



Hurdles to Commercial ZEV Adoption -- Further Analysis Needed

January 12, 2024

Issue: On April 12, 2023, the Environmental Protection Agency (EPA) proposed a new rule that targets fleet-wide greenhouse gas (GHG) reductions for model year (MY) 2027-2032 heavy-duty vocational and road tractor vehicles.¹ The rule requires large numbers of battery, plug-in hybrid, and fuel cell zero emission vehicles (ZEVs) for those model years.

Less than 1% of commercial vehicle sales today are ZEVs. The truck industry is concerned that the ZEV targets are too aggressive for the current market and will result in higher prices, job loss, delayed fleet turnover, and reduced customer choice. Below are some obstacles that the EPA's aggressive rulemaking did not sufficiently consider:

Comparing Capabilities of Diesel and Electric Commercial Vehicles

	Diesel	Electric (ZEV)
<i>Fuel Type</i>	Diesel fuel is widely available with over 145,000 fueling stations nationwide. ² Each station has multiple pumps and diesel fuel is available at over half (over two-thirds in some parts) of the nation's fueling stations. ³	A national commercial charging network does not currently exist. Truck buyers are unlikely to buy vehicles without a reliable public refueling infrastructure designed for commercial ZEVs.
<i>Range</i>	The current range of most diesel Class 8 trucks is 1,000-1,500 miles.	The average range for a Class 8 electric truck is about 150 miles. ⁴
<i>Time</i>	A diesel truck can take as little as 15 minutes to refuel. This is a critical difference when truck drivers operate under strict "hours of service" rules (maximum of 11 hours driving after 10 consecutive hours off duty). ⁵	A long-haul ZEV can take up to 10 hours to charge.
<i>Weight</i>	Diesel trucks are designed to be as light as practicable for purposes of fuel efficiency. A typical diesel day-cab weighs about 15,600 pounds,	An electric day-cab with 200 miles of range weighs about 22,000 pounds. ZEV trucks with a 350-mile range and a larger battery can weigh 29,000 pounds without a driver and trailer. The payload of heavier ZEV trucks is less than a comparable diesel, and since trucks are subject to strict federal weight limits it will increase the number of trucks on the road, increase congestion, and create more wear and tear on the road. ⁶
<i>Affordability</i>	The average cost for a diesel-powered vehicle is \$180,000.	A typical electric Class 8 truck today costs roughly \$400,000.

¹ For a [rule](#) of this magnitude, an Advance Notice of Proposed Rulemaking (ANPRM) is typically issued first to collect data and prepare for a viable rule. However, an ANPRM was not issued, and an extension of the 50-day comment period was denied by EPA. By comparison, EPA took five years to finalize its previous Phase 2 GHG Rule.

² American Petroleum Institute, [Service Station FAQs](#), (April 6, 2023).

³ Engine Technology Forum, [Petroleum Fuels](#)

⁴ American Trucking Associations, [Regulators have put the cart in front of the horse](#), (April 19, 2023).

⁵ Id.

⁶ Heavy Duty Trucking, [What Fleets Need to Know about Electric-Truck Batteries](#), (April 11, 2022).



Cost Analysis: The EPA uses the Heavy-duty TRUCS tool to estimate cost parity as the primary driver for fleet adoption. However, the EPA's cost estimates do not account for costs such as the 12% federal excise tax (potentially \$50,000), state sales tax, or greater insurance premiums that are levied when purchasing a new truck.⁷

Additionally, EPA's upfront vehicle cost differences between diesel and electric utilize overly optimistic assumptions. For example, the upfront cost difference for an electric sleeper cab versus a diesel is projected to be approximately \$15,000 more in nine years.⁸ By comparison, the difference between an electric Class 8 truck today and a comparable diesel-powered vehicle is approximately \$220,000.

Recommendation: Unlike light duty vehicles, commercial trucks are business tools owned and operated mostly by small businesses that must "pencil out" to be purchased. Electric trucks need to be affordable, reliable and meet the performance needs of the truck buyer. The EPA must conduct additional truck market analysis to revise their ZEV mandate and establish a realistic timetable and viable sales penetration targets. Additionally, the federal government must ensure investments are made in commercial charging infrastructure to meet the trucking industry's needs before regulating diesel trucks out of existence.

⁷ [Bipartisan Letter](#) to EPA Administrator, Michael S. Regan, regarding concerns with the proposed EPA GHG Phase 3 Rule (July 18, 2023).

⁸ FreightWaves, [Can EPA's electric truck proposal survive political scrutiny](#), (May 29, 2023).