

**COMMENTS OF THE
MANUFACTURERS OF EMISSION CONTROLS ASSOCIATION
ON CALIFORNIA AIR RESOURCES BOARD'S 2020 MOBILE SOURCE
STRATEGY**

December 10, 2020

The Manufacturers of Emission Controls Association (MECA) would like to provide constructive comments on the California Air Resources Board's (CARB) 2020 Mobile Source Strategy. We support CARB's multi-pollutant planning approach to transitioning the mobile sector to clean propulsion technology with the goal of achieving California's air quality and climate goals. We believe an important opportunity exists to decrease the environmental footprint of transportation through reductions in criteria emissions and greenhouse gases. MECA believes that the application of advanced technologies on engines and powertrains can be combined with low carbon fuels and electrification as parallel solutions to environmental challenges.

MECA is an industry trade association of the world's leading manufacturers of clean mobility technology. Our members have nearly 50 years of experience and a proven track record in developing and commercializing emission control, efficiency and electric technology for a wide variety of on-road and off-road vehicles and equipment in all world markets. Our members provide the technologies that enable light-duty and heavy-duty on- and off-road vehicles to meet the most stringent NOx and PM emission standards, as well as electrification and all-electric technologies that reduce emissions of all pollutants, criteria and climate. Our industry has played an important role in the environmental success story associated with light- and heavy-duty vehicles in California, the U.S. and around the world. MECA has continually supported CARB's efforts to develop innovative, technology-advancing, regulatory programs to deal with environmental challenges.

Strategies to reduce the environmental footprint of mobile sources are important tools to help the hundreds of millions of people in the U.S. who continue to breathe unhealthy air, many of whom live in California, including 12 million residents in regions that are in ozone and/or PM nonattainment. Furthermore, climate change is exacerbating air quality issues as well as contributing to several devastating impacts in California and around the world. In order to have an impact on climate change, there is a need for a well-rounded strategy regarding GHGs from all sources, including transportation. Although California's ability to impact local or global climate is limited, the state's leadership role in developing forward thinking policy approaches is recognized and contributes to other major transportation centers, such as Europe and China. Through its MSS, CARB has an opportunity to develop a comprehensive set of technology solutions that improve local air quality and mitigate climate change. This experience can be shared with other parts of the world, where strategies can be tailored to regional conditions and address local barriers which may differ from California.

MECA members are commercializing powertrain agnostic technology solutions to help their customers deliver vehicles with low criteria and GHG emission footprints. One of the main challenges that efficiency and emission control technology suppliers encounter is planning amidst considerable uncertainties. Therefore, most businesses try to develop strategic plans that minimize

uncertainty while managing risks to their strategic goals. In addition, most long-term business strategies incorporate contingency planning in order to mitigate risks by anticipating events that could alter a plan's goals.

MECA applauds California's forward-thinking approach to long-term goal setting that provides regulatory certainty for industry investment. Furthermore, we support the agency's review of the MSS every 5 years to allow for assessment of the technology readiness and recalibration of the long-term goals based on the latest market conditions. CARB's 2020 Mobile Source Strategy includes a heavy reliance on full vehicle and equipment electrification along with infrastructure investment in the next 20 to 30 years. For example, CARB models the benefits of 85% of the passenger vehicle fleet being ZEV/PHEV in 2045 and 77% of the heavy-duty vehicle fleet being ZEVs in 2045. Both of these are predicated on Executive Order N-79-20 targeting 100% of new light-duty and heavy-duty vehicle sales being ZEVs by 2035 and 2045, respectively. This approach represents one scenario to meeting the Governor's goals but lacks the contingency planning should market conditions and technology readiness miss projections over the next two decades.

The main issue with a single path approach is that the pace of ZEV penetration depends on a number of other variables with different levels of uncertainty. These dependent variables include (but are not limited to): charging infrastructure, battery material supply, charging rate, consumer needs and total vehicle cost. The relative importance of these issues may vary based on the specific mobile sector, vehicle application and timeline of implementation. For example, battery range is not as much of an issue for passenger cars or several types of vocational trucks compared to long-haul class 8 tractors. Finally, if the ZEV penetration goals are attained, the electricity grid and energy sector in different regions of the U.S. as well as around the world must be decarbonized in parallel in order to meet the climate goals of California (and the Paris Agreement). CARB has acknowledged these uncertainties in previous MSS workshops.

Our comments fully recognize California's specific goals and timelines as modeled in the 2020 MSS. Rather our approach, as suppliers of the technologies necessary to realize these goals, is to suggest that CARB include contingency plans and analyses in its scenario development. We urge staff to highlight the potential barriers, prioritize the magnitude of risk due to each, and mitigate the risk posed to achieving the goals of the MSS by offering more than one technology path. We feel that this will strengthen the 2020 MSS and thereby increase the chances of meeting the state's overall air quality and climate objectives.

Based on the learnings from light-duty ZEV penetration over the past 30 years, the MSS would benefit from analyzing the sensitivity of emission impacts due to different penetration ramps for PHEV and full electric vehicles. Furthermore, a set of alternate solutions could be identified to mitigate any lost emission benefits. If there is an adjustment in market dynamics from one technology, CARB could model the needs from other available technologies to shore-up the path in the near-term and still achieve the long-term goals. Such contingency planning would be an effective way to improve the resiliency of the MSS by calling on innovation and investment from a broader spectrum of stakeholders to guarantee success.

MECA suggests that CARB consider some examples of contingency scenarios that could be modeled in the MSS to mitigate the risk of backsliding from the preferred California strategy for each mobile source sector. These could include the GHG and criteria pollutant benefits from:

- Increased penetration rates of electrified vehicles, operating on low-carbon fuels (with a range of carbon intensities)
- Full use of electrified vehicles in rental fleets to accelerate consumer acceptance while introducing clean used vehicles to consumers less likely to buy brand new electric vehicles
- Different levels of low-to-zero carbon fuels that could be “dropped in” to the fuel supply and provide immediate benefits to the in-use fleets
- Projected uptake of near zero emission technologies operating on renewable fuels “on the horizon” (market ready in the next 10 years) and policies that could incentivize and accelerate market penetration
- A range of VMT reductions

In conclusion MECA applauds CARB’s leadership in developing both short- and long-range strategies to meet California’s air quality and climate goals. While we recognize the Mobile Source Strategy’s focus on all-electric technologies, there are effective near-term opportunities to continue to reduce criteria and greenhouse gas emissions from the entire transportation sector. The application of commercially available ultra-clean combustion technologies combined with renewable fuels complements CARB’s transitioning to full electric technology. We recommend that CARB include an expanded suite of technology solution scenarios and contingency planning in the MSS in order to increase its robustness and resiliency. Setting clear objectives and parallel pathways that incorporate a comprehensive set of technology approaches will draw on the innovative strengths of all stakeholders to proactively manage risks. Our industry is committed to delivering cost-effective, efficient, GHG reduction and emission control technologies to assist California in meeting its climate and clean air goals.

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