State of Oregon
# Department of Environmental Quality Memorandum

**Date:** March 7, 2025

**To:** Environmental Quality Commission

**From:** Leah Feldon, Director

**Subject:** Agenda item C, Informational item: Clean Truck Rules 2025
March 13-14, 2025, EQC meeting

**Why this is important**

The Oregon Department of Environmental Quality will provide an overview of Oregon's standards for medium- and heavy-duty vehicles. The presentation will include a review of Oregon's strategy to address climate pollution, a history of the Clean Truck Rulemaking, a discussion of key issues surrounding the Advanced Clean Trucks regulation, and DEQ's current process to update the rules.

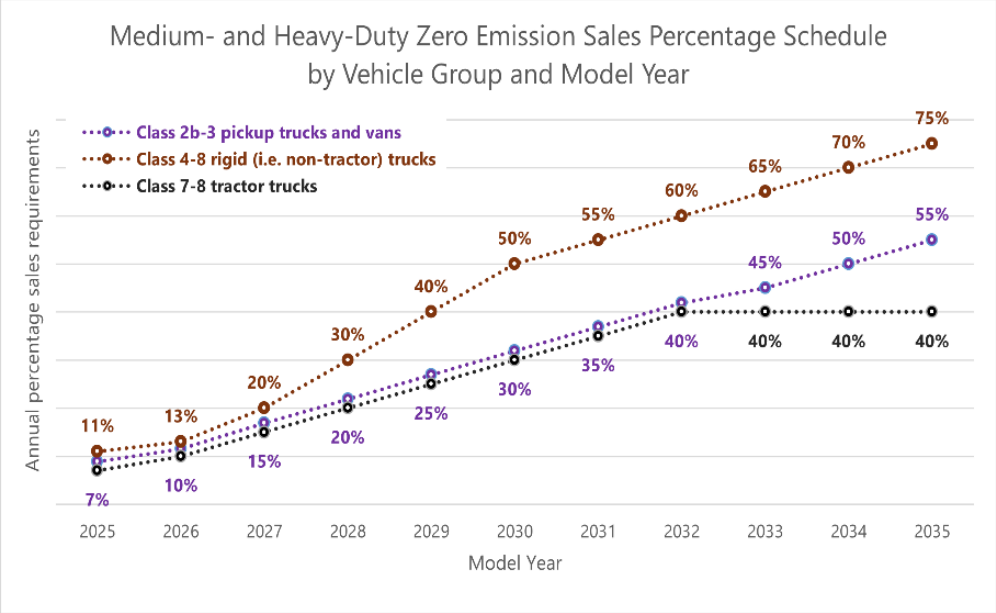
In Oregon, transportation accounts for approximately 35% of all greenhouse gas emissions in the state. Oregon's fleet of medium- and heavy-duty vehicles is currently responsible for an estimated 9.3 million metric tons of greenhouse gas emissions annually. Emissions from trucks are one of the fastest growing sources of greenhouse gas emissions, and the number of truck miles traveled on the nation's roads is projected to continue to grow significantly in the coming decades. This fleet also contributes the largest share of fine particulate matter and oxides of nitrogen pollution. Communities that are exposed to these emissions suffer disproportionately from, or are at higher risk of, a variety of health conditions including lung, heart, nervous system and developmental diseases. The pollution reductions associated with the Clean Truck Rules will reduce exposure to vehicle pollution in communities throughout Oregon, including in low-income and disadvantaged communities. With truck freight mileage projected to grow over the next decade due to rapid growth in e-commerce and home delivery of consumer goods, pollution from trucks presents an increasingly greater public health risk, especially to the frontline and overburdened disadvantaged communities.

**Background**

The EQC first adopted the Clean Truck Rules, which established more stringent emission standards for medium- and heavy-duty vehicle manufacturers in late 2021. These rules reduce emissions from new medium- and heavy-duty trucks sold in the state. The adoption of the California Air Resources Board (CARB) Advanced Clean Trucks (ACT) and Heavy-Duty Engine and Vehicle Omnibus rules (HD Omnibus) were two of the rules adopted under that rulemaking.

<u>Advanced Clean Trucks Rule</u>
The ACT rule requires medium- and heavy-duty vehicle manufacturers to sell zero-emission vehicles (ZEV) or near zero-emission vehicles (NZEV) as a certain percentage of sales, beginning with the 2025 vehicle model year in Oregon (Figure 1). It applies to vehicles over 8,500 lbs and manufacturers must increase their percentage of zero-emission truck sales each year depending upon the class size of the truck.

Figure 1:




The sales numbers are based on vehicles produced and delivered for sale in Oregon. It establishes a credit and deficit system, like the existing framework for zero-emission passenger cars and light-duty trucks, where manufacturers accrue deficits based on their total truck sales and generate credits through the sale of ZEVs or NZEVs.

The rules include several flexibilities for manufacturers to comply with the rule. In addition to earning credit for delivering a ZEV or NZEV for sale in Oregon, manufacturers can also:

- Purchase credits from other manufacturers
- Use credits earned from their own early ZEV truck sales since 2022. Based on early truck sales reported to DEQ, almost half of the credits are available to satisfy all Class 2b-3 and Class 4-8 non-tractor compliance for 2025.
- Trade credits among most vehicle classes. A manufacturer can focus on producing Class 2b-3 ZEV delivery vans and earn credits from these vehicles. These credits can be used to meet the ZEV requirements for Class 2b-3 or Class 4-8 vehicles. However, they cannot be used to meet Class 7-8 tractor requirements.

Recently, California adopted changes to its Advanced Clean Trucks program to incorporate commitments made between CARB and the truck manufacturers in the Clean Truck Partnership.[1] The changes include additional compliance flexibilities for manufacturers including:

- Increasing the deficit makeup period. This is the period allowed a manufacturer to make up for any shortfall in meeting their required zero-emission vehicle (ZEV) sales targets. If a manufacturer doesn't sell enough

[1] CARB and the Truck and Engine Manufacturers Association Agreement (Clean Truck Partnership), July 2023, accessed on 2/5/2025. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-07/Final%20Agreement%20between%20CARB%20and%20EMA%202023_06_27.pdf

ZEVs each year to meet the regulation, they can carry over up to 30% of the deficit balance each year for up to 3 years to make up the shortfall.
- Using near-ZEV credits to satisfy up to 50% of the ZEV sales requirements.
- Clarifying how manufacturers can earn credits, which will now be based on ZEVs delivered for sale. Previously, ZEVs had to be delivered to the final purchaser for a manufacturer to claim the ZEV credit.

The EQC recently adopted these changes as temporary rules in November 2024, to ensure these compliance flexibilities were incorporated early enough for manufacturers to take advantage of them with the implementation of the rules for the 2025 vehicle model year. The adoption of the temporary rule also ensured Oregon's program maintained identicality with California's rules, as required under Section 177 of the federal Clean Air Act.

Heavy-Duty Engine and Vehicle Low NOx Omnibus Rule

The HD Omnibus rule requires manufacturers to deliver lower-emitting conventionally fueled (e.g., gasoline, diesel, natural gas) new engines for sale in Oregon. For engines sold during 2024-2026, certified compliant engines would be required to reduce oxides of nitrogen, or NOx, emissions by 75% and to reduce particulate matter emissions by 50%. Further reductions in emissions from medium- and heavy-duty engines will be required in 2027. The rules also include longer warranty periods and updated engine and vehicle testing procedures.

The HD Omnibus Rule was initially intended to be implemented beginning with engine model year 2024. However, a one-year delay was adopted under a temporary rule by the EQC in November 2023 due to significant amendments adopted by California in 2023. The delay allowed DEQ to incorporate those amendments in a subsequent rulemaking in July 2024 to maintain identicality. Additionally, uncertainty over when compliant engines would be available from manufacturers in 2024 would have created significant restrictions to the supply of new medium- and heavy-duty vehicles. Continued discussions with manufacturers in 2024 indicated ongoing challenges with the availability of Omnibus-compliant engines and DEQ recommended temporary rules to the EQC to further delay implementation until 2026. These temporary rules were adopted in November 2024.

**Authority to establish new vehicle emission standards**

The federal Clean Air Act grants the US EPA authority to establish emissions standards for new motor vehicles, including heavy-duty diesel trucks. Section 209(a) of the federal Clean Air Act (42 USC § 7543) prohibits states or other political subdivisions, such as local or regional governments, from establishing emission standards for new motor vehicles. However, there is an important exception: Section 177 (42 USC § 7507) allows states to adopt new motor vehicle emissions standards that are identical to standards adopted by the state of California if California has received a waiver from the U.S. Environmental Protection Agency to promulgate its standards. This is an authority that over a dozen states, Oregon included, have exercised.

Additionally, ORS 468A.360 provides authority to the Environmental Quality Commission to establish motor vehicle emissions standards. It is under this authority, and consistent with the federal Clean Air Act, that Oregon has adopted motor vehicle emissions standards for new vehicles, such as the adoption of California's light-duty

Low- and Zero-Emissions Vehicle regulations.

The adoption of California standards by other states amplifies the environmental impact of the rules by ensuring they are applied to more new vehicles. It also ensures Oregon keeps pace with its neighbors and has access to the cleanest, lowest-emitting technologies.

**Key issues**

DEQ has heard several concerns surrounding the requirements for new medium and heavy-duty (MHD) engines and vehicles, with most of them focused on the Advanced Clean Trucks Rule. These include the following:

1) Availability and suitability of ZEV trucks: There are currently over 190 Class 2b-8 MHD ZEV models from 66 different manufacturers available for sale in the U.S. including medium-duty trucks, heavy-duty tractors, cargo vans, yard tractors, refuse trucks, and school buses. Concerns about the readiness of ZEVs for specific applications (e.g., long-haul trucking) are being mitigated by advancements in battery technology and hydrogen fuel cells. These innovations improve range, payload capacity, and reliability, making ZEVs more competitive with diesel trucks. As manufacturers continue to develop technologies for different types of trucks, the rule includes flexibility for manufacturers to strategically focus on vehicle models that are most suitable for electrification.

2) Availability of public charging infrastructure: The ACT ZEV sales requirements "were based on the assumptions of return-to-base operations where infrastructure would be installed by the fleet." [2] In other words, the ACT regulation was not designed to rely on the availability of public charging, which would allow the market to expand faster than required by the regulation. However, many medium and heavy-duty vehicles drive less than 100 miles per day and can be electrified with only depot charging, or return-to-base operations, such as urban delivery vans, drayage trucks, and school buses.

   Oregon is building up the necessary infrastructure to support EV charging, through a number of different programs, including:
   - The 2022 Legislature provided $15 million to fund the Oregon Zero Emission Fueling (OZEF) grant program. DEQ has used this program to fund 14 private and publicly available medium- and heavy-duty charging projects throughout the state. This includes charging for public works fleets, buses, shipping yard equipment, refuse trucks and a publicly available medium- and heavy-duty charging facility, near Salem. The latter project is expected to support the charging needs of 40,000 trucks annually and is scheduled to be complete late next year.
   - The federal Charging and Fueling Infrastructure Grant is a $102 million multi-state grant to support public electric charging stations and hydrogen stations along Interstate 5. Oregon is receiving $21 million to install two publicly accessible medium- and heavy-duty charging stations and one hydrogen fueling station along our portion of the corridor.

[2] CARB, ACT Final Statement of Reasons, March 2021, at page 124, accessed on 2/5/25. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2019/act2019/fsor.pdf.

- The National Electric Vehicle Infrastructure (NEVI) funding is dedicated to ensuring public fast charging is available every 50 miles on alternative fuel corridors. While the project primarily supports light-duty vehicle charging the sites can also support medium-duty vehicle charging.

3) Dealers challenged by purchase mandates being imposed by manufacturers: The rules do not require the sale of a new MHD ZEV in any vehicle sector prior to selling a diesel vehicle in that sector. Manufacturers can utilize flexibilities in the rule such as selling more ZEVs in one category while selling less of another. Certain specialty vehicles may not have a ZEV option available. In those cases, manufacturers would need to sell more MHD ZEVs in other categories to meet their total sales percentage requirements. Manufacturers can either produce a MHD ZEV or purchase credits and continue to sell diesel vehicles to dealers.

4) Cost of ZEV trucks and adequacy of Oregon's incentives: The overall total cost of ownership of MHD ZEVs is generally expected to be lower than a diesel due to decreased operation and maintenance costs. ZEVs have fewer moving parts, do not require oil changes, and utilize regenerative braking to reduce brake wear.[3] However, a California Air Resources Board analysis shows some manufacturers are selling zero-emission trucks in the U.S. at significantly higher prices than in Europe (up to 30% higher). In 2024, U.S. zero-emission tractors averaged $88,828 more to purchase than in Europe, despite falling battery prices in both markets.

   The state is offering numerous incentives in 2025 to help fleets make the transition to cleaner emitting trucks. There is approximately $31 million available to support MHD ZEV purchases under the following programs:
   - **Medium- and Heavy-Duty Zero Emissions Rebate Program (ZERO Fleet Program):** Oregon's newest medium and heavy duty zero emission vehicle rebate program will launch in 2025. Rebates will be offered between $2,500 to $120,000, depending upon the class size of the vehicle. Forty percent of this funding goes to trucks located in communities disproportionately affected by diesel pollution. The 2023 Legislature authorized $3 million for the program and Oregon received an additional $14 million through EPA's Climate Pollution Reduction Grant for a total of $17 million.
   - **Diesel Emissions Mitigation Grant Program:** Grant program to scrap old diesel equipment and replace with cleaner alternatives. While the replacement vehicles are not required to be strictly ZEV, all projects are ZEV eligible, including funding for depot charging infrastructure. State funding for 2025 is ~$8 million. See here for a list of select MHD ZEV projects Oregon DEQ has funded with this program.
   - **Scrap and Replace MHD ZEV Grant Program:** New grant program based on Diesel Emissions Mitigation program to scrap old diesel equipment and replace with only ZEV replacements. A total of $4.8 million is available for the program through EPA's Climate Pollution Reduction Grant.

[3] International Council on Clean Transportation, "Total Cost of Ownership of Alternative Powertrain Technologies for Class 8 Long-Haul Trucks in the United States", April 2023, available at: https://theicct.org/publication/tco-alt-powertrain-long-haul-trucks-us-apr23/

- **Clean Fuels**: A market-based program that provides credits for low-carbon transportation fuel used in Oregon. Owners of chargers that service on road (light-, medium-, and heavy-duty) vehicles and non-road vehicles and equipment can generate CFP credits when they report how much electricity is dispensed to EVs on a monthly basis. The credits can be sold to other program participants, and the revenue can be used at the discretion of the charger owner, which includes the purchase of additional EVs or charging infrastructure.

While these incentives and grants provide opportunities to bridge the upfront cost differential between ZEVs and diesels, more funding for these programs is needed to encourage more widespread adoption of MHD ZEVs in the future.

5) Delaying ACT impacts communities who face the highest exposures to diesel pollution: Trucks are a major source of greenhouse gas emissions and air quality pollutants, thus affecting the health of those in marginalized communities who live near high-traffic areas. The deployment of zero-emission trucks is a critical strategy for reducing emissions of criteria air pollutants, such as smog-forming nitrogen oxides (NOx) and fine particulate matter (PM2.5), to achieve and maintain federal air quality standards that are in place to protect public health. While medium- and heavy-duty trucks account for just 4% of vehicles on the road nationally, they generate 25% of vehicle related emissions on a national scale and 23% in Oregon.

   These pollutants exacerbate asthma and other cardio-respiratory illnesses, especially in children and older adults, leading to additional doctor and emergency room visits, missed days of school and work, and increased risk of premature death. Delaying the ACT ZEV sales requirements that are planned to begin this year hinders the air pollution reduction benefits that come along with those deployed ZEVs for communities living closest to our major roadways.

6) Delaying ACT undercuts manufacturers that are delivering ZEVs to Oregon: Manufacturers that have positioned themselves to deliver new vehicles in the MHD zero-emission market would be unfairly penalized by a delay. Companies that have already committed to meeting Oregon's zero-emission targets would face diminished returns on their investments, while manufacturers that have been slower to adapt would gain additional time to catch up without penalty. This creates an uneven playing field and discourages innovation. These manufacturers are investing heavily in production capacity, supply chain development, and infrastructure partnerships to meet growing demand for clean transportation solutions.

7) Delaying implementation of the ACT rule could divert ZEVs to other states: Delaying the ACT Rule disrupts the clear regulatory framework MHD ZEV manufacturers rely on for planning production schedules and market deployment. Without certainty, manufacturers may deprioritize Oregon in favor of states with clearer timelines and commitments, leaving Oregon with fewer vehicle options and a less competitive market.

8) Delaying implementation of the ACT rule could compromise Oregon's

competitiveness for infrastructure funding: MHD ZEV adoption is closely tied to investments in local infrastructure, such as charging stations, grid upgrades, and hydrogen refueling stations. Delaying the rule risks chilling these investments by creating uncertainty in the pace of vehicle adoption. Companies may pause or scale back infrastructure projects, delaying job creation in the clean transportation sector and reducing opportunities for Oregon workers in emerging industries.

**EQC involvement**

At this time, no action is required by EQC. DEQ has begun a rulemaking to propose permanent rules that would replace the temporary rules adopted by the commission in November 2024. As part of the rulemaking process DEQ will also consider:

- The impacts of ACT implementation in Oregon.
- Additional ACT and HD Omnibus compliance flexibilities that may be available which might ease market pressure in certain vehicle classes or sectors.

As that rulemaking moves forward, proposed rule revisions will be brought before the Commission for consideration.

Transforming to a zero-emission transportation system equitably requires a coordinated and collaborative approach. This involves the development of a robust charging and fueling network and implementation of a suite of incentive programs for clean trucks and funding for charging and fueling options. DEQ is working closely with the Oregon Department of Transportation and the Public Utilities Commission to plan and develop the necessary public infrastructure to support the medium and heavy-duty ZEV truck transition

**Next steps**

On March 4, 2025, DEQ Director Feldon received a letter from Governor Kotek (see Attachment A), providing direction to the agency to "develop a solution for Class 7 and 8 trucks that considers the current circumstances while still maintaining the integrity of the ACT program for all other classes." In response to this direction, DEQ is developing proposed concepts for discussion by a Rules Advisory Committee and the commission. One option under consideration is a system of issuing proportional sales credits which can help address the ongoing compliance challenges currently facing Class 7-8 tractor trucks

In a proportional sales credit system, Oregon would provide a starting credit balance for each automaker proportional to their zero-emissions vehicle sales credits earned in California. This allows for a smooth transition for vehicle manufacturers to meet the ZEV sales percentage requirements. Instead of requiring automakers to meet the full percentage of ZEV sales from day one, they get these credits added to their ZEV account.

The proportional credits concept is something Oregon has experience with when we implemented the Advanced Clean Cars regulations. ACC is the ZEV requirement for passenger cars and light duty trucks and proportional credits worked well in the early years of the program.

DEQ plans the following actions in the coming months for this proposed rulemaking:

- February – March 2025: Convene Rule Advisory Committee meetings to discuss

the proposed rulemaking and solicit feedback on the fiscal and economic impacts. Included is a discussion about the challenges and potential solutions in implementing the rules.

- DEQ's Rule Advisory Committee is comprised of representatives from the regulated community, environmental groups and the general public. The committee evaluates rule impacts, recommends changes and advises DEQ in the development of the proposed rules. The RAC membership for this rule is:

| Name | Affiliation |
|---|---|
| Carrie Nyssen | American Lung Association |
| Ty Kelly | Beaver Coach Sales |
| Ray Clayton | City of Portland |
| Brett Morgan | Climate Solutions |
| Michael Graham | Columbia-Willamette Clean Cities Coalition |
| Matthew Spears | Cummins |
| Sean Waters | Daimler |
| Don Emerson | FMI |
| Jeremy Butzlaff | MTR Western |
| Mary Peveto | Neighbors for Clean Air |
| Tim Miller | Oregon Business for Climate |
| Jana Jarvis | Oregon Trucking Association |
| Jason Muggy | Pape Group |
| Nancy Bennett | PGE |
| Tom Van Heeke | Rivian |
| John Barnes | TEC |
| Zach Kahn | Tesla |
| Timothy French | Truck & Engine Manufacturers Association |
| Sam Wilson | Union of Concerned Scientists |
| Xitlali Torres | Verde |
| Michael Ganny | Watt EV |

- April – May 2025: Request for public comment and public hearing.
- July 2025: DEQ brings proposed rules to EQC.

**Attachment** A. Letter from Governor Kotek re: DEQ's Advanced Clean Trucks Regulation (March 4, 2025)

*Report prepared by Rachel Sakata and Eric Feeley*
*Transportation Strategies Section, Air Quality Division*

**Translation or other formats**

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