MEMO

TO:	Michelle Buffington, Division Chief for Mobile Sources, California Air Resources Board
CC:	Chris Grundler, Deputy Executive Officer for Mobile Sources and Incentives, California Air Resources Board
FROM:	Ray Minjares, San Fancisco Managing Director and Heavy-Duty Vehicles Program Director, International Council on Clean Transportation
DATE:	8 July 2025
RE:	Suggestions to support CARB response to Executive Order N-27-25

In light of multiple actions by the federal government to rescind pre-emption waivers previously granted to California, Governor Newsom has requested state agencies to recommend additional actions to advance progress on zero-emission vehicles. The ICCT has compiled suggestions to advance zero-emission commercial vehicles, drawing from our international experience and research in major vehicle markets around the world. This memo summarizes for California Air Resources Board staff the ideas we suggest be considered in their response to the Governor, including ideas outside of CARB authority that require legislative approval.

SUGGESTED ACTIONS TO ADVANCE CLEANER COMMERCIAL VEHICLES

1. Preserve and protect existing heavy-duty vehicle charging and zero-emission vehicle truck purchase incentives available from the Low-Carbon Fuels (LCFS) Standard

The Air Resources Board adopted amendments to the LCFS in November 2024 that dramatically increase the available incentives to zero-emission commercial vehicles. ICCT estimates the combined energy and infrastructure credits now available can generate approximately $8.4 billion ($3.8 - $15.3 billion) in funding for charging infrastructure between 2025 and 2035 under various credit price scenarios. Additional funding for point-of-sale medium- and heavy-duty vehicle (MHDV) rebates under the re-established Clean Fuel Rewards Program could provide an additional $0.41 ($0.22 - $0.88) billion in funding for the MHDV sector over the next decade. ICCT will release a detailed analysis of these incentives in a forthcoming publication due this summer. We welcome the opportunity to brief staff on our analysis ahead of publication.

2. Revise the California Clean Truck and Bus Voucher Incentive Program to drive down the cost of zero-emission commercial vehicles

While the program has successfully distributed over one billion dollars in purchase incentive vouchers, its impact is limited by rising costs of certain vehicles. The commercial vehicle market is accustomed to very little price transparency, which creates challenges for incentive program managers. Fleet customers without access to free and publicly available pricing information are at a disadvantage in negotiations with suppliers who control pricing information. This imbalance puts pricing power in the hands of suppliers, who can demand higher incentive amounts.

The program can use its buying power to correct this imbalance and encourage lower prices in the following ways:

- Require manufacturers to disclose a suggested retail price of each product to qualify for an incentive;
- Define incentive amounts based on a fixed proportion of the manufacturer suggested retail price, and not on the final purchase price of the product;
- Require dealerships cashing in each voucher to report the final price of each vehicle sold and to provide additional information, including the vehicle identification number and battery capacity;
- Do not allow participation of dealers who will not share pricing and vehicle specifications due to non-disclosure agreements that restrict the sharing of this information;
- Make available a database or a report of final transaction prices updated regularly, including the distribution of prices by make, model, model year, GVWR, body type, and battery capacity;
- Coordinate with other states to harmonize the collection and reporting of market pricing data, drawing from vehicle purchase incentive programs and other sources of pricing information;

The program can innovate in other ways to drive down prices. Here are some examples:

- Target an upfront price equal to at least 1.5x the price of an equivalent internal combustion engine vehicle to come within range of TCO parity;
- Consider restructuring incentives based on time or volume. Provide a predictable ramp-down of the incentive following a time schedule (80% of incremental at year 1, 70% at year 2, etc) or a volume schedule (80% of incremental on first 1,000 units, 70% on next 1,000, etc.).
- Consider tailoring the incentive to product specifications. Favor standardized products whose production is scaleable over customized ones whose production is not. Favor products based on meeting performance benchmarks such as price per kWh/kg to favor higher energy density batteries, price per kWh/mile to favor more energy efficient vehicles, and price per KWh/hour to favor faster charging speeds.[1]

3. Develop a bulk purchase incentive program targeting high priority fleets in order to drive up sales volumes of zero-emission commercial vehicles

The greatest opportunities to drive down prices of zero-emission vehicles exist with large commercial fleets. These fleets traditionally make large volume purchases of new vehicles and re-sell them into the secondary market after 5 years. Without the Advanced Clean Fleets rule to require high priority fleets to shift their purchasing decisions, the state needs creative alternative solutions to encourage this shift.

The state can support large volume purchases in the following ways:

- Issue a Request for Information to identify customers who are prepared to participate in a bulk purchase program consisting of at last 1,000 units;
- Meet individually with fleet representatives to identify the financing needs necessary to deliver a positive net present value on the purchase of zero-emission vehicles. Work with state and private financing partners to secure the grants and loans needed to support all of the financing needs presented by the customers. Work with state and local government partners to harmonize qualification criteria, incentive stacks, and application processes;

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[1] Our team has followed China's approach to designing incentives tailored to technology performance. For our latest research, see Jin, L. (2023) Accelerating new energy vehicle uptake in Chinese cities: A 2023 policy update in a post-subsidy era. Washington, DC: International Council on Clean Transportation, December. Available at https://theicct.org/wp-content/uploads/2023/12/ID-24-%E2%80%93-NEVs-2023-briefing-A4-70114-v4_final.pdf

- Consider supporting a reverse auction to drive down prices for these customers. Reverse auctions in the solar industry provide a model for this approach. In a reverse auction, high volume buyers define their vehicle specifications and the timeline for delivery. Sellers then compete for the sale by bidding progressively lower prices until the auction closes. The seller offering the lowest price secures the deal. This approach encourages price discovery and direct competition between suppliers, lowering prices for everyone. (Reverse auctions may not be appropriate for small volume purchases and highly customized products.);
- Meet individually with fleet and charging service operator representatives to understand the charging facilities intended to support the vehicles being purchased and the obstacles to delivering this within 12 months. Define these and other facilities as 'critical infrastructure' in line with CARB ZEV deployment forecasts. Ensure CPUC regulatory approval, utility investment, and accelerated permitting by state, regional, and local government authorities to deliver 'critical infrastructure' in a timely manner.

4. Develop a revenue-neutral and self-funding Clean Commercial Vehicle Sales Incentive Program[2]

Supply-side regulations are at the heart of California's policy strategy to transition the vehicle fleet to zero-emission technologies. The Advanced Clean Car and Advanced Clean Fleet rules require manufacturers to sell a growing proportion of vehicles using dedicated electric drive powertrains. But the federal government is upending this approach by rescinding an EPA pre-emption waiver necessary for California to implement these rules. If the state is unsuccessful at defending its waiver, new supply-side strategies will be necessary.

One option the state can consider is a market-based program of self-funding and revenue-neutral pollution charges and sales incentives applied to vehicle manufacturers. This Clean Commercial Vehicle Sales Incentive Program would have the following structure:

- State regulators select (1) a single performance-based measure of pollution – such as grams of CO_2 per mile; (2) a pollution charge – such as the value of each gram of CO_2 emitted per mile; and (3) a benchmark pollution level that identifies clean and dirty vehicles – such as an absolute amount of grams of CO_2 emitted per mile;
- Manufacturers pay a pollution charge or receive a fiscal incentive based on the net difference in the value of the pollution charges or incentives across the mix of vehicles they sell in a given year. All manufacturers pay into or receive from a common fund managed by the state or an independent third party;
- As emissions in the fleet decline, state regulators adjust the pollution benchmark lower to ensure lower total fees are matched by lower total incentives to maintain a revenue-neutral system;
- All vehicles, including internal combustion engine vehicles, receive incentives but zero-emission vehicles receive the largest incentives;
- The state can use existing authority to adopt a system of fees and incentives without federal approval.

5. Consider extending the Clean Miles Standard to regulate contractors of freight services

CARB and the California Public Utilities Commission (CPUC) jointly implemented the Clean Miles Standard in response to Senate Bill 104. CARB provided its vehicle emissions expertise to support the PUC with the

[2] Minjares, Ray (2025) A clean commercial vehicle sales incentive that costs nothing. Washington, DC: International Council on Clean Transportation. Available at https://theicct.org/a-clean-commercial-vehicle-sales-incentive-that-costs-nothing-jul25/

authority to regulate transportation network companies (TNCs). The regulation requires TNCs to achieve annual targets for zero-emission miles until they reach 100% zero-emission by 2030.

CARB can consider extending this regulatory framework to freight carriers, but the agency requires a new partner. Since 2018, the PUC no longer regulates for-hire freight carriers. This authority now rests with the Department of Motor Vehicles. Using its authority to issue Motor Carrier Permits to any person or business operating a vehicle with a gross vehicle weight rating of 10,000 lbs or more, the DMV currently has the authority under Vehicle Code Section 34623 to deny a motor carrier permit for safety violations, drug and alcohol testing violations, and failure to prove financial responsibility. The DMV also has authority to deny a permit under Vehicle Code Section 8800 for operating a 'mechanically unfit or unsafe' vehicle. Extending the Clean Miles Standard to freight carriers would require legislation to extend the DMV's authority to deny motor carrier permits on the basis of failure to comply with a minimum share of zero-emission operations as defined by CARB under a Clean Miles Standard. The approach would need to ensure the standard does not unduly burden interstate commerce and is non-discriminatory in order to survive legal challenges.

6. Eliminate state vehicle license fees on zero-emission commercial trucks and buses

In their first year, owners of zero-emission trucks and buses can pay more in total fees to the state than owners of internal combustion engine vehicles pay. The highest fee electric trucks and buses pay to the state is the vehicle license fee (VLF), which is a function of the value of the vehicle. Electric vehicles cost more to purchase than diesel ones, so they pay higher VLF. The higher VLF offsets the benefits of favorable treatment from other fees, including favorable weight fees and exemptions from the Cargo Theft Interdiction Fee, Smog Fee, and Clean Truck Check fee.

The state can address this unfavorable treatment by reducing or eliminating the VLF for a temporary period. ICCT illustrates how countries in Europe, such as Norway, have eliminated vehicle fees to promote zero-emission vehicles.[3] Such policies can also be self-balancing, imposing relatively small fees on internal combustion engine vehicles to replace the unrealized revenue from the elimination of zero-emission vehicle fees. Over time as the market matures, fees can be reimposed on zero-emission vehicles but at a level lower than that of internal combustion engine vehicles in order to maintain a market signal favorable to zero-emission vehicles.

SUGGESTED ACTIONS TO ADVANCE INFRASTRUCTURE DEPLOYMENT

1. Inform state planning on where, when and how much infrastructure to deploy

The Governor's executive order re-affirms clear goals for achieving zero-emission transportation in commercial fleets by 2045. These goals shape multiple CARB rules, including Innovative Clean Transit, Advanced Clean Trucks, Advanced Clean Fleets, and others. Despite the successful adoption of these rules, their implementation has not been sufficiently supported by a parallel effort to proactively deploy commercial vehicle charging infrastructure and ensure timely energization of charging facilities within 12 months of a request.

[3] Wappelhorst, S., Mock, P., and Yang, Z. (2018) Using vehicle taxation policy to lower transport emissions: An overview for passenger cars in Europe. Berlin, Germany: International Council on Clean Transportation. Available at https://theicct.org/wp-content/uploads/2021/06/EU_vehicle_taxation_Report_20181214_0.pdf

The Clean Miles Standard illustrates how CARB and the PUC can work together to advance vehicle electrification policy. A similar approach is needed to ensure utilities are energizing truck charging facilities within 12 months.

The state can speed up the process in the following ways:

- Maintain a proactive grid plan, communicating the latest locations, timelines, and capacity needed on distribution circuits to support forthcoming truck charging facilities. ICCT can provide support to state agencies based on its ongoing published and forthcoming research[4];
- Approve proactive distribution capacity investments in 'no regrets' zones defined as areas where the concentration of freight facilities and freight activity is greatest;
- Meet with utility leadership across the state, particularly those serving 'critical infrastructure' hot spots, to ensure they understand the expectation to deliver infrastructure and understand their constraints;
- Reduce bureaucratic overlap. Multiple agencies including CTC, CEC, and PUC are undertaking parallel efforts to define state charging infrastructure needs. The state should select a single agency and hold it accountable for providing clear direction to utilities (including investor-owned, public power, and rural co-operatives) and their regulators to ensure CARB's electrification goals are met;
- Immediately authorize the use of flexible service interconnections
- Direct utilities to communicate to charging operators early in the site assessment process (e.g., before a formal energization application is filed and a formal engineering study is completed) what the available distribution capacity is at the site.

2. Minimize the cost of delay to electric truck fleets and the cost of electricity paid by ratepayers

California residents pay the third highest electricity rates in the country and commercial rates are the third highest in the country. Even at these high rates, electrification makes sense in California. But real risks to the affordability of electrification exist if rates continue to rise at their historical pace.

The state can address the timely delivery of electricity for truck charging facilities and the affordability of electricity in the following ways:

- Require utilities to provide 'investment grade' grid distribution hosting capacity maps in 'critical infrastructure' hot spots to quickly identify locations containing up to 7MW of available capacity;
- Insist that utilities energize truck charging facilities in 'critical infrastructure' hot spots within 12 months;
- Insist utilities adopt transportation electrification load growth strategies, ensuring utilities actively seek out load growth opportunities to maximize the revenue generated from its distribution grid capacity investments;
- Backstop utility ratepayers with a 'utilization guarantee' that minimizes ratepayer opposition to load growth and distribution capacity investments;
- Consider developing a dedicated rate class for large load customers, including truck charging facilities greater than 2 megawatts of nameplate capacity.

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[4] Ragon, Pierre-Louis, Sara Kelly, Nicole Egerstrom, Jerold Brito, Ben Sharpe, Charlie Allcock, Ray Minjares, and Felipe Rodríguez. "Near-Term Infrastructure Deployment to Support Zero-Emission Medium- and Heavy-Duty Vehicles in the United States." Washington, D.C.: International Council on Clean Transportation, May 11, 2023. https://theicct.org/publication/infrastructure-deployment-mhdv-may23/.