Ray Minjares
595 Market Street, Suite 1250
San Francisco, CA 94105
ray@theicct.org

26 April 2025

Don Brown, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 W Randolph St, Suite 11-500
Chicago, IL 60601

RE: Proposed Clean Car and Truck Standards: Case number R2024-17

Dear Clerk of the Board:

I am writing to submit comments on the petition to the Illinois Pollution Control Board to adopt California Clean Car and Truck Standards, case number R2024-17.

My name is Ray Minjares and I am Program Director for Heavy-Duty Vehicles at the International Council on Clean Transportation (ICCT). I have twenty years of experience supporting the development of clean transportation policy. During my seventeen years at the ICCT, I have advised government regulators in the European Union, the United States, China, Canada, India, Brazil, Mexico, Indonesia, South Africa and other major vehicle markets on the best practice policies for reducing the environmental and health impacts of the transportation fleet. The ICCT is an independent not-for-profit international research organization founded to provide first-rate, unbiased research and technical analysis to environmental regulators. Established in 2005, ICCT is one of the world's leading technical research organizations on addressing the environmental, health and energy impacts of the transportation fleet.

I support the petition to adopt CARB's Advanced Clean Trucks and Heavy-Duty Omnibus rules. The Advanced Clean Trucks rule requires truck manufacturers to sell an increasing number of zero-emission vehicles. The heavy-duty omnibus rule requires manufacturers to deploy commercially available emission control technology to achieve a 90 percent reduction in nitrogen oxide emissions. These rules represent the international best practice for deploying the cleanest heavy-duty vehicles into the transportation fleet.

Adoption of California rules is a sensible approach for Illinois. The market power of any one state to adopt technology forcing rules is limited, but when multiple states join together their power is multiplied. Illinois benefits from the fact that eleven states have adopted the Advanced Clean Trucks rule and ten states have adopted the heavy-duty omnibus rule. These states in turn will benefit when Illinois joins them. Manufacturers do not wish to lose market share, so their incentive is to serve the growing market for zero-emission vehicles and low-NOx engines that these states are creating. Illinois's participation in this new market through adoption of these rules increases the likelihood of success for all involved.

While each state may embrace its own unique identity, all participate in an international freight system that knows no boundaries. The Illinois International Port District is a key hub in this system, representing a 'no regrets' zone for

investments in freight infrastructure. Illinois' adoption of these rules will drive investment in zero-emission infrastructure that serves this port, benefitting not only Illinois residents but also those fleets outside the state who are more likely to electrify knowing that supportive infrastructure is available.

This international freight system is supported by a small number of multi-national companies who dominate the market for zero-emission trucks. In the class 6-8 market in the United States, Daimler, Volvo, PACCAR, and International account for approximately 90 percent of sales.[1] Cummins is a global manufacturer of engines, accounting for about one-third of engine sales in the United States. These global players have built global supply chains and vehicle production systems.

Policies in China and Europe have already shifted these manufacturers to invest in zero-emission and low-NOx technologies. In 2024, truck manufacturers in China sold 230,000 zero-emission vehicles above 3.5 tonnes.[2] About thirteen percent of sales of trucks larger than 12 tonnes (Class 6+) were zero-emission. Manufacturers sold just over 14,000 zero-emission vehicles above 3.5 tonnes, including about 3,400 above 12 tonnes or 1.2% of the heavy-duty truck market.[3] The European Union has also tightened its emission limits for nitrogen oxides, driving similar emission control technologies California is requiring in its Omnibus rule and in some cases going even further.[4] Illinois can tap into the supply chain for these very same technologies from these very same companies through adoption of the Advanced Clean Trucks and HD Omnibus rules.

The proposed rules are particularly helpful to trucking fleets. The rules are supply-side regulations. The Advanced Clean Trucks rule requires truck manufacturers to sell increasing numbers of zero-emission products. Fleets have greater choice as the portfolio of zero-emission products grows in response to these rules. And since the rules place no requirements on fleets to buy these products, manufacturers must offer a level of price and quality that can compete with existing internal combustion engine technology.

We can already see the benefits of supply-side zero-emission vehicle regulations. California Adopted the Advanced Clean Trucks Rule in 2020. According to CALSTART, 105 zero-emission truck models were available in that year in the United States. In 2025, the number of models has grown to 199.[5] This growth is comparable to the growth in the number of models in the European Union despite the California market being significantly smaller. The larger the potential market, the greater the potential investment by manufacturers in serving it. Illinois adopting the Advanced Clean Trucks rule will expand the potential market, motivating further expansion of the potential pool of diverse, low-cost products.

The truck industry is investing in electrification. Daimler, Volvo, and Cummins are constructing a 21 GWh battery production facility in Marshall County, Mississippi

[1] https://theicct.org/publication/race-to-zero-how-manufacturers-are-positioned-for-zero-emission-commercial-trucks-and-buses-in-north-america/
[2] https://theicct.org/publication/ze-mhdv-market-china-2024-mar25/
[3] https://theicct.org/publication/r2z-eu-hdv-market-development-quarterly-jan-dec-2024-feb25/
[4] https://theicct.org/publication/euro-7-emission-standard-ldv-hdv-eu-mar24/
[5] https://globaldrivetozero.org/tools/zeti-data-explorer/

with a launch date in 2027.[6] Tesla is building a 50,000-unit Semi tractor factory in Nevada to come online in 2026.[7] New businesses providing charging services to electric trucks have launched in just the last 5 years, including WattEV, Forum Mobility, Terawatt Infrastructure, Greenlane, Voltera, EV Realty, and Zeem Solutions. Illinois is more likely to draw investment from these companies if it adopts the Advanced Clean Trucks rule.

In arguably the most hotly contested arena for truck electrification – the Class 8 tractor segment – the number of models is rapidly increasing and manufacturers are offering competitive prices. Just this week International announced the launch of its eRH Class 8 tractor, with 300 kWh and 500 kWH battery capacity.[8] Windrose recently launched a long-haul battery-electric tractor in the United States, advertising a 420 mile range on a single charge.[9] And officials in Sacramento, CA report paying $250,000 for a battery-electric Tesla Semi capable of traveling 1,000 miles in a 24-hour period.[10] Tractors are an attractive vehicle category for electrification because of their high fuel consumption. ICCT estimates that long-haul battery-electric tractors will achieve total-cost-of-ownership parity with diesel by 2027 in Illinois, largely made possible by the availability of megawatt charging whose J3271 charging standard was finalized last month.[11]

But it is important to recognize that the Advanced Clean Trucks rule does not require all trucks in all categories to electrify at once. Manufacturers of class 4-8 straight trucks must electrify their sales at a slightly faster rate than class 2b/3 and class 7-8 tractors.[12] The rule is designed to be met in gradual increments in sales percentages. Manufacturers have flexibility provisions available to them to manage deficits in any given period and CARB has recently expanded these flexibility provisions to give manufacturers greater compliance options.[13]

Charging infrastructure to support these vehicles likewise does not need to be available for all vehicle types in all places all at once. Studies such as one published by European consultant Roland Berger and sponsored by the Clean Freight Coalition make this analytical mistake.[14] ICCT research illustrates how deployment goals can be met by focusing primarily in those areas of the national freight network where freight activity is greatest. These include ports, industrial zones, and freight

---

[6] https://www.paccar.com/news/current-news/2024/accelera-by-cummins-daimler-truck-and-paccar-complete-battery-joint-venture-transaction-to-form-amplify-cell-technologies-and-name-new-ceo/

[7] https://www.ttnews.com/articles/tesla-earnings-q4-2024

[8] https://www.truckinginfo.com/10239721/international-introduces-class-8-erh-electric-truck

[9] https://www.truckinginfo.com/10239421/windrose-releases-ev-sleeper-cab-for-north-america?utm_source=newsletter&utm_medium=email&utm_campaign=20250424_1705:680959b869108f2b2a06c20c:ot_NL-HDT-HeadlineNews-Thursday-20250424&omid=&cid=67a6e97701c6c58bf5001a75

[10] https://www.sacbee.com/news/business/article274186280.html and https://www.atlasevhub.com/weekly-digest/over-600000-miles-driven-during-run-on-less-electric-2023/

[11] https://theicct.org/publication/tco-alt-powertrain-long-haul-trucks-us-apr23/ and https://www.sae.org/standards/content/j3271_202503/

[12] https://theicct.org/publication/californias-advanced-clean-trucks-regulation-sales-requirements-for-zero-emission-heavy-duty-trucks/

[13] https://ww2.arb.ca.gov/rulemaking/2024/advancedcleantrucks

[14] https://www.cleanfreightcoalition.org/new-report-pegs-cost-electrifying-us-commercial-truck-fleet-1-trillion

corridors.[15] These 'no regrets' zones present the greatest business opportunity for investment because of the potential for high utilization. Likewise fleets are most likely to electrify in these areas because high vehicle utilization will deliver more rapid payback on the vehicle purchase. Cook County will be a primary target for fleets and charging service providers for investment. ICCT finds that Cook County, IL is in the top ten counties nationwide for projected MHD charging infrastructure demand in 2030. [16]

Fleets also benefit from the supply-side design of the heavy-duty omnibus rule. All truck manufacturers must comply with the same emission standard, just as they have for all previous engine emission standards. By requiring all manufacturers to meet the same level of performance on the same schedule, manufacturers pool their investments in the supply of critical emission control components. This scaling of investment puts significant downward pressure on the cost of the emission control upgrades and ensures a level playing field for all.

Importantly, the heavy-duty omnibus rule contains a provision to increase the durability of emission control systems. Prior to the adoption of the heavy-duty omnibus rule, emission warranties typically were 5 years or 100,000 miles. [17] The omnibus rule now requires manufacturers to extend this warranty to ten years and as much as 600,000 miles by 2031, ensuring the emission control system is fully functional for a greater (although still incomplete) share of the full life of the vehicle. Without such a provision, diesel trucks risk becoming super polluters for the majority of their operational lifetime.

The trucking industry is proud of its historical progress in reducing its pollution. But the fact is that all of this progress is a direct product of both California and federal emission control regulations that require manufacturers to deploy this technology. The industry does not deploy it voluntarily. And only by virtue of the threat of penalties for non-compliance has the industry delivered emission reductions and claimed credit for them. Their efforts should be applauded, but also placed in the context in which they were achieved.

Unfortunately the emission control rules on internal combustion engines are not fool proof. The industry has made significant errors in judgment that call into fundamental question the limits of internal combustion engines to deliver durable air quality improvements. In January 2024, the US EPA and California announced a 1.675 billion dollar civil settlement with Cummins, the largest diesel engine manufacturer in the United States. Cummins admitted to the installation of 'defeat devices' that circumvented emissions testing and certification requirements of the U.S. EPA.[18] In a more recent example, Hino Motors agreed to plead guilty to engaging in a multi-year criminal conspiracy to submit false and fraudulent engine emission testing and fuel consumption data to EPA, including regularly altering emission test data, conducting tests improperly and fabricating data, and failing to disclose software that could adversely affect engines' emission control systems.[19]

---

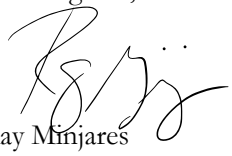
[15] https://theicct.org/deploy-charging-infrastructure-in-no-regrets-freight-zones-and-corridors-to-keep-us-commercial-truck-electrification-aligned-with-climate-goals-dec23/
[16] https://theicct.org/publication/infrastructure-deployment-mhdv-may23/
[17] https://theicct.org/publication/california-us-hdv-omnibus-reg-jan22/
[18] https://www.epa.gov/newsreleases/united-states-and-california-announce-diesel-engine-manufacturer-cummins-inc-agrees
[19] https://www.epa.gov/newsreleases/hino-motors-toyota-subsidiary-agrees-plead-guilty-and-pay-over-16b-resolve-emissions

The value of the civil and criminal penalties reached between Hino and federal agencies is over 1.6 billion dollars. ICCT maintains its own monitoring of real-world performance of heavy-duty vehicles and continues to find other manufacturers with suspicious emissions behavior.[20] The only durable solution to the vulnerability of internal combustion engines is a transition to zero-emission vehicles.

In summary, the Board has the opportunity to join the international transition to cleaner vehicles. The Advanced Clean Trucks rule places requirements on vehicle manufacturers to sell an increasingly diverse, higher quality, and lower cost lineup of zero-emission products that respond to the needs of fleets. The heavy-duty omnibus rule advances new internal combustion emission controls to deliver up to a 90 percent reduction in nitrogen oxide emissions and extend the historic emission control progress the industry has made to-date. I encourage the Board to adopt these international best practices for controlling emissions from heavy-duty vehicles in Illinois.

I thank the Board for your kind attention. Please do not hesitate to contact me with any comments or questions.

Kind regards,



Ray Minjares
Program Director, Heavy-Duty Vehicles
Managing Director, ICCT San Francisco

[20] https://theicct.org/publication/rw-nox-emissions-diesel-pickup-trucks-us-2023-update-oct24/

From: Ray Minjares
To: Brown, Don
Subject: [External] R2024-17 COMMENT - International Council on Clean Transportation
Date: Monday, April 28, 2025 12:53:08 AM
Attachments: image001[37].png
image002[40].png
image005[53].png
image006[69].png
image007[57].png
image008[12].png
image009[58].png
image010[95].png
image004[59].png
image003[100].png
Comment ICCT R2024-17.pdf

Dear Clerk of the Board,

Please accept the attached comment on behalf of the International Council on Clean Transportation with respect to proposed adoption by the Illinois Pollution Control Board of the Advanced Clean Trucks and Heavy-duty Omnibus regulations in the State of Illinois.

Ray Minjares

Managing Director, ICCT San Francisco
Program Director, Heavy-Duty Vehicles
Mobile +1 510 529 1647
595 Market Street, Suite 1250, San Francisco CA 94105

icct
THE INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION