

EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO₂) Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule

Staff at the California Air Resources Board (CARB) have estimated emissions impacts from the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rules and actions adopted by the U.S. Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration (NHTSA) in late 2019 and early 2020. In September 2019, the U.S. EPA and the NHTSA issued the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (SAFE Part One) that revoked California's authority to set its own greenhouse gas (GHG) emissions standards and zero-emission vehicle (ZEV) mandates in California. In April 2020, the federal agencies issued the SAFE Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (Final SAFE Rule) that relaxed federal GHG emissions and fuel economy standards.

On November 20, 2019, CARB released the EMFAC off-model adjustment factors to account for SAFE Part One. These adjustment factors were only for criteria pollutants, and U.S. EPA considered them to be acceptable for use in transportation conformity determinations in California.

CARB has evaluated the Final SAFE Rule and determined that the criteria adjustment factors to EMFAC that were issued on November 20, 2019, and subsequently approved by U.S. EPA continue to be valid and should be used for purposes of transportation conformity. Accordingly, at this time, additional adjustment factors for criteria pollutants are not needed beyond those already released for purposes of transportation conformity. This memorandum specifically provides the off-model adjustment factors that can be used to adjust tailpipe carbon dioxide (CO₂) emissions output from the EMFAC model (EMFAC2014 and EMFAC2017) to account for the impacts of both SAFE Part One and the Final SAFE Rule.

EMFAC CO₂ Off-Model Adjustment Factors

Background

SAFE Part One revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. The Final SAFE Rule then relaxed federal GHG emissions and Corporate Average Fuel Economy (CAFE) standards to increase in stringency at only about 1.5 percent (%) per year from model year (MY) 2020 levels over MYs 2021–2026. The previously-established emission standards and related "augural" fuel economy standards would have achieved about 4% per year improvements through MY 2025.

As a result of SAFE Part One and the Final SAFE Rule, additional gasoline will be needed to meet the travel demands of the on-road vehicle fleet in California. This will increase tailpipe GHG emissions and emissions associated with production and delivery of gasoline and diesel

throughout the state. Moreover, because of the loss of California's ZEV sales requirements, there may be fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years resulting in elevated GHG emissions.

Generally, after the Final SAFE Rule becomes effective on June 29, 2020, EMFAC2014 and EMFAC2017 will not accurately estimate future CO₂ emissions until they are updated with new assumptions reflecting the SAFE Rules in off-model adjustment factors provided by CARB.

Therefore, CARB has prepared off-model CO₂ emissions adjustment factors for both the EMFAC2014 and EMFAC2017 models to account for the impact of the SAFE Vehicles Rule. These adjustments provided in the form of multipliers can be applied to emissions outputs from EMFAC model to account for the impact of the abovementioned rule.

Contact

For questions regarding the EMFAC off-model adjustment factors, please contact us at: EMFAC@arb.ca.gov