reliable and easy to use.

### Charging station access

To keep control over electricity costs and to assure charging station availability for employees, corporations may want to control access to their charging stations. Similar to a building's access control system, an EV charging solution should provide the ability to control and manage employee and visitor access to the company's charging stations.

### Energy costs

Electric energy costs are a big part of a corporation's operational expenses. Some employers may want to offer electric vehicle charging services free to employees. Some may want to extend the service to business partners and visitors. Over time, as the impact of EV charging on the business' bottom-line is better understood, some corporations may want to have users pay for charging services to cover a portion, or all of the costs of providing electric vehicle fueling services. An EV charging solution should provide the option to track costs and bill users if desired.

## Measuring performance of green initiatives

Tracking energy, greenhouse gas and fuel savings is necessary when measuring and demonstrating the success of corporate sponsored green initiatives. An electric vehicle charging solution should provide the ability to track and report the benefits associated with EV charging.

## Driver safety and limit liability

An electric vehicle charging infrastructure solution should ensure safety and limit a company's liability.

## Utility Smart Grid

With the time-variable nature of renewable energy sources and with anticipated increase in electrical demand, utility companies are implementing Smart Grid capabilities to ensure reliable energy delivery during peak load times within their service area. As Smart Grid capabilities evolve, utility companies may require charging systems that are Smart Grid enabled. They will also offer rate incentives for Smart Grid compatibility. To leverage future utility Smart Grid energy incentives, charging stations should support Advanced Metering Infrastructure (AMI), demand response programs, and time-of-use (TOU) pricing.

## Staying current

The electric vehicle world is undergoing rapid change and will soon undergo tremendous growth. Within five years there will be millions of electric vehicles with new capabilities. An EV infrastructure choice should consider this growth and be built to accommodate the scale and evolving requirements of this emerging market.

## Solution

Coulomb Technologies' ChargePoint® Network provides the world's most advanced, easy to use electric vehicle charging solution for corporations. Electric Vehicle charging is delivered via ChargePoint® Networked Charging Stations which cover the entire range of Level I, Level II, and Level III electric vehicle charging needs. The ChargePoint Network provides station owners a centralized view of the charging stations anywhere there is Internet connectivity. Web-based ChargePoint Network Software Application Services makes it easy to provision, manage and maintain ChargePoint Charging Stations for every business need.

## Provide high-reliability charging with minimal effort and cost

The ChargePoint Network takes care of drivers so you don't have to. Drivers can elect to receive Email or text notifications alerting them if their vehicle is completely charged or if their charging session is interrupted for any reason such as a GFCI fault or disconnected cable. Drivers can also receive personal assistance 24 hours, 365 days a year by calling the toll-free number displayed on every charging station.

Protect your investment, reduce downtime and minimize the need for on-site maintenance by dispatching maintenance personnel only when needed. The ChargePoint Network automatic notification services will alert your service personnel of issues before they escalate to employee complaints. Service personnel can make informed decisions before they come on-site by accessing, managing and diagnosing all of your charging stations via the ChargePoint Network from their office. Alternatively, station owners can elect to outsource and make use of the maintenance and monitoring services provided by a ChargePoint Network authorized distributor.

## Control access

You decide who may access your charging stations. The ChargePoint Network allows you to configure the stations with access policies for public or for private access. If you choose the private option, you can control precisely which drivers, employees or customers may use your stations. For added flexibility, you can change your access policies based on time of day, and calendar. The charging stations will only energize for an authorized driver eliminating energy theft, and enhancing safety.

## Manage and optionally defray costs

The ChargePoint Network tracks electric energy costs for electric vehicle charging by driver, vehicle, department or fleet. The ChargePoint Network data can be exported for use with other cost accounting systems.

You can choose if your charging stations are accessed for free, or for a fee. If you choose the for-fee option, drivers can use multiple payment methods to access the charging stations including ChargePass™ smart cards, major contactless credit cards, or other major credit cards (by calling the 24/7 toll-free number displayed on the charging station).

When a charging station is accessed, the ChargePoint Network Flex Billing™ service processes ChargePass and credit cards immediately, and automatically transfers funds from the driver's account to the corporate business account. Transaction data can be centrally monitored via the ChargePoint Network and can be exported to other accounting systems to help you manage your return on investment.

Set prices on a per time basis (similar to a parking meter) with the ChargePoint Network Flex Billing Manager. For example, you can offer free or reduced price park-and-charge services for employees during business hours, fee-based parking for the public outside of business hours, or vary fees for employees, visitors or business partners.

## Demonstrate green initiative success

Track and report greenhouse gas and energy savings data needed to measure the effects of company sponsored clean electric vehicle use and to demonstrate the success of corporate green initiatives. The ChargePoint Network collects data including electricity used, greenhouse gas and gasoline savings. The energy data can be exported and combined with other accounting systems.

Advertise leadership in green building practices by enhancing your LEED rating by installing stations on your campus and by promoting electric vehicle use. Extend your corporate green initiatives beyond your corporate facilities by providing ChargePass smart cards for discounted employee use away from the office.

## Protect safety and limit liability

A ChargePoint charging station will only energize a charging session if it is in good working order, the user is safely isolated from electricity, and driver access is authorized over the ChargePoint Network.

## Save with utility programs and incentives

Leverage utility-pricing incentives by ensuring compatibility with an electric utility's AML. ChargePoint Networked Charging Stations are designed with the Smart Grid in mind. Utility-grade meters and the ability to communicate bi-directionally with other Smart Grid systems via the ChargePoint Network enable demand response, TOU pricing, and other Smart Grid programs provided by the Utility.

## Start now, be prepared for the future

Don't be caught with a stranded asset. Unique in the industry, the services of the ChargePoint Network are available to supply the entire range of charging needs, with Level I, Level II, and Level III charging stations all managed by one integrated network. ChargePoint Networked Charging Stations can be remotely upgraded to accommodate future advancement in electric vehicle charging needs. The ChargePoint Network can also scale from one to thousands of charging stations allowing a company to provide EV charging services today and meet growing demands of the future.

## Find Out More

Coulomb Technologies is the leader in electric vehicle charging station infrastructure with networked charging stations installed in municipalities and organizations worldwide providing the most advanced vehicle-charging infrastructure, with an open system network: the ChargePoint Network.

For more information, please visit [www.coulombtech.com](http://www.coulombtech.com) and follow Coulomb on Twitter at [twitter.com/coulombevi](https://twitter.com/coulombevi).

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