

NAVIGATING THE SWITCH TO EVs:

A BASIC GUIDE



With the transition from ICE vehicles to EVs comes a new responsibility: charging the vehicles. While ICE vehicles can be fueled at any time, EVs cannot always be charged instantaneously.

Love it or hate it, electric vehicles are coming. Here's some guidance on what to expect, and what to keep in mind when you start to think about adding them to your fleet.

BY CHRISTY GRIMES

Change is never easy, and it can be even more complex for fleet managers adopting new technology. But change is inevitable. In a society where many public fleets are moving toward sustainability through alternative fuels and electric vehicles (EVs), understanding the importance of the evolution that fleets need to make is crucial, says Avninder Buttar, vice president of strategy for Element Fleet Management.

Element Fleet Management's Arc by Element is a comprehensive end-to-end



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service offering designed to help fleets make the transition from internal combustion engine (ICE) vehicles to EVs a smooth one. Buttar offers some guidance for fleets considering the change.

Familiarize Yourself with EVs

It's vital for the people who are going to be driving the vehicles to become well-acquainted with their surroundings, Buttar says. In EVs, dashboards are often totally replaced by screens. That means that drivers will have to familiarize themselves with the different locations of things like the speedometer and the battery charge level. Additionally, many of the basic functions of the vehicles that were operated using buttons or knobs in ICE vehicles are replaced by digital controls.

"Getting [drivers] in vehicles in controlled circumstances in advance is really helpful in maintaining their safety as they start to drive [EVs]," Buttar says.

Putting drivers behind the wheel allows them to feel the changes in driving an EV, he explains. The torque, for example, is essentially instantaneous. The acceleration can be startling if you're not prepared for it, Buttar says.

The regenerative braking, available in most EV models, is another stark difference. In ICE vehicles, drivers experience a gradual rolling stop. In EVs, however, there is a much faster deceleration, but this can be managed by settings controlled by the driver.

It's also not a bad idea for drivers to check out the vehicle manual, Buttar says. The manual will give drivers a good idea of how to navigate the basic functions in the vehicle. The manual is also the best way to learn how to charge the vehicle, especially for first-time EV drivers.

As part of its Arc by Element offering, Element supports clients with vehicle-specific driver training. This can be mimicked by individual drivers by thoroughly reading the vehicle manual to learn about controls, charging, and driving considerations.

Driver Responsibility

With the transition from ICE vehicles to EVs comes a new responsibility: charging the vehicles. While ICE vehicles can be fueled at any time, EVs cannot always be charged instantaneously, even with DC fast chargers. Depending on the vehicle type and battery size, charging can still take time. Drivers can manage range anxiety by maintaining awareness of state of charge and range limitations — similar to keeping an eye on gas gauges in ICE vehicles. Ultimately this becomes second nature as drivers become accustomed to driving the EV over a couple of weeks.

Interestingly, keeping the battery's state of charge at 100% is not healthy for battery longevity, Buttar explains. It is often unnecessary given daily range needs and can



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lower battery longevity, and most OEMs will recommend a charging range between 15% and 85%.

Don't Leave Plug-In Hybrids Out of the Picture

For some fleet managers, plug-in hybrids may make the most sense when it comes to starting the transition to EVs.

In commercial use cases, a significant percentage of the fleet vehicles in use are often service vehicles working in rural areas with little to no access to charging stations. The employees in those vehicles need to drive vehicles that have a range beyond that of a battery-electric vehicle. Rather than wait for technology to catch up and for battery-electric vehicles with higher ranges to be made available, fleets will sometimes opt for plug-in hybrids. That allows them to still get the boost of the electric motor that supports the engine.

Fleet vehicles in commercial use cases may also have heavier load requirements. That can cause the battery to drain more quickly.

Buttar's advice to fleets with plug-in hybrids: Don't ignore the plug-in portion of the vehicle. He notes that when fleets use plug-in hybrids but don't charge the battery (i.e., only use the ICE engine), the greenhouse gas emissions can actually be greater, due to the added weight of the battery and electric motor.

Change Won't Happen Overnight

With EVs available to purchase on the mass market, people often think transitioning to EVs should be an overnight switch. In the case of most public and private fleets, that's just not a prudent way of thinking about it, Buttar says.

Fleet managers must consider the charging infrastructure needed to power their fleets, energy management, purchasing the electricity needed to power the infrastructure, and more.

"These are all cost considerations that will come into play," Buttar explains.

Buttar believes the transition to EVs will be more gradual than many realize due to the complexities of electrification, including charging infrastructure changes, and the high costs of EVs. He encourages fleet managers to begin the transition now by building their electrification playbooks. Element advocates for a pilot-first approach to help simplify the electrification journey. ■