

**KEY FACTS FOR
COMMUNITY MEMBERS**

UNDERSTANDING THE

Advanced Clean Truck Rule

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Moving Forward
Network 

Understanding the Advanced Clean Truck Rule

The **Advanced Clean Truck Rule** aims to curb air pollution by requiring the sale of zero-emissions trucks. This fact sheet introduces how states can adopt the rule, what activity it regulates, and how states can ensure the rule is followed.

The **Advanced Clean Truck Rule** is a California-based regulation, first adopted by the state in 2021.¹ The rule sets the foundation for other California-based truck regulations: the Advanced Clean Trucks Rule works to ensure the state has enough zero-emission vehicles available for purchase; the Advanced Clean Fleets helps ensure that these zero-emission vehicles are used. However, the full impact of these rules falls short of meeting the Moving Forward Network's demand that all diesel trucks are off the road by 2045.



DIESEL AND PUBLIC HEALTH:

What harms environmental justice (EJ) communities?

Environmental justice examines the disproportionate impacts of climate change and governmental policy on the physical condition of marginalized neighborhoods.² Diesel engines are an environmental justice issue. They are a prominent source of some of the most common air pollutants in the United States, posing direct threats to human health and the environment.³ Those in EJ communities disproportionately bear these harms:

1

People who live near freight hubs or “diesel death zones”—including ports, highways, warehouses, and rail and intermodal yards—are disproportionately exposed to high concentrations of pollution from the combined activity of diesel-fueled heavy-duty trucks, equipment, rail, and vessels.⁵

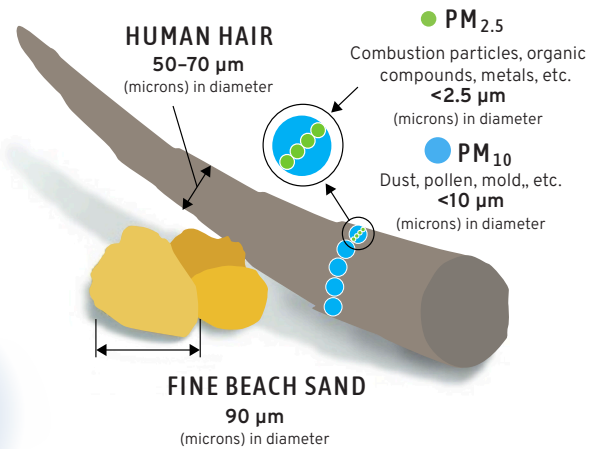
2

Low-income and overburdened communities are more likely to live in areas with higher levels of air pollution⁴ because of historical inequitable zoning practices

DIESEL AND PUBLIC HEALTH:

How Does Particulate Matter Affect Your Body?

COMPARISON OF HAIR, SAND AND PM_{2.5} & PM₁₀ PARTICLES



SOURCE: [A Critical Review on the Effect of Particulate Matter \(PM\) in Air on Public Health](#)

Brain



- Increased brain ischemia

Heart



- Altered cardiac autonomic function
- Oxidative stress
- Increased dysrhythmic susceptibility
- Altered cardiac repolarization



Lungs

- Inflammation
- Oxidative stress
- Accelerated progression and exacerbation of COPD
- Increased respiratory symptoms
- Effected pulmonary reflexes
- Reduced lung function

Blood



- Altered Rheology
- Increased coagulability
- Translocated particles
- Peripheral thrombosis
- Reduced oxygen saturation



Vasculature

- Atherosclerosis, accelerated progression and destabilization of plaques
- Endothelial dysfunction
- Vasoconstriction and hypertension

Source: "[Summary Report of the Aphekom Project 2008-2011.](#)"

DIESEL AND PUBLIC HEALTH:

Common Types of Pollutants

Some common pollutants in the United States include NO_x and particulate matter.

PM

Particulate matter (PM) is made of solids and liquids that are small enough to inhale. Once in your body, particulate matter can enter your lungs and bloodstream, causing health issues such as asthma, heart attacks, and even death for people with pre-existing heart and lung illnesses.⁶

NO_x

NO_x is the collective term for nitrogen monoxide and nitrogen dioxide. Long-term exposure to high levels of NO_x can lead to diseases like bronchitis, worsen the impact of heart disease, and contribute to premature deaths.⁷

GREENHOUSE GASES

Greenhouse gases, primarily CO₂, speed up the rate of climate change by trapping heat in the atmosphere. In the United States, the communities that are most vulnerable to heat-related health impacts are Black and Hispanic communities.¹⁰

HC

Hydrocarbons (HC) are another pollutant that, when mixed with NO_x, create ground-level ozone that can cause long-term lung damage.⁸

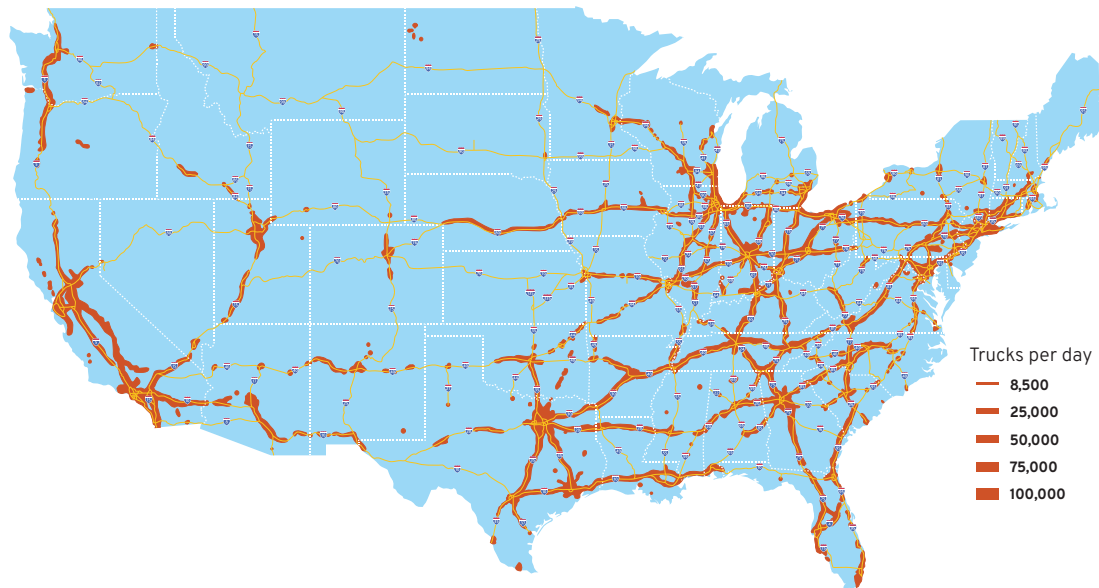
CO

Carbon monoxide (CO) can poison and kill humans when inhaled.⁹

WHY DO WE NEED THE ADVANCED CLEAN TRUCK RULE?

Medium- and heavy-duty trucks are a major source of NO_x and particulate matter emitted by the transportation sector: while only 10% of vehicles on the road are medium and heavy-duty vehicles, 45% of NO_x and 56% of PM_{2.5} (the smallest, most hazardous type of particulate matter¹¹) originate from these vehicles.¹² These emissions worsen community air quality, contributing to increased rates of diseases like asthma and lung cancer within communities near major transportation routes.¹³

Trucking Routes Across the US Carrying 8,500 or More Trucks per Day



Source: American Lung Association. "[Delivering Clean Air: Health Benefits of Zero-Emission Trucks.](#)"

The transportation sector is the largest contributor to man-made greenhouse gas emissions in America.¹⁴ Again, medium and heavy-duty trucks produce a disproportionate share of this pollution: they make up 10% of on-road vehicles but produce 28% of greenhouse gases emitted from among on-road vehicles.¹⁵

Decreasing the number of dirty trucks on the road can help improve community air quality, health, and lessen the speed of climate change.



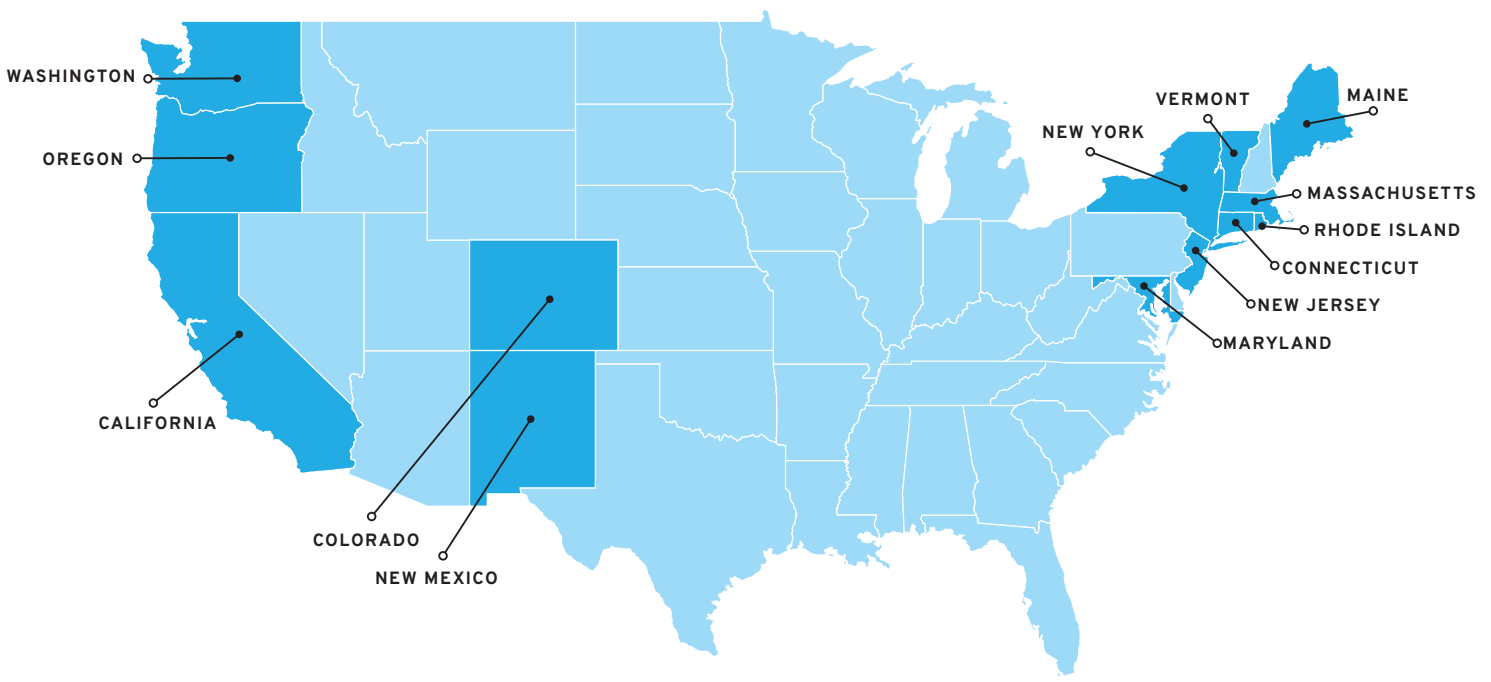
WHO PASSES THE ADVANCED CLEAN TRUCK RULE?

States are responsible for passing the Advanced Clean Fleets Rule.

However, the federal Clean Air Act limits states' ability to adopt their own truck standards. Instead, the Clean Air Act allows California to adopt emission standards that are stricter than federal emission standards because of its long history of regulating cars and trucks due to significant statewide air pollution issues. Once the US Environmental Protection Agency (EPA) approves those California standards, other states can choose whether to adopt the stronger California standards. If states want stronger standards, they can only adopt standards identical to California's.¹⁶



States That Have Made Progress On The Advanced Clean Truck Rule



As of October 2023, thirteen states have adopted or are trying to adopt the Advanced Clean Truck Rule: California, Colorado, Connecticut, Maine, Massachusetts, Maryland, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington.¹⁷









WHAT ACTIVITY IS REGULATED BY ADVANCED CLEAN TRUCK RULE?

Major truck manufacturers must sell a certain percentage of zero-emission trucks. This percentage varies depending on two factors: 1) model year, and 2) weight class.¹⁸ This is known as the manufacturer sales requirement.

Understanding Weight Class

The truck classification system categorizes vehicles into eight ranges. Each class corresponds to a set range of truck weights. For the most part, vehicles in higher weight classes produce more emissions of NOx, particulate matter, and greenhouse gases per mile than vehicles in lower weight classes.¹⁹

TRUCK WEIGHT CLASSES

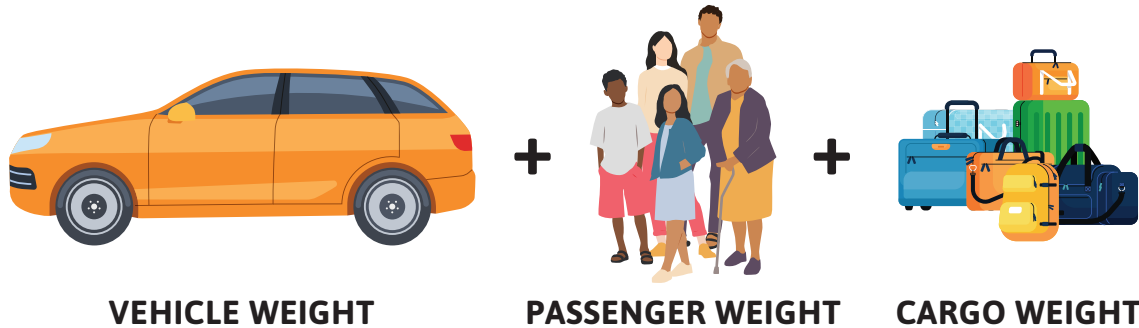
<p>CLASS 1: 6,000 lbs and Less</p>  <p>MINIVAN CARGO VAN SUV PICKUP TRUCK</p>	<p>CLASS 5: 16,001 lbs to 19,500 lbs</p>  <p>BUCKET TRUCK WALK-IN CITY DELIVERY</p>
<p>CLASS 2: 6,001 lbs to 10,000 lbs</p>  <p>MINIVAN CARGO VAN FULL-SIZE PICKUP STEP VAN</p>	<p>CLASS 6: 19,501 lbs to 26,000 lbs</p>  <p>BEVERAGE TRUCK SINGLE-AXLE SCHOOL BUS RACK TRUCK</p>
<p>CLASS 3: 10,001 lbs to 14,000 lbs</p>  <p>WALK-IN BOX TRUCK CITY DELIVERY HEAVY DUTY PICKUP</p>	<p>CLASS 7: 26,000 lbs to 33,000 lbs</p>  <p>REFUSE FURNITURE CITY TRANSIT BUS TRUCK TRACTOR</p>
<p>CLASS 4: 14,001 lbs to 16,000 lbs</p>  <p>WALK-IN BOX TRUCK CITY DELIVERY</p>	<p>CLASS 8: 33,001 lbs and over</p>  <p>CEMENT TRUCK TRUCK TRACTOR DUMP TRUCK SLEEPER</p>

Understanding Gross Vehicle Weight Rating

There are many ways to measure the weight of a truck. The weight class system depends on one specific measurement: gross vehicle weight rating (GVWR). This measurement includes the weight of passengers, cargo, and fuel. It is important to consider the weight of the vehicle and the weight of cargo because **heavier loads of cargo increase CO₂ emissions from trucks.**²⁰

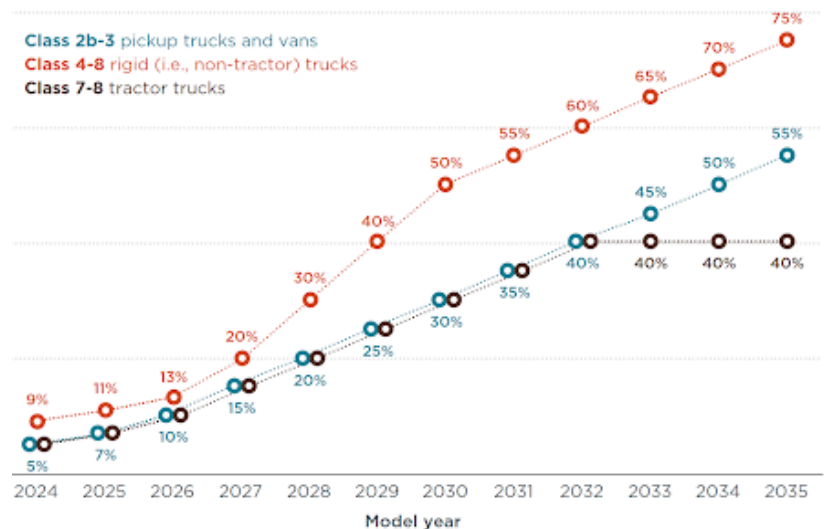
WHAT ACTIVITY IS REGULATED BY ADVANCED CLEAN TRUCK RULE?

WHAT AFFECTS THE GROSS VEHICLE WEIGHT RATING (GVWR)?



Weight Class and the ACT

For the most part, the requirement to sell a certain percentage of zero-emissions trucks increases each year between now and 2035. Manufacturers can follow specific formulas and regulations to count any extra zero-emissions trucks they sell for their sales requirement toward the following years.



Large companies and owners of large fleets must report information about their use of trucks (for sending or receiving shipments, fleet operations, etc.). This is known as the reporting requirement. These reports will give states and advocates data on how to promote the use of zero-emissions trucks and establish future regulations on diesel engines.

- The Advanced Clean Truck Rule requires these entities to report information; it does not require them to buy or use zero-emissions trucks.²¹ California recently adopted the Advanced Clean Fleets Rule, which will require certain fleets to buy zero-emission trucks.

How will the states ensure compliance?

In California, manufacturers can be fined for not meeting their sales requirements in a given year.²² The state can request to view manufacturers' records at any time to ensure they are following the rule.²³



WHAT SHOULD EJ COMMUNITIES KEEP IN MIND?

How are the dirtiest vehicles regulated?

- ✓ Class 7-8 tractor trucks have the **lowest sales requirement** for zero-emissions vehicles. These heavy-duty trucks produce the **most pollution per mile** and **travel more miles per year** than any other vehicles on the road.²⁴ While these trucks are the hardest to power with electricity, their significant emissions make them a critical source of pollution to regulate.²⁵
- ✓ The ACT does not require the use of zero-emission vehicles, only the sale of zero-emission vehicles. Companies drive class 8 trucks for an average of eight years before replacing them, though such trucks can remain on the road for decades. In 2021, **roughly 20% of class 8 trucks on the road were more than 10 years old.**²⁶

How can states make the most of their implementation of the Advanced Clean Truck Rule?

- ✓ The Advanced Clean Trucks Rule does mean that states need to adopt a 100% sales mandate that is “identical” to the California rule.²⁷ However, States can adopt additional reporting periods as part of the rule’s reporting requirement. While only Colorado has adopted more than one reporting period, pushing more states to adopt multiple reporting periods will allow for more comprehensive information about the transition to zero-emissions vehicles.

How can we ensure that EJ communities benefit from truck regulations?

- ✓ The Moving Forward Network demands zero emissions throughout the freight transportation system. The coalition mobilizes grassroots efforts to advocate for policies that require all new trucks are zero-emission by 2035 and retire **all** diesel trucks before 2045.

ENDNOTES

- 1 <https://ww2.arb.ca.gov/rulemaking/2019/advancedcleantrucks>
- 2 <https://www.liebertpub.com/doi/10.1089/env.2021.0075>
- 3 <https://www.ucsusa.org/resources/diesel-engines-public-health>
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- 24 US EPA, "Average In-Use Emissions from Heavy-Duty Trucks", <https://afdc.energy.gov/data/10309>
- 25 <https://blog.ucsusa.org/sam-wilson/california-needs-to-focus-on-electrifying-big-rigs>
- 26 <https://convoy.com/blog/class-8-truck-order-replacement-rate>
- 27 42 U.S.C. § 7507