



Electric Combination Short-haul Trucks

Cleaner, Cheaper, Ready

There are numerous operational advantages associated with electric trucks, such as reduced maintenance and lower fuel costs that can help offset their upfront sticker price. There are also incentives in the form of grants, which can lower the Total Cost of Ownership, making electric trucks more cost competitive. Because electric trucks eliminate tailpipe emissions, they have become an increasingly attractive choice among fleets and policymakers looking to address local air quality concerns, while also reducing noise and carbon pollution.

Electric combination short-haul trucks have lower lifecycle costs than diesel

There are several reasons electric combination short-haul trucks boast a lower TCO than their diesel equivalent.

- **More fuel-efficient:** Diesel combination short-haul trucks can drive 7.80 miles per gallon, whereas an electric truck can drive 19.92 miles per diesel gallon equivalent — making them almost 60% more energy efficient.
- **Less maintenance:** Electric trucks have fewer rotating and moving parts, requiring less maintenance, adding to their competitive cost advantage.
- **Higher annual savings:** Combination short-haul trucks are a prime candidate for electrification because the more you drive, the more you save. With a driving average of 300 days per year (6 days of operation per week) at an average of 200 miles of daily range, the upfront cost of switching to electric can be earned back in a short time.
- **Operational flexibility:** Because electric trucks are silent, operators have more flexibility in scheduling deliveries, especially in areas with special zoning laws and noise ordinances. Companies may be able to shift their hours of operation and delivery windows to be more efficient, spending less time in peak traffic and thereby completing more runs.

Costs of Diesel vs. Electric Transit Bus Based on 2018 prices

Diesel



Battery



Environmental Defense Fund analyzed¹ the life cycle costs of a diesel versus battery electric transit bus and found that the TCO of one electric transit bus is 12% lower over that bus's 12-year lifetime. This TCO is projected to fall further with advancements in batteries and other EV-related technologies.

The combination short-haul truck is a class 8 heavy-duty vehicle and an essential component of the country's transportation system and is used to transport cargo and other goods.

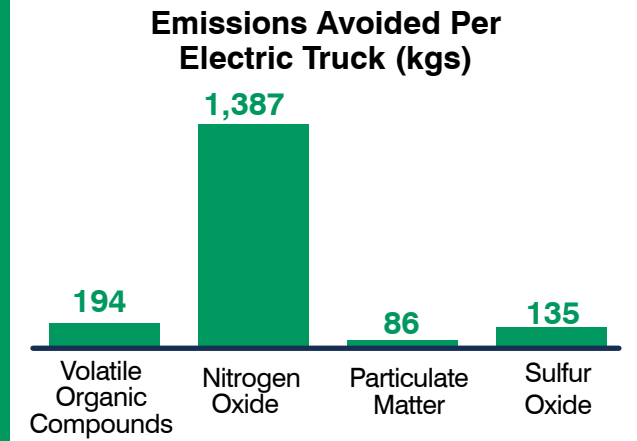


¹ The total cost of ownership component breakdown comparing a diesel and electric transit bus. The fuel costs and the O&M cost counterbalances the high upfront cost associated with an electric bus.

Public Health Benefits of Electric Short-haul Trucks



Each electric truck prevents
1321 metric tons
of climate pollution



Corporate leaders demonstrate electric is the future

- Big fleet operators such as **Walmart**, **PepsiCo**, **UPS**, **FedEx** and **DHL** have placed advanced orders for **Tesla's** Semi, which has a range of 500 miles and recharges 400 miles in approximately 30 minutes.
- The eCascadia by **Daimler** focuses on port drayage and regional distribution, with a range of up to 250 miles and the ability to recharge up to 80% in about 90 minutes.
- **BYD's** 8TT Class 8 Electric Semi is part of **Anheuser-Busch's** Oakland, CA distribution operations with a range of 124 miles of driving with a full load.

Pollution from diesel-fueled combination short-haul trucks causes serious harm to human health that can lead to higher rates of asthma, heart attacks and premature death. The impact of this transportation pollution is usually concentrated in urban areas and major freight hubs, such as distribution centers and port facilities, which frequently border or are located in disadvantaged communities.

Moreover, poor air quality poses a serious risk to employee health — with coughs, sore throats, asthma attacks and more sick days likely to become frequent. This costs the global economy [\\$225 billion dollars](#) every year in lost labor income. Cities that have severe air pollution problems will increasingly be seen as a less desirable place to work and live — thereby negatively impacting job recruitment.

Switching to electric trucks would not only address the tailpipe emissions that lead to poor air quality in communities, it would also dramatically decrease the life cycle greenhouse gas emissions of combination short-haul trucks, depending on the electricity generation mix.

EDF analyzed* the life cycle emissions of replacing a single diesel truck with battery electric and found that the life cycle emission reductions are significant. Moreover, if the electric vehicle is charged with electricity generated completely by renewable energy, the life cycle pollutants and GHGs are almost negligible. This is significant, as these pollutants contribute to poor air quality that can cause serious health problems.