

## **DRAFT FOR SEPTEMBER 20, 2019 REVIEW**

### **2019 IEMAC Recommendations for the transportation sector (Ann Carlson, chair):**

Given that at least two of the state's major policies for transportation GHG emissions may not deliver the estimated amounts included in the Air Resources Board Scoping Plan (for reasons specified in the attachment), IEMAC has two recommendations:

- 1) That Cal EPA, in selecting projects to be funded by the 2019-20 Budget Allocation for research on transportation emissions, prioritize projects focused on accelerating the turnover of the existing vehicle fleet. Additional research projects that Cal EPA should consider funding include at what price the cap and trade program can produce additional large reductions in GHGs should transportation emissions fall less than anticipated in the Scoping Plan; alternatives to Clean Car Standards for increasing ZEV penetration without running afoul of federal preemption policies; alternative methods for reducing VMTs, including evaluating the feasibility and effectiveness of congestion and roadway pricing; incentives or mandates for ridesharing and autonomous vehicle companies to purchase electric or other ZEV vehicles; and additional investments in public transportation.
- 2) Whether or not Cal EPA can fund all of the research questions specified above, IEMAC members believe that CARB should invest resources in evaluating and recommending back up policies in the transportation sector in case the state cannot achieve the emissions reductions specified in the Scoping Plan from the Clean Car rules and from VMT policies. The list contained in recommendation #1 provides guidance about possible alternative ways to reduce transportation sector GHGs

## Appendix in Support of Transportation Recommendations

The transportation sector is the largest source of greenhouse gas emissions in California, making up almost 40 percent of total emissions. Of total GHG transportation emissions, almost 70 percent are from light duty vehicles – 28 percent of total state GHGs. Emissions from light duty vehicles alone significantly exceed total emissions from the electricity sector. And unlike emissions in the electricity sector, even with aggressive policies in place, total emissions from the transportation sector have risen in recent years, especially in the light duty category – 6 percent between 2013 and 2017 (See California Greenhouse Gas Emissions Trends, 2000-2017). The rise has occurred largely because gasoline prices have remained at relatively low levels, leading consumers to drive more and to purchase larger vehicles. Vehicle Miles Traveled (VMTs) have also increased after a marked decline during the Great Recession.

The scoping plan the Air Resources Board has developed setting forth how the state will achieve its 2030 GHG emissions target seeks much larger direct reductions from the transportation sector than from the electricity sector. This makes sense given the sector's relative contributions to total GHGs but is nevertheless worth emphasizing. The scoping plan seeks 64 million metric tons of CO<sub>2</sub> equivalent (MMTCO<sub>2</sub>e) by 2030, not including reductions from the Low Carbon Fuel Standard. By contrast, achieving a 50 percent renewable portfolio standard in the electricity sector will reduce emissions by 16 MMTCO<sub>2</sub>e, only 25 percent of the transportation total (the sector is now required to achieve a 60 percent RPS, with a corresponding larger reduction in GHGs). This reverses the relative magnitude of the achievements of this decade, where the vast majority of GHG reductions have come from the electricity sector.

California has a number of policies in place to regulate transportation emissions. CARB's scoping plan identifies the following in the light duty category as most significant:

Having 1.5 million Zero Emission Vehicles on the road by 2025 and 4.2 million ZEVs by 2030; these are achieved in part through mandates under the Clean Air Act that manufacturers sell a certain percentage of ZEVs as part of their California fleets, in part through direct consumer subsidies for the purchase of ZEVs, and in part through programs to increase electric vehicle infrastructure in the state in order to make EV purchasing more attractive to consumers.

Increasing GHG stringency for Model Year vehicles 2026 and later, through tighter emissions standards under the Clean Air Act.

Reducing Vehicle Miles Travelled, principally through the encouragement of higher density development under SB 375 and SB 743.

Reducing the carbon intensity of fuels by 18 percent through the Low Carbon Fuel Standard.

The Scoping Plan also relies heavily on the cap-and-trade program for a large amount of emissions reductions, some of which would come from the transportation sector because fuel distributors are covered entities under the program.

The majority of state policies to reduce emissions from light duty vehicles are targeted at new vehicles, particularly the ZEV mandate, the ZEV subsidies, and the reductions in GHGs from new cars. Over the long run, these policies will be effective in transitioning the vehicle fleet to low and eventually zero emissions. However, CARB has made clear that the state cannot meet its 2030 transportation GHG reduction goals without a reduction in Vehicle Miles Travelled. That is because, even if we achieve the 2030 goal to have 5 million ZEVs on the road, 85 percent of cars would continue to be powered by internal combustion engines. The percentage of ZEVs on the road would presumably increase each decade, but a large percentage of internal combustion engines will remain on the road. This is true not only because consumers will continue to purchase traditional cars but also because used cars remain in circulation for, on average, close to 12 years. A car bought in 2030 will very likely still be running in 2040.

It is also worth emphasizing that at least two of California's policies aimed at passenger vehicles may be at risk of falling short of their ambition. The first is the state's Clean Car Emission Standards. The second is the policies in place to reduce VMTs. If either falls short, the cap-and-trade program will presumably have to cover even more emissions than the 236 MMTCO<sub>2e</sub> CARB currently estimates.

The state's Clean Car Standards are, of course, under attack by the Trump Administration. The Trump Administration is threatening to take two actions that would harm the state's climate policies. The first is to roll back the standards currently in place for model years 2020-2025. The second action is to revoke the California waiver not only for the GHG standards, but also for the state's ZEV program. California has vowed to sue the Trump Administration for both actions and the state's legal position appears to be strong. It is not, of course, infallible, particularly with a conservative U.S. Supreme Court in a position to make a final decision on both actions. The state has also entered into a settlement with four automakers that would mitigate the roll back of the GHG standards, though several major car companies are not party to the agreement and thus the GHG reductions would be significantly lower than the Scoping Plan contemplates. Furthermore, the settlement agreement does not cover the ZEV mandate.

The state faces three risks with the Clean Car standards: first, it could lose the legal cases; second, the standards could be delayed while litigation ensues; third, if Trump is reelected in 2020, the state is almost certainly unlikely to get a waiver for model year cars 2026 and beyond.

VMT policies are not, by contrast, threatened by outside legal risk. Instead, to date they have failed to deliver measurable reductions in driving behavior. To the contrary, VMTs have increased, not decreased, despite ten years of experience with SB 375, the principal mechanism to reduce driving and consequent GHG emissions. SB 375, also known as the Sustainable Communities and Climate Protection Act of 2008, requires the state's 18 Metropolitan Planning Organizations to include in their long-range regional transportation plans strategies for

reducing GHGs. CARB issued its first required report assessing the effects of SB 375 on climate change goals in November, 2018. The board concluded that “California is not on track to meet the greenhouse gas reductions expected under SB 375 for 2020.” The board acknowledged that “vehicle travel per capita [is] increasing and going in the wrong direction.” The report also set forth a number of obstacles to reducing VMTs, many of them outside the control of the MPO/SB 375 process. New CEQA guidelines developed pursuant to SB 743 (Steinberg 2013) require that new transportation developments be measured by their impact on VMTs. These guidelines, finalized in 2018, are another state strategy to reduce VMTs. Both SB 375 and the new CEQA guidelines are aimed at new development, not existing development, and are thus likely to be at best very slow means to reduce driving.

It is beyond the scope of our report to evaluate whether and by how much the state is likely to miss the GHG transportation targets set forth in the scoping plan. We believe, however, that the likelihood is sufficiently high that research should be conducted to provide alternative ways to reduce emissions from the sector. CalEPA is currently in the process of determining research projects to fund out of a budget allocation made to study policies to reduce transportation emissions. One area the IEMAC considers especially important to fund is research about ways to speed up the turnover of the vehicle fleet through policies targeted at existing vehicles. These programs might include, for example, scrappage policies to retire old and high emitting vehicles or registration fees that increase for high emitting and older vehicles. Most of our current policies focus on changing the composition of the new vehicle market even though consumer decisions lock in investments in vehicles for, on average, more than a decade. Moreover, existing vehicles are, again on average, greater sources of conventional air pollutants. Speeding up the transition to zero emission vehicles may offer significant benefits not only in GHG reductions but also in reducing conventional air pollution. The co-benefits from doing so are also likely to benefit residents who live near highly trafficked roadways, who are often low income and of color. In funding such research, IEMAC members believe that policies that penalize drivers of older and higher emitting cars rather than subsidizing them are much less desirable, particularly given the distributional consequences of penalty policies. As a result, IEMAC urges that research focused on retiring existing cars in order to accelerate the turnover of the fleet should address the distributional consequences of such policies on low income drivers. Other areas of import include at what price the cap and trade program can produce additional large reductions in GHGs should transportation emissions fall less than anticipated in the Scoping Plan; alternatives to Clean Car Standards for increasing ZEV penetration without running afoul of federal preemption policies; alternative methods for reducing VMTs, including evaluating the feasibility and effectiveness of congestion and roadway pricing; and incentives for ridesharing and autonomous vehicle companies to purchase electric or other ZEV vehicles.

Whether or not CAL EPA can fund all of the research questions specified above, IEMAC members believe that CARB should invest resources in evaluating and recommending back up policies in the transportation sector in case the state cannot achieve the emissions reductions specified in the Scoping Plan from the Clean Car rules and from VMT policies. The above research areas are promising avenues for CARB to consider.