



A UTILITY COMPANY PRIMER ON COMMERCIAL TRUCK ELECTRIFICATION

Freight electrification is opening new opportunities and challenges for both the trucking industry and utilities. Both groups need to show flexibility to innovate business solutions that allow both to be successful in this evolving market. Utilities, trucking companies, truck manufacturers, charging infrastructure companies, and governments will need to collaborate closely to realize the full potential of electrification in the transportation of goods.

The transportation industry, like the utility industry, is highly regulated and constantly faces significant challenges. An [annual report from the American Transportation Research Institute](#) outlines what fleets see as their top challenges, and electrification is not on that list — yet. However, NACFE has identified electrification as one of the primary fleet concerns for future trucks. Starting the communication process early is key.

However, in the past these industries have not partnered closely. The [North American Council for Freight Efficiency](#) (NACFE) and our partner organization [RMI](#) are uniquely positioned to help facilitate the conversation and help you begin working with fleets as they begin to integrate electric trucks into their operations.

Understand The Basics

Commercial trucks are dramatically different from passenger cars and light trucks. They are capital investments, just like machinery in factories, and are tools used to move freight for profit. Return on investment is closely monitored, and reliability is critical. These trucks are custom-designed machines built to complete a specific task as efficiently as

possible and are uniquely built with thousands of options needed to perform their special roles.

Within the heavy-duty truck market there are several specialized segments:

- Long-haul trucks (with sleepers for multiple days or weeks on the road),
- Regional haul trucks (return home nearly every day), and
- Vocational trucks that serve construction sites and other on-/off-road applications.

Just as utility companies vary in their service territories and the functions they perform, fleets vary widely in their operations, equipment and practices. Some fleets will have a three-year trade cycle for trucks while others will run them until the end of their life, often 10 to 15 years.

NACFE publishes an annual report on [fleet adoption of new technologies](#). Think of these [technologies](#) as range extenders; more efficiency, more range, less anxiety!

Know Your Partners

There are more than 990,000 for-hire truck fleets in North America and more than 3,000 utilities, so how do you meet the fleets in your service area?

- Join your state trucking associations. These organizations are made up of fleet leaders and are a great way to meet many smaller public and private fleets, some with as few as one truck.
- For a more national list of the major fleets, start with the CCJ's [Top 250 Trucking Companies](#) and Transport Topics' annual [Top 100 Fleets](#) with a variety of categories such as for-hire, private, less-than truckload, among others.
- Keep in mind that large national fleets may have terminals and distribution centers in many states, not just at their headquarters.

Truck Manufacturers

For decades, the list of truck manufacturers remained steady, but recently a large number of new companies have entered the market. To stay up to date in this changing marketplace, we recommend the [“Zero-Emissions Technology Inventory”](#) tool from CALSTART.

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 [NRECA](#), [EPRI](#), [EEI](#), [APPA](#), and [SEPA](#) on electrification 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.



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.