

Truck Stop Electrification

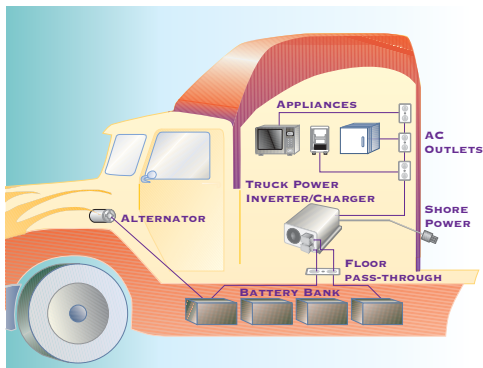


What is Truck Stop Electrification (TSE)?

Historically truck drivers idle their engines about 8 hours a day, or as much as 1,800 hundred hours annually, as they rest to comply with federal safety regulations.

Under federal law, truckers must rest 8 hours for every 10 hours of driving. During this rest period, truck drivers often idle their engines to operate air conditioning, heat, or on-board appliances such as a television or microwave. Idling also keeps engines and fuel warm in cold weather.

TSE is a technology solution with two ways to reduce extended truck idling: on-board and off-board. On-board TSE combines battery storage on the truck with recharging at truck stops to power truck electric appliances. These applications include electric heaters and air conditioning units. Off-board technologies provide heating and air conditioning infrastructure at truck stops. An overhead unit supplies cool or warm air to the truck cab by a hose connection. In addition to basic heating and cooling services, TSE users can purchase internet access, movies, and satellite programming. Both on-board and off-board technologies allow the trucks to turn off their engines.



*On-board Electric Truck Idle Reduction System
Graphic courtesy of the Sacramento Municipal Utility District*

What are the benefits of TSE?

TSE reduces petroleum consumption, air pollution, and greenhouse gas emissions. TSE reduces 1,800 gallons

of diesel fuel, 5 tons of oxides of nitrogen, and 21 tons of carbon dioxide per truck annually. By 2006, the private TSE network in California has reduced emissions by over 6,000 metric tons. Since June 2003, when the first truck stops along Interstate 5 in California featured Advanced TSE, over 400,000 gallons of diesel fuel have been saved in 500,000 hours of operation.



*Off-board IdleAire Service Module
Photo courtesy of IdleAire Technologies Corp.*

How is TSE implemented in California?

The emerging TSE network at California truck stops feature on-board and off-board solutions. IdleAire Corporation of Knoxville, Tennessee is the developer and operator of the most popular off-board system.



*Off-board Truck Stop Electrification Station
Photo courtesy of IdleAire Technologies Corp.*

Utilities and other companies offer battery packages, inverter technologies, and electric appliances for on-board truck use. Some projects are co-funded with government grants.

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*Ripon Off-board TSE Station
Photo courtesy of IdleAire Technologies Corp.*

What vehicles benefit from TSE?

Long-haul trucks that idle for long periods of time use TSE to save fuel, reduce emissions, and save engine wear and tear, and reduce driver fatigue.



*On-board TSE Service Station
Photo courtesy of Shurepower, LLC.*

Where are TSE facilities available in California?

Seven truck stop facilities in California feature TSE infrastructure and services. IdleAire Corporation, the major TSE infrastructure developer and service provider, plans to use TSE in 10,000 truck parking spaces in California. To locate truck stops featuring IdleAire's TSE services, visit IdleAire at <http://www.idleaire.com>.

How much does TSE cost the truck owner?

TSE service providers charge truck owners \$1.25/hour to \$1.75/hour for the basic heating and cooling services based on different utility rates at the truck stop locations. Internet access, movies, or educational programming cost extra.



*Off-board Truck Stop Electrification
Photo courtesy of IdleAire Technologies Corp.*

What types of TSE projects has the Energy Commission supported?

The Energy Commission facilitates meetings, provides technical support, and regulatory guidance to TSE project owners to encourage reduced truck idling in California and the West Coast.



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