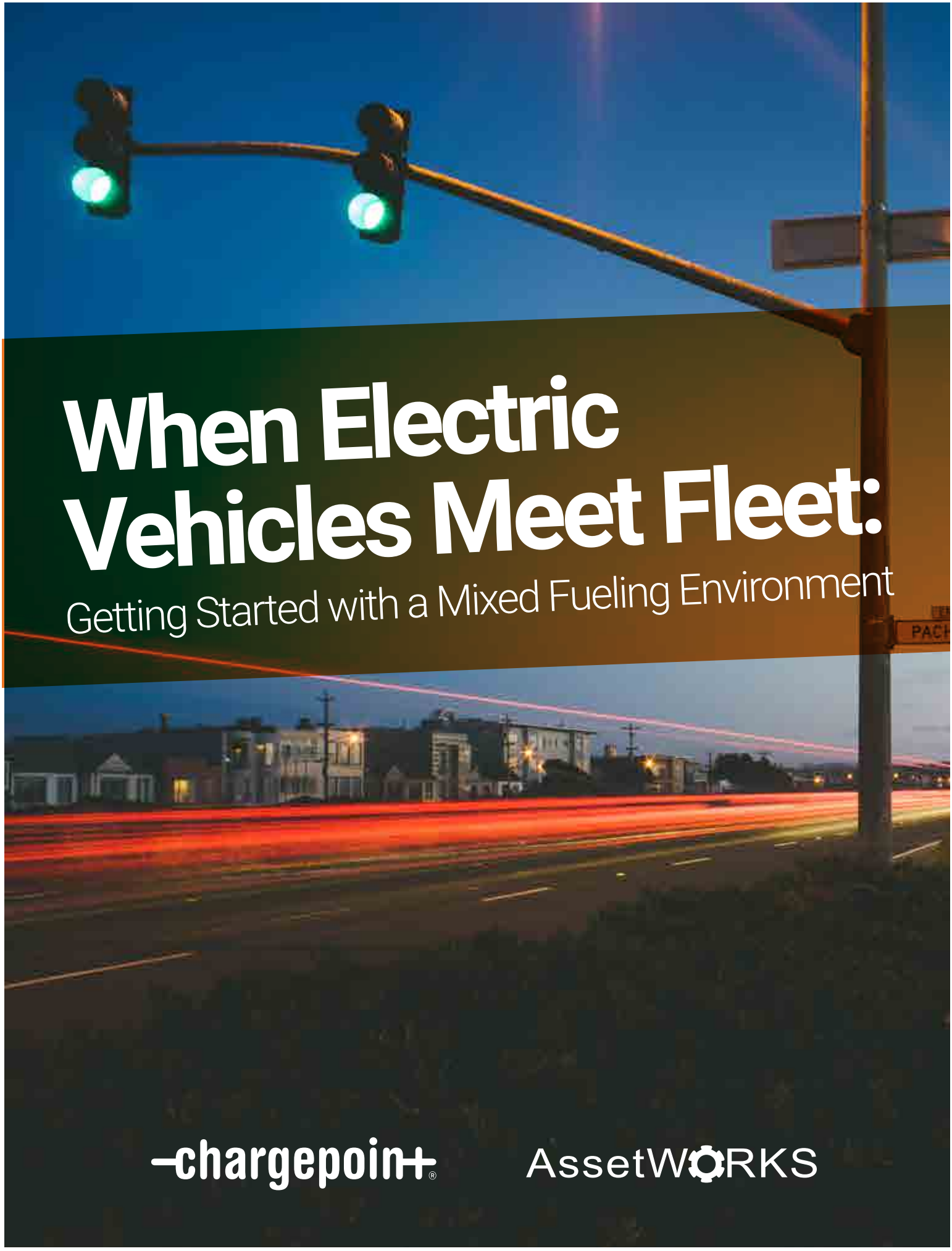

When Electric Vehicles Meet Fleet:

Getting Started with a Mixed Fueling Environment

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The fleet management industry is on the precipice of major change. With regulations and legislation calling for the implementation of electric vehicles, government and commercial fleet organizations across North America are making investments in electric vehicles and charging infrastructure. Change does not happen overnight, however, and the transition can be complicated and perplexing. To successfully introduce a new fueling method to an organization or community requires deliberation, planning, capital investments and buy-in from fleet employees.

What is Different, What is the Same?

Conceptually, fueling for electric vehicles versus traditional, gasoline- or diesel-based seems the same, with the only difference being the filling of "tanks" with electricity instead of combustible fuels. The reality is more complex and entails considerations such as vehicle type, energy cost curves, weather and temperature, as well as established technology and strategies, including:

- Fueling infrastructure and hardware
- Fuel management software
- Technician and driver training
- Fueling/charging schedules (fill up as needed vs. top off whenever vehicle is parked)
- Maintenance

To properly adjust to the strategy and technology differences, fleet organizations should consider creating a pilot program.

Creating a Pilot Program

When a fleet organization introduces a new type of vehicle into its operation there are going to be growing pains. All stakeholders must be able to address the realities of operating a mix of traditional and electric vehicles. Different vehicles require distinct fueling strategies, drivers and technicians need additional training and key stakeholders want frequent updates with specific data and results.

To combat these growing pains, the transition period from traditional, gasoline-based vehicles to electric vehicles should include a comprehensive pilot program. The purpose of a pilot program is to test different strategies and eventually create a standardized course of action for an expanded and long-term implementation of electric vehicles.

Pilot Consideration 1: Cross-functional Alignment

Before putting together the pilot program, fleet managers should seek input from roles and departments that will be impacted by the new vehicle types. Roles impacted include—but are not limited to—vehicle fleet managers, facility managers, technicians and drivers.

Fleet managers: Fueling a gasoline-powered vehicle versus an electric vehicle presents different tasks for fleet managers. Unlike traditional vehicles that can be filled up quickly whenever needed, electric fleet vehicles are typically fueled either daily or overnight. That means fleet managers will need to more closely monitor charging to ensure vehicles are charged and ready to go. Because they are based on electricity prices that may be subject to complex rate structures and demand charges, electric fuel costs are not as simple as $/gallon at the pump either.

Facility managers: Electric vehicles go hand-in-hand with an increase in electricity usage. Facility managers must install and maintain an electric fueling infrastructure on-site; typically a significant capital project requiring specific permitting and safety requirements. The electricity bill they receive every month that once may have only accounted for lighting and HVAC will need to be partially allocated as a fleet fueling expense.

Drivers: Training updates need to be accounted for whenever new vehicle technology is introduced to drivers. Drivers must pay attention to an electric vehicle's state of charge to be sure the "range is in their tank" is enough to accomplish their task. Because it might take between 30 minutes to several hours for a charging session, on-route charging requires more careful planning . On-route charging should therefore be minimized. Whenever possible, charging should occur while a vehicle is parked at its destination.

Technicians: The maintenance of electric vehicles differs from the maintenance of gasoline- or diesel-based vehicle. In addition to driver training, technician training and shop floor protocols need to be updated to account for the new vehicles. This may include technician certifications for electric vehicle maintenance or even plans to outsource electric vehicle maintenance to third-party shops.

Citizens: For government fleet organizations, the public should be kept in the loop on all major investments or changes to the fleet. In many cities, counties and states across North America, there are regulations or legislation surrounding the adoption of electric vehicles. These regulations were created to support green initiatives, with the ultimate goal of making the community and safe and healthy environment for all.

Pilot Consideration 2: Workflow

When adding electric vehicles and charging infrastructure into the standard fleet vehicle mix, it is easy to become fixated on hardware. While important, perhaps more crucial for the long-term success of any installation is site design/planning and the software, which ensures vehicles are available when drivers need them and keeps costs down by optimizing charging to take advantage of lower utility rates.

Site design and location for charging infrastructure impacts the fleet organization's overall investment in electric vehicles. To keep costs down, the charging infrastructure should be located near an electrical panel with sufficient power. If fleet vehicles are not parked in a secure, dedicated location, it is essential that charging stations come with access control software that can prevent unauthorized parties from charging.

It is common for fleets to add electric vehicles to their existing motor pools. In the motor pools, drivers can reserve the vehicle in advance and access keys either through a key box or keyless entry system. Tracking the fueling of shared vehicles is critical to understanding and creating fueling guidelines and policies. By installing networked charging stations and issuing EV charging authentication cards with each vehicle, a fleet organization can easily track electric vehicle usage and use the data when evaluating charging schedules and best practices after initial investment.

Pilot Consideration 3: Roll-out

After seeking input from key stakeholders and analyzing current processes for parking, site design and vehicle utilization, it is time to roll out the pilot program to the fleet. As with any major project, a staged deployment may be beneficial. It is much easier to control a staged rollout of new vehicles than to release them all at once.

Pilot Consideration 4: Communication

After launching the pilot, regular transparent communication and reporting is key. Chances are the program has changed and evolved since its inception. If these changes aren't communicated to key stakeholders (including relevant councils and the community) distrust in the fleet organization and program may build. Once it is ready to move from pilot program to a fully entrenched and long-term strategy, the fleet organization should share its plan for future success.

Changing of the Guard: Fuel Management Technology

As a fleet organization evolves to incorporate a mix of traditional and electric vehicles, the technology needed to effectively manage the fleet also needs to evolve.

Fuel Management Software

In addition to the initial investment in charging infrastructure, one often-overlooked challenge to successfully implement electric vehicles into a fleet is the active management of a new type of fueling. Established fuel management systems may not integrate with new charging stations or electric vehicles. The fleet's fuel management system should be able to see and compare fueling across the different vehicles, while the charging infrastructure should be able to support the integration and exchange of information.

Fuel Cards

On-route fueling needs to be as easy as possible for drivers, but, today, not all fuel cards support transactions at electric vehicle charging stations. Before embarking on the pilot program for a fleet, existing fuel card relationships with charging networks must be examined to ensure proper support and transaction tracking.

While the fleet management industry will look and operate differently after widespread investments in electric vehicles, the changes required for successful deployments of the new vehicle types should not intimidate fleet managers. With the proper planning, technology, training and pilot programs, fleet organizations across public and private sectors can efficiently and effectively manage the fueling of traditional and electric vehicles.

AssetWORKS

AssetWorks is a leading supplier of fleet management software, automated fueling systems and enterprise asset management software in North America and the United Kingdom, with more than 550 software customers, including private fleet operators as well as City, County, State and Federal organizations. AssetWorks solutions enable fleet organizations of all sizes to improve maintenance practices, streamline operations and improve accountability for mission-critical transportation assets.

For more information, please visit www.assetworks.com/fleet

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ChargePoint is the largest electric vehicle (EV) charging network, with a growing global presence across North America, Europe, and beyond. The company designs, develops and manufactures complete, integrated charging stations and software solutions for every charging scenario: from home and multifamily to workplace and fleet. With more than 113,000 places to charge on its network and the mobile app (available on iOS and Android) that enables drivers to easily find available charging stations, start a session, receive status updates regarding their sessions, and more; ChargePoint is effectively serving the rapidly growing EV driver community.

ChargePoint offers the most complete fleet solution among all electric vehicle supply equipment (EVSE) for fleets moving to EVs. Modular hardware solutions address the needs of growing EV fleets while cloud software optimizes fueling without the need for costly electrical upgrades. The software also provides analytics, pricing, and energy management along with many other services.

As fleets accelerate the shift to e-mobility, ChargePoint is providing the solutions necessary for fleet managers to benefit from our comprehensive support—from defining requirements to ongoing execution—ultimately enabling the movement of more people and goods on electricity now and into the future.

For more information, please visit chargepoint.com