

## Truck Stop Electrification



**With idle reduction laws in force** in 38 states or jurisdictions, long-haul truck drivers are seeking cost-effective options for ensuring personal safety and comfort during mandated rest stops. Now they can plug in instead of idling their engines.

*"The ROI is fairly quick. Even if a truck driver spends \$2,000 to upgrade their system, payback is going to be within six months."*

*—Alan Bates, Vice President of Marketing,  
Shorepower Technologies*

While parked, long-haul truck drivers can plug into the grid instead of idling their truck or auxiliary engines to power their truck's heating, air conditioning, and accessories. Truck stop electrification, or TSE, sites exist in almost every state.

With TSE, trucking operations can reduce fuel and maintenance costs, saving 40%–70% on operating costs. A Class 8 long-haul truck burns roughly 1–1.5 gallons per hour when idling. Therefore, a truck will consume roughly \$30 of fuel idling during a 10-hour overnight rest stop, assuming diesel at \$3 per gallon. If that truck plugs in to electricity, the fuel cost will be closer to \$10, assuming electricity at \$1 per hour. Plugging in instead of idling engines also reduces local emissions and noise, and provides a quiet, vibration-free rest stop for the driver.

There are two approaches to TSE: onboard and off-board systems. In a truck equipped with onboard electrification capability, a driver plugs into a pedestal in the parking space that delivers 120 VAC and 208 VAC power. The truck carries its own separate electrical and HVAC systems onboard. A retrofit costs \$50–\$2,000. Off-board TSE systems provide the HVAC and electrical service on overhead gantries or large pedestals adjacent to each parking space. A truck driver attaches a framed control system with ventilation tubing to the driver's side window. Such systems require no modification to the truck, but more electrical infrastructure at the truck stop.

A single pedestal to supply 208/120 VAC 3-phase power to an onboard TSE system and 480/277 VAC three-phase with a step down for a TRU will require 100 amp service. A truck stop may install 6–12 pedestals per location.

Typical Input Demand for Onboard Systems: 1.5 kW  
Average Annual Energy Usage: 3,750 kWh



TSE can also power electric-standby transport refrigeration units and generators, or “gen-sets.”

### Truck Stop Electrification Manufacturers

Brand Name	Supplier	Contact Information
AireDock	American Idle Reduction, LLC	<a href="http://www.airedock.com">www.airedock.com</a>
CabAire	Control Module Industries, LLC	<a href="http://www.controlmod.com/cabaire">www.controlmod.com/cabaire</a>
IdleAir	IdleAir	<a href="http://www.idleair.com">www.idleair.com</a>
Shorepower	Shorepower Technologies	<a href="http://www.shorepower.com">www.shorepower.com</a>



### Additional EPRI Resources

Available for download at [www.epri.com/ET](http://www.epri.com/ET).

*Commercial and Industrial Guide to Electric Transportation*, 2015, ID# 3002004898

This 16-page color brochure introduces the electric vehicles and equipment that are currently in use or being demonstrated, and the opportunities for further electrification in commercial and industrial applications.

### Contact Information

For more information contact Andra Rogers, Sr. Project Manager, Electric Transportation at 650.855.2101 ([arogers@epri.com](mailto:arogers@epri.com)).

EPRI Customer Assistance Center at 800.313.3774 ([askepri@epri.com](mailto:askepri@epri.com)).

### Electric Power Research Institute

3420 Hillview Avenue, Palo Alto, California 94304-1338 • PO Box 10412, Palo Alto, California 94303-0813 USA  
800.313.3774 • 650.855.2121 • [askepri@epri.com](mailto:askepri@epri.com) • [www.epri.com](http://www.epri.com)