



Delivering Electric Fuel for Commercial and Government Fleets

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 is this new wave of electric vehicles great news for Fleet Managers? Electric vehicles have fewer moving parts, are more efficient and are less costly to operate and maintain. Adding electric vehicles to a fleet's mix can significantly lower the fleet's total operational cost. Electric vehicles can also help Fleet Managers meet government regulations for Alternative Fuel Vehicle (AFV) acquisition, fuel efficiency and greenhouse gas reduction.

Fleet Managers, eager to rotate plug-in electric vehicles into their inventory, are now faced with new challenges to deliver electric fuel to power their fleet.

Challenges

Limited vehicle range

Although all early electric vehicles, which can range from 90 to 220 miles between charges, are adequate for many fleet applications, there may be situations where drivers will need to have access to charging stations outside the fleet depot. Fleet drivers need convenient access to these stations.

Charging station access

As more electric vehicles enter the marketplace, the demand for charging stations will increase. To keep control over costs and to assure availability of the fleet's charging stations, Fleet Managers will need to control access to the use of their charging stations. An electric vehicle-charging solution should allow Fleet Managers to create, control, manage and track authorized access to the fleet's charging stations.

Vehicle readiness

The company or government agency will have high expectations for the level of reliability from the electric vehicle fleet and fleet maintenance teams will be expected to provide electric vehicles that are always fully charged and ready to operate. With electric fueling times measured in hours, it is vital for Fleet Managers to know of any charging issues before they become a costly operations failure. The fleet's electric vehicle charging solution should provide real-time charging status of all electric vehicles in the fleet's inventory and proactively notify Fleet Managers when scheduled charging sessions are complete, fail to begin or are interrupted for any reason.

Tracking costs and energy savings

Tracking costs is core to improving efficiency and productivity of the fleet. Tracking energy, greenhouse gas and fuel savings is necessary to understand the benefits of operating a clean fleet. An electric vehicle charging solution should provide a mechanism for tracking costs and energy savings associated with electric vehicle charging.

Driver safety

An electric vehicle charging solution should ensure driver safety and limit legal 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 services, 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 electric vehicle-charging infrastructure should scale with this growth and be built to accommodate the evolving requirements of this emerging market. Over-the-air downloads and the ability to upgrade your charging station network inexpensively must be part of your life cycle cost calculation.

Solution

Coulomb Technologies' ChargePoint® Network provides the world's most advanced, easy to use electric vehicle charging solution that delivers centrally managed, cost effective and safe electric vehicle charging services for commercial and government fleets. 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.

Extend vehicle range. Provide convenient electric fuel beyond the depot

Allow drivers to seamlessly roam from city to city to extend their vehicle range. Similar to a cellular phone system, the ChargePoint Network enables drivers to access ChargePoint Networked Charging Stations with multiple options including major credit cards, 24/7 toll free telephone call and ChargePass™ RFID card. The web-based ChargePoint Network Driver Portal allows drivers to locate all available ChargePoint Networked Charging stations along their driving route located outside of their home depot.

Centrally control access and defray the cost of electric fuel

Ensure that ChargePoint Networked Charging Stations are always available for fleet use by restricting access for authorized users only. Fleet Managers can use the ChargePoint Network Station Manager to control individual charging station access by driver, vehicle and time of day.

Fleet Managers can defray the cost of electricity used to charge the fleet by opening charging stations to the public for days, times and for prices they control. The ChargePoint Network billing services ensure that fees are automatically collected and passed to the Fleet Owner.

Ensure high availability at low cost

Fleet managers can use the web-based ChargePoint Network Fleet Manager to determine the charging status of every electric vehicle in the fleet at all times - from anywhere there is Internet connectivity. Fleet Managers can receive a daily e-mail summary of charging status for the entire electric vehicle inventory to ensure that all fleet vehicles are ready for the next business day.

The ChargePoint Network will notify Fleet Managers by text message or e-mail when individual vehicles are completely charged or are overdue for charging. The network will also automatically notify Fleet Managers and drivers if a charging session abnormally terminates for any reason.

The web-based ChargePoint Network Service Manager allows Fleet Managers to access, manage and diagnose thousands of charging stations from a single location ensuring that maintenance staff is only deployed when needed.

Track greenhouse gas, fuel efficiency savings and manage costs

Track and report greenhouse gas reduction, fuel efficiency and other data needed to manage and to measure the effects of a clean fleet. Use the web-based ChargePoint Network Fleet Manager to view cost and greenhouse gas saving data by driver, vehicle, department or fleet. Track and monitor vehicle usage data, by charging session, with information including start/stop time, charge duration, electricity used, driver to vehicle interaction, greenhouse gas and gasoline savings. Export and combine data with other vehicle information to manage vehicle lifecycle or to calculate equivalents for other savings.

Protect driver safety and limit liability

A ChargePoint Networked Charging Station will only energize a charging session if it is in good working order, the user is safely isolated from electricity, and access is authorized from the ChargePoint Network. The charging stations can detect maintenance issues that can arise from vandalism, misuse and normal wear and tear. Fleet maintenance staff can be automatically notified before maintenance issues escalate to safety or reliability problems.

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 demonstrated 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

Unique in the industry, the services of the ChargePoint Network are available to supply the entire range of a fleet's 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 to thousands of charging stations allowing a fleet to provide electric vehicle 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 and follow Coulomb on Twitter at twitter.com/coulombevi.

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