HB 5039: Medium & Heavy Duty Vehicle Emission Standards FAQ

Q: What is HB 5039?

A: HB 5039 allows the Department of Energy and Environmental Protection (DEEP) to adopt two regulations to reduce emissions from medium and heavy duty vehicles (MHDVs) and guarantees a minimum supply of zero-emission trucks and buses that can be sold in Connecticut. The Advanced Clean Trucks (ACT) rule requires that truck and bus manufacturers produce and sell a minimum percentage of zero-emission MHDVs annually. The Heavy Duty Omnibus (HDO) rule requires that Nitrogen Oxide (NOx) emissions (which are deeply health damaging) from MHDVs be reduced significantly.

Q: What is the ACT rule?

A: The ACT rule was modeled after the light-duty Zero Emission Vehicle (ZEV) standards that Connecticut has adopted. This rule will help Connecticut reach its climate and clean air goals by guaranteeing Connecticut access to a global market of electric trucks and buses, by requiring manufacturers to sell a minimum percentage of these vehicles annually to our state. The ACT rule, if adopted, would go into effect in 2026 and begins with a very modest sales requirement of 10-13 percent and ramps up annually over time. The ACT rule provides Connecticut with extreme flexibility and is designed for an evolving market with segments in different electrification suitability stages, leaving time for technology to improve, the supporting ecosystem to mature, and vehicle prices to decline. We can expect significant advancements in range and efficiency in the intervening years, expanding suitability for a wider spectrum of zero-emission vehicle uses and classes. The rule also provides manufacturers the opportunity to earn early credits between now and 2026 to meet the requirements, and allows credit trading between manufacturers and between most truck classes, accounting for vehicle size, enabling manufacturers to shift credits from truck segments ripe for electrification to those that are less suitable.

Q: What is the HDO rule?

A: The HDO rule strengthens NOx and PM emission standards for new fossil fuel trucks. This rule was derived from nearly a decade of rigorous research and analysis demonstrating that the new engine control requirements are not only technically feasible but cost-effective methods of emissions reduction. The HDO rule is expected to cut NOx emissions from MHDVs by 75 percent below current standards beginning in 2024 and 90 percent in 2027. In addition to cleaning up NOx, the proposed rule ightens PM pollution controls by adopting a more stringent standard that aligns with current industry certifications. Similar to the ACT rule, the HDO rule also provides credit trading for manufacturers.

Q: How does the ACT and HDO rule complement each other?

While the ACT rule works year-over-year to gradually increase the supply of zero-emission trucks and buses, diesel trucks and buses will continue to be sold in the interim. The HDO rule addresses this by limiting toxic air pollution from these diesel trucks and buses. The ACT and HDO rules are two sides of the same coin: together, they collectively enable a state's long-term vision of a zero-emission truck and bus fleet and address toxic pollution in the near-term.

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Q: Why does Connecticut need to pass HB 5039?

A: Under the Clean Air Act that Congress passed in 1963, only California has the authority to adopt emissions standards that are different from federal standards. No state can adopt their own emissions standards. However, states like Connecticut can choose to adopt different standards by following what California has adopted. Under Connecticut's constitution, legislative approval is required to promulgate rulemakings. HB 5039 would grant the state and DEEP the authority to proceed with adoption of the ACT and HDO rules.

Q: Why are these rules important?

A: The transportation sector accounts for 37.4% of greenhouse gas emissions in Connecticut, and trucks and buses are the worst offenders of air pollution by disproportionately contributing to NOx, CO2, and PM2.5 in Connecticut. Although MHDVs in Connecticut account for 6 percent (210,000 registered MHDVs) of all vehicles on the road, they disproportinately emit 25% of the greenhouse gas emissions, 53% of the NOx emissions, and 45% of the PM emissions from all on-road vehicles. Exposure to these criteria pollutants are linked to asthma, bronchitis, cancers, and premature deaths. A recent national report, Asthma Capitals 2021, ranked New Haven (#5) and Hartford (#17) among the 100 largest U.S. cities where it is most challenging to live with asthma.

Q: Are zero-emission trucks and buses feasible?

A: Yes. The majority of registered MHDVs in Connecticut fall in the class 2b category, which has the most readily available zero-emission technology today. These include trucks such as minibusses, small delivery trucks and utility vans. There are currently over 500 makes and models of zero-emission trucks and buses from class 2b - class 8, and many companies have made orders. Connecticut has already deployed electric buses throughout the state, with orders for up to 75 more within the next five years. Lastly, the largest global truck manufacturers Daimler, Volvo, and Ford have all made international commitments to have all MHDV sales be zero-emission by 2040, while large fleet owners and operators such as Amazon and Walmart have committed towards transitioning their fleets to be all-electric by 2040. While these commitments are significant, regulations are necessary to solidify this transition in the most timely way possible.

Q: How will the ACT and HDO rules benefit Connecticut?

A: The ACT and HDO rules are a triple win for climate, public health, and our economy. According to a Connecticut ACT and HDO analysis, the ACT and HDO rules together will reduce Connecticut NOx emissions by 86% and PM emissions by 27%. The rules would also lead to hundreds of avoided premature deaths and hospital visits, and more than 57,000 avoided minor illnesses. Together, this amounts to around $1.2 billion in health savings. On the greenhouse gas front, the rules are projected to eliminate almost 16 million metric tons of carbon dioxide cumulative through 2050.. Lastly, Connecticut's economy will also benefit from the savings that zero-emissions M/HD vehicles will bring to truck operators

and businesses—nearly $470 million annually in 2050—along with increased electric utility revenue and air quality and climate benefits.

Q: Will fleets just pre-buy or purchase their trucks and buses elsewhere?

Not necessarily. When reviewing market growth in response to 2007 and 2010 federal engine standards and implementation of the 2014 Phase 1 fuel efficiency and emissions standards. Pre-buying was short-lived and small in volume, indicating that fears of mass purchase of more polluting vehicles before implementation of a standard may not come to fruition. In fact, trucks purchased in 2014 were higher than any year since 2005. The bottom line is rather than seeing fleets buy dirtier, ostensibly cheaper vehicles in a panic, there is clear evidence that no meaningful adjustment in market purchasing occurs as a result of truck standards – fleets recognize the cost savings over time of cleaner vehicles and do not seem inclined to ignore those benefits to reap the marginally lower purchase price of polluting vehicles while they still can. New research also shows cost parity between fossil combustion engine trucks and zero-emission trucks by 2027.

Q: Will the rule benefit or hurt small fleet owners?

A: These rules will benefit small fleet owners. By having the ACT and HDO rule, manufacturers will compete against each other to fulfill their requirements and overall costs of zero-emission trucks will decline, and small businesses and school districts will benefit from increased availability and choice. Additionally, these rules only regulate manufacturers, directing them to provide a minimum supply of zero-emission trucks and buses and to increase emissions control of diesel trucks and buses that will be sold to Connecticut. **These rules do not require anyone to purchase these vehicles.**

Q: Don't we need charging infrastructure first?

A: States will need to develop infrastructure to support a full transition to a zero-emission fleet, but none of this needs to happen overnight. HB 5039 will provide market clarity for those tasked with building and upgrading our infrastructure. Without these rules, utilities and charging companies will lack guidance on the charging demands and needs of the state and where to invest and prioritize. Additionally, Connecticut will receive support from the federal government from the infrastructure bill, which allocates $5 billion towards states to develop charging infrastructure. Connecticut will receive $56 million in formula funding over the next five years and can apply for additional funding from the $2.5 billion discretionary grant program to upgrade and install new charging stations.

Q: What if Connecticut does not adopt these rules?

A: Manufacturers will sell their zero-emission trucks and buses to other states and Connecticut will be left out entirely. Currently, California, Oregon, Washington, New York, New Jersey, and Massachusetts have all adopted the ACT rule.

These states represent over 20 percent of the nationwide truck and bus fleet. This means manufacturers will shift all zero-emission sales to those states, since for every zero-emission vehicle sold in a state without the regulations HB 5039 will provide, means one less vehicle for them to reach compliance in states with these regulations. The momentum is strong, making this a great time for Connecticut to add its name to the list of states making headway on reducing this dangerous pollution.