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Achieving California's ambitious vehicle emissions standards

The state will likely use regulations, incentives, and assistance programs to achieve emissions-free car sales by 2035.

By Clare Ellis

As the new Biden administration refines its environmental and policy platforms and takes the reins of the federal government, California regulators are considering how to push forward the state's ambitious climate and clean transportation agenda. Industry watchers expect that the California Air Resources Board's (CARB), progressive agenda on climate and air quality – including targets established by Gov. Gavin Newsom in 2020 to transition to 100% sales of zero-emission vehicles (ZEVs) in the state by 2035 – will likely receive significant support from the new presidential administration.

WHAT TO EXPECT FROM CARB

CARB staff indicated what's ahead when they presented the draft 2020 Mobile Source Strategy to the full board in December. This integrated planning document – prepared by CARB under directive from the California legislature – looks specifically at mobile sources and identifies complementary policies to reduce emissions of precursors to criteria pollutants, greenhouse gases (GHGs), and toxins. While the strategy and Newsom's order memorialize the state's ambitious goals to reduce traditional pollutant and GHG emissions from the mobile source sector, they are less specific about how California plans to achieve such reductions, either through legal mandates or incentives.

Newsom's executive order is almost completely devoid of any details on implementation, delegating the 'how' to various state agencies, primarily CARB. The draft strategy is similarly light on details, identifying a suite of strategy concepts but no specific mechanisms to guide action. Members of the public who commented on the draft pointed out this lack of specificity, particularly as compared to the predecessor 2016 Mobile Source Strategy. CARB attributes this shortcoming to the accelerated time frame provided by the California legislature in SB 44, which required finalization of the strategy by Jan. 1, 2021 (it does not appear as of this writing, however, that CARB has in fact issued the strategy in its final form). Acknowledging that "the concepts contained in the 2020 Strategy are less defined than the measures included in the 2016 Strategy," CARB explains that it intends to translate these concepts into measures that will be included in the next State Implementation Plan strategy being developed for the 70 parts per billion (ppb) 8-hour ozone standard, the next Climate Change Scoping Plan, community emission reduction plans, or other CARB planning documents to be released in the coming years.

ACHIEVING CALIFORNIA'S GOALS

The draft Strategy hints at how CARB intends to tackle the numerous directives and targets set by the legislature and by executive orders throughout the past few decades – including those in Newsom's September 2020 Executive Order, which directs CARB to develop:

- Regulations requiring increasing volumes of sales of new passenger cars and trucks to be ZEVs, toward the target of 100% of in-state sales by 2035
- Regulations requiring increasing volumes of sales and operation of new medium- and heavy-duty vehicles (MHDVs) sold or operated in-state to be ZEVs, toward the target of 100% of the fleet transitioning to ZEVs "everywhere feasible" by 2045 (2035 for drayage trucks)

 Strategies, in coordination with EPA, other state agencies, and local air districts, to achieve 100% zero-emission from off-road vehicles and equipment operations by 2035

The draft strategy sets forth various "scenario concepts" for emission reductions from different types of mobile sources (e.g., on-road light-duty vehicles, on-road MHDVs, and off-road vehicles and equipment). While the Executive Order ZEV targets lean heavily on a regulatory approach, all of the concepts in CARB's Strategy include a combination of incentives, support, and regulation – mostly building upon existing programs.

BUILDING UPON EXISTING PROGRAMS

Regulatory requirements. CARB has been regulating vehicle tailpipe emissions since the 1960s, and it can be expected to rely in part on a regulatory approach in the coming years to achieve its long-term zero-emission targets. CARB's primary regulatory tools include in-use requirements, tailpipe emission standards, and manufacturer sales mandates.

CARB already has a robust suite of in-use fleet regulations (e.g., the Truck and Bus, Off-Road, Transport Refrigeration Units, and Drayage Truck regulations), and it can be expected to make these standards increasingly stringent, requiring fleet owners to phase-in zero-emission technology throughout the coming years.

CARB has historically enforced its state-specific tailpipe emission standards and sales mandates upon a preemption waiver granted by EPA under Section 209(b) of the federal Clean Air Act. While EPA has granted more than 50 waivers since 1967, allowing California to enforce (and other states to adopt) its emission standards and ZEV sales mandates targeting traditional criteria pollutants, EPA under the Trump administration was less receptive to California waiver requests targeting GHG emissions – finding that California doesn't "need" its GHG and ZEV standards to address California-specific GHG pollution concerns, given that they wouldn't meaningfully address global climate change in a manner unique to California.

California's authority to enforce state-specific GHG standards and ZEV sales mandates targeting GHGs is currently being litigated in federal courts. If California's authority is upheld, CARB can be expected to seek waivers for its heavy-duty tailpipe emission standards and sales mandates (e.g., California's Phase II GHG standards, Advanced Clean Trucks program, and Heavy-Duty Omnibus regulation) as well as reinstatement of a previously-withdrawn preemption waiver for its passenger car and light-duty truck standards and sales mandates (known as its Advanced Clean Cars program).

Incentives. As CARB has previously acknowledged, "ZEVs currently cost more than their conventional counterparts," thus "a suite of complementary policies is needed to expand the ZEV market beyond early adopters and to ensure equitable access to zero-emission mobility." CARB can be expected to build upon and enhance existing grant, rebate, and other funding programs to promote and accelerate the use of advanced zero-emission and low-emission technologies.

Support. CARB's Mobile Source Strategy will depend in part upon support programs intended to encourage and facilitate the deployment of ZEVs and LEVs, as well as reduce vehicle miles traveled. These programs include CARB's Low-Carbon Fuel Standard, the California Energy Commission's Electric Vehicle Infrastructure Project, and Clean Transportation Program, all containing components intended to support and encourage ZEV deployment, including the development of

electric vehicle charging infrastructure.

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