



A TRUCKING FLEET PRIMER FOR COMMERCIAL TRUCK ELECTRIFICATION

Freight electrification is opening new opportunities and challenges for the trucking industry and utilities alike. The [North American Council for Freight Efficiency](#) (NACFE) and our partner organization, [RMI](#), are uniquely positioned to help facilitate conversations between these two groups and help get North America on the road to truck electrification.

Why Utilities?

Utilities are key partners for fleets considering deploying electric vehicles, as their policies regarding physical infrastructure build-out and electricity rate design will be vital to the success of vehicle charging.

Utilities come in many shapes and sizes, ranging from investor-owned to owned by members as part of a cooperative and from service areas covering relatively small, rural areas to multi-state territories. They are generally highly regulated when it comes to resource planning and tariff structures, and many are eager to see increased electricity demand from charging electric vehicles.

While many utilities have experience supporting light-duty electric vehicles, medium- and heavy-duty trucks have [unique charging requirements](#) that necessitate innovative solutions. Fleets will need to begin the electrification conversation with utilities very early, understanding the substantial timelines required for planning, construction, and interconnection of new charging infrastructure. While there is no one-size-fits-all solution to charging, there is a roadmap that fleets considering deploying electric vehicles can follow to ensure a cost-effective charging strategy.

Fleets should be prepared to discuss the following with utilities:

- Long-term electrification plans, anticipated power needs, and draft site infrastructure design.
- Costs and timelines for building out “make-ready” infrastructure to support charging.
- How the location of the electric service on-site may impact site design.
- What fees fleets can expect for electricity, including any time-of-use and/or demand charges.

Know Your Partners

There are more than 3,000 power utilities in North America, so understanding which ones to work with and how to connect is key.

Trucking fleets may need to work with multiple utilities with different coverage areas, each of which may have its own transportation electrification policies and plans, infrastructure and funding programs, as well as rate structures.

Many utilities are members of trade organizations such as [NRECA](#), [EPRI](#), [EEI](#), [APPA](#), and [SEPA](#), all of which are thinking about advancing transportation electrification at a high-level. NACFE can help connect trucking fleets to these organizations.

Fleet Managers Meet Facility Managers

Fleet managers will likely need to partner with facility managers, who already interact with the local utility that provides power to the depot, distribution center, or warehouse. Each fleet will have an account manager at their local utility, who can help connect them with appropriate programs and funding sources for electric truck charging infrastructure. NACFE and RMI are able to provide [guidance](#) on how best to work with utilities to advance electrification objectives.

Some utilities offer guidance of their own for fleets, such as the [EV Charging Guidebook for Medium- and Heavy-Duty Fleets](#), sponsored by Southern California Edison and Pacific Gas and Electric.

Electric Truck Resources

Given all the activity in the drive to a zero-emissions future for transportation, NACFE has published five detailed guidance reports to help fleets and utilities understand freight electrification. They are available as free downloads.

- [Electric Trucks: Where They Make Sense](#) – This report explores how electric trucks compare to traditional internal combustion engine (ICE) trucks. Truck payload versus the weight of batteries is one example of tradeoffs analyzed.
- [Medium-Duty Electric Trucks: Cost of Ownership](#) – This report identifies 20 key factors for growth in this evolving market. The work includes a separate total cost of ownership spreadsheet tool to analyze the cost trade-offs for ICE trucks versus battery electric vehicles (BEVs).
- [Charging Infrastructure for Electric Trucks](#) – The report focuses on what fleets have to consider when it comes to charging their BEVs. The size of battery packs and the frequent use of trucks makes recharging far more challenging than it is for passenger cars.
- [Viable Class 7 & 8 Electric, Hybrid & Alternative Fuel Tractors](#) – This report looks at the alternative options for tractor-trailers as the industry traverses the near-term “messy middle” of trucking seeking a cleaner and more efficient future.
- [Making Sense of Heavy-Duty Hydrogen Fuel Cell Tractors](#) – This report looks at the dominoes that need to fall in place to accurately predict the future for fuel cell vehicles.

Beyond buses and urban delivery vehicles, the next obvious market segment for electrification is in regional haul operations. NACFE has published a report on such fleets, [More Regional Haul: An Opportunity for Trucking](#). This is a detailed overview on this significant growing segment of the trucking industry.

NACFE is also the team behind the [Run on Less](#) demonstrations. To date there have been three events in 2017, 2019 and 2021. Run on Less – Electric, conducted in September 2021, was a real-world electric truck technology demonstration, featuring 13 trucks driving real routes and carrying real freight in BEVs.

As part of Run on Less – Electric, NACFE conducted the [Electric Truck Bootcamp](#), which consisted of 10 electric truck education sessions on topics including charging, working with utilities, incentives, maintenance and more.

The many [videos](#) created from the three Run on Less events are a great way to learn more about fleets that participated in the Runs.

Working Together

NACFE is engaged with various trade groups, and we welcome opportunities to work directly with utility companies. We conduct [workshops](#) to bring all interested parties together for an open discussion. Our schedule of appearances and events can be found on our [website](#) and in our [newsletters](#). NACFE welcomes opportunities to collaborate and educate. We also want to field your questions because we are more impactful when we can see the situation through your eyes.

Please contact our director of industry engagement, [Dave Schaller](#) for initial conversations. Or visit us online at www.NACFE.org.



www.nacfe.org

The North American Council for Freight Efficiency (NACFE) works to drive the development and adoption of efficiency enhancing, environmentally beneficial, and cost-effective technologies, services, and operational practices in the movement of goods across North America. NACFE provides independent, unbiased research, including Confidence Reports on available technologies and Guidance Reports on emerging ones, which highlight the benefits and consequences of each, and deliver decision-making tools for fleets, manufacturers, and others. NACFE partners with RMI on a variety of projects including the Run on Less demonstration series, electric trucks, emissions reductions, and low-carbon supply chains.