

State of California Air Resources Board

Board Item Summary

Item # 22-14-1: Public Hearing to Consider the Proposed Advanced Clean Fleets Regulation

Staff Recommendation:

This item will describe staff's proposed Advanced Clean Fleets (ACF) Regulation (proposed regulation) as part of the California Air Resources Board (CARB or Board) comprehensive strategy that would accelerate the widespread adoption of zero-emission vehicles (ZEV) in the medium- and heavy-duty truck sector and for light-duty package delivery vehicles. The proposed regulation would require certain fleets to deploy ZEVs starting in 2024 and would establish a clear end date to medium- and heavy-duty internal combustion engine vehicle sales in 2040. While no action is required at this hearing, staff recommends that the Board direct staff to consider any recommended modifications to the draft regulatory language, and bring the final proposed Advanced Clean Fleets Regulation back to the Board for its consideration at a subsequent hearing as needed.

Discussion:

The proposed regulation is critical to meeting California's public health and climate goals and meeting State and federal air quality standards. Mobile sources are the greatest contributor to emissions of criteria pollutants and greenhouse gases (GHG) in California, accounting for about 80 percent of ozone precursor emissions and approximately 50 percent of statewide GHG emissions, when accounting for transportation fuel production and delivery.¹ Medium- and heavy-duty vehicles contribute a quarter of the transportation sector's GHG emissions and a third of the transportation sector's oxides of nitrogen (NOx) emissions, which constitutes a disproportionately high share of NOx emissions, considering such vehicles represent only about 1.8 million trucks among the 30 million registered vehicles in the state;

A number of policy, planning, and regulatory actions have led to the development of the proposed regulation and the need to accelerate ZEV deployments everywhere feasible. In 2018, the Governor issued Executive Order B-55-18, which set a target to achieve carbon neutrality in California no later than 2045, and to achieve and maintain net negative emissions thereafter. In 2020, Executive Order N-79-20 set specific targets to transition the truck fleet to zero-emission (ZE) technology by 2045. In January 2021, the Advanced Clean Trucks (ACT) regulation was adopted by CARB as a key part of the holistic approach to

¹ California Air Resources Board. 2021. "2020 Mobile Source Strategy." Released September 28, 2021. (web link: https://ww2.arb.ca.gov/sites/default/files/2021-09/Proposed_2020_Mobile_Source_Strategy.pdf, last accessed August 2022).

accelerate a large-scale ZEV transition of medium- and heavy-duty trucks. The ACT regulation ZEV sales requirement establishes a growing supply of medium- and heavy-duty ZEVs, while the one-time fleet reporting requirement provided detailed information about fleets and how they use their vehicles. In October 2021, CARB released the 2020 Mobile Source Strategy, a top-down analysis of policy options and emissions reductions needs, which identified the proposed regulation as key part of a comprehensive strategy to achieve a ZE truck and bus fleet by 2045 everywhere feasible, and significantly earlier for certain well-suited market segments.²

In addition, CARB released the Draft 2022 State Implementation Plan (SIP) Strategy which builds on the 2020 Mobile Source Strategy, and includes the proposed regulation as a proposed commitment to reduce emissions from On-Road Medium- and Heavy-Duty Vehicles.³ Additionally, the Draft 2022 Scoping Plan Update lists the proposed regulation as a necessary policy to achieve climate change goals and includes it in the modeling.

The proposed regulation includes several key components that would primarily require State and local government fleets, drayage trucks, high priority fleets, and federal fleets to phase in medium- and heavy-duty ZEVs, and light-duty package delivery ZEVs, over time. These requirements have built-in flexibilities and exemptions to enable a gradual zero-emission transition for all affected fleets. The proposed regulation would also set a clear end date for new internal combustion-powered medium- and heavy-duty vehicle sales in California.

The proposed regulation is the result of an extensive public process. In February 2020, CARB staff began informing the public of the proposed regulation and development process. Over the past 2 years of rule development, staff hosted 24 public listening sessions, workgroups, and workshops. CARB staff reached out directly to affected stakeholders and conducted more than 386 meetings with over 170 groups and individuals. CARB staff also sent more than 273,000 mailers and numerous emails to the 81,944 recipients from 10 email distribution lists, and 84,597 more fleet contacts from the Truck Regulation Upload, Compliance and Reporting System or TRUCRS. CARB staff offered engagement opportunities to receive feedback and solicit alternatives from a variety of groups and stakeholders, including manufacturers, large fleet owners, single truck owners-operators, environmental advocacy organizations and the communities most heavily impacted by truck emissions.

Summary and Impacts:

The primary benefits of the proposed regulation are the reduction of fine particulate matter (PM_{2.5}), NO_x, and GHG emissions from on-road medium and heavy-duty vehicles that operate in California. Staff estimates that cumulatively, from 2024 to 2050, the proposed

² California Air Resources Board, *2020 Mobile Source Strategy*, October 28, 2021 (web link: https://ww2.arb.ca.gov/sites/default/files/2021-12/2020_Mobile_Source_Strategy.pdf, last accessed June 2022).

³ California Air Resources Board, *2022 State Strategy for the State Implementation Plan (2022 State SIP Strategy)*, 2022 (web link: <https://ww2.arb.ca.gov/resources/documents/2022-state-strategy-state-implementation-plan-2022-state-sip-strategy>, last accessed January 2022).

regulation will reduce statewide emissions from mobile sources by approximately 8,638 tons of PM_{2.5}, 418,943 tons of NO_x, and 307 million metric tons of GHGs, relative to the legal baseline. Based on these emission benefits, the proposed regulation will result in approximately 5,519 fewer cardiopulmonary deaths, 873 fewer hospital admissions for cardiovascular illness, 1,042 fewer hospital admissions for respiratory illness, and 2,537 fewer emergency room visits for asthma.

The direct economic impact of the proposed regulation to California fleets is a net savings of \$22.2 billion, with additional health benefits savings of \$57.8 billion, and social cost of carbon savings ranging from \$9.4 billion to \$36.4 billion. Staff's total cost of ownership analysis shows some truck types are already at cost parity with more truck types anticipated to achieve parity in the total cost of ownership with their combustion vehicle counterparts over the coming decade. The proposed regulation is estimated to result in a cumulative net benefit to California of \$46.9 billion with a benefit-cost ratio of 1.7, meaning benefits are more than costs between 2026 and 2050.

The proposed regulation is estimated to initially result in a slightly positive employment impact through about 2026 after which the trend reverses with a slight negative employment impact through the rest of the regulatory horizon. These changes in employment do not exceed 0.2 percent of baseline California employment across the entire regulatory horizon. The relative changes to growth in private investment for the proposed regulation show a decrease of private investment of about \$1.0 billion in 2030, which trends towards an increase of \$2.49 billion in 2050. This shift in investment does not exceed 0.4 percent baseline investment across the regulatory horizon. The proposed regulation will lead to a growth in industries supporting ZEVs, including ZEV manufacturer and component suppliers, infrastructure installers, electrical vehicle technicians, and others. This growth could also occur along the entire ZEV supply chain since this proposed regulation promotes technology growth sooner than would have otherwise occurred.

The draft Environmental Analysis (EA) concluded implementation of the proposed regulation could result in: beneficial impacts to air quality (long-term operational-related), energy (long-term operational-related), GHG (long-term operational-related); less than significant impacts, or no impacts, to energy (short-term construction-related), and GHG (short-term operational-related), land use planning, mineral resources, population and housing, public services, recreation, and wildfire; and potentially significant [indirect/secondary] adverse impacts to aesthetics, agriculture and forestry resources, air quality (short-term construction-related), biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation/traffic, tribal cultural resources, and utilities and service systems. Many of the impacts recognized as potentially significant in the draft EA for the proposed regulation could be mitigated or reduced to less-than-significant levels through conditions of approval applied and mitigation measures to project-specific development. However, the authority to apply that mitigation lies with utilities or other agencies approving the development projects, not with CARB.

As part of the rulemaking process, staff will evaluate all comments on the proposed Advanced Clean Fleets regulation received during the public comment period, including at this hearing, and consider and develop any appropriate proposed modifications to the proposed regulation that are related to the proposed regulation, and make them available for public comment, with any additional supporting documents and information relied upon to adopt the regulations, for a period of at least 15 days.