

would apply to reductions in fuel use under the proposal. General Motors cited new low sulfur fuel requirements and suggested that this might constrain the ability of foreign suppliers to meet U.S. refined fuel needs, with the result that a reduction in fuel consumption could lead to lower imports of refined gasoline rather than less refining in the U.S. General Motors also questioned the existence of emission reductions from domestic oil refineries based on the idea that they might fall under a cap and trade system, which would allow them to trade any potential reduction in emissions or adjust production to remain at the cap. Finally, General Motors commented that the domestic-import split in refined gasoline should be examined in terms of its marginal effects on refinery and other sources of emissions during the gasoline supply process.

In response to General Motors' comment about emissions caps, the agency contacted EPA, which stated that refineries are not regulated under any national cap and trade system. While refineries in States with Clean Air Act State Implementation Plans may be under some regulatory framework at the local or regional level, we found no regulatory programs that lead us to question the existence of real reductions in refinery emissions from baseline levels. General Motors' comment that the domestic-import split be examined in terms of its marginal effects on emissions is addressed elsewhere in this document.

Based on the remainder of General Motors' comments, we have reexamined this issue and have determined that additional data are available to support a revised assumption about the distribution of CAFE fuel savings between savings in gasoline imports and reduced domestic refining. More detailed data obtained from EIA provide a direct measure of historical and current variations in imported and domestic sources of gasoline in response to variations in U.S. gasoline consumption. Although test data capture the integrated effect of all factors—not just fuel economy—that influence the market for gasoline, we believe that as observations rather than forecasts, they provide one reliable source of information related to this issue. According to the EIA, "In 2001, United States refineries produced over 90 percent of the gasoline used in the United States." Current EIA data¹⁰ for the four-week period ending February 14, 2003 corroborate this figure by

stating that 91.5 percent (7.939 MBPD) of the gasoline used by the U.S. during that period was refined domestically, and 8.5 percent (0.736 MBPD) was imported. These data (although not on an on-the-margin basis) produce an estimate that approximately 90 percent of the reduction in fuel use from the proposed CAFE standard would be met by lower domestic refining, while the remaining 10 percent would be reflected in reduced imports of refined gasoline.

Analysis of historical data concerning variations in gasoline consumption and imports reported by EIA supports a similar estimate of the likely response to gasoline savings. This analysis compares annual changes in domestic gasoline refining and gasoline imports to annual changes in U.S. gasoline consumption. From the period 1992 to 2002, growth in foreign refining accounted for 10 percent of the total growth in gasoline consumption.¹¹ EPA has also assumed a similar distribution of reductions in domestic and foreign refining in some analyses of potential reductions in refinery emissions in response to gasoline savings.

General Motors' criticism of the agency's analysis of refining emissions based on the theory that the pending low sulfur fuel regulations (part of the "Tier 2" regulations)¹² might inhibit foreign refiners from being able to meet increased U.S. gasoline demand appears to misinterpret the analysis presented in the Draft Environmental Assessment. The Tier 2 regulations are not a part of the agency's CAFE action, but they do provide part of the backdrop against which we must evaluate our action. If the low sulfur requirements do result in an increased fraction of U.S. gasoline consumption being supplied by domestic refiners, as General Motors suggests, it follows that a similarly increased fraction of fuel savings resulting from the agency's CAFE action would be reflected in reduced domestic refining, with the result that the associated domestic emissions from gasoline refining would be reduced by more than would otherwise be the case. Thus General Motors' comment supports rather than undermines the agency's treatment of potential emissions reductions from reduced domestic refining.

¹¹ Calculated from data reported in Energy Information Administration, Monthly Energy Review Database, "Petroleum," Table 3.4 (http://www.eia.doe.gov/emeu/mer/mets/table3_4.xls).

¹² The Tier 2 limits on gasoline sulfur content are scheduled to take effect beginning in 2006; for details, see EPA, Tier 2/Gasoline Sulfur Final Rulemaking (<http://www.epa.gov/otaq/tr2home.htm>).

We acknowledge, however, that the distribution of fuel savings between reductions in domestic refining (90 percent) and reductions in gasoline imports (the remaining 10 percent) discussed above differs from the distribution forecast by EIA's National Energy Modeling System (NEMS). Following DOE's release of the version of NEMS used to develop Annual Energy Outlook 2003 (AEO 2003), we used this modeling system to explore this issue more closely. To develop a baseline, we ran the model with all inputs at values provided by DOE for the AEO 2003 reference case. To test the effects of the Proposed Action, we then ran the model after changing only those inputs corresponding to light truck CAFE standards. For each calendar year during 2006–2020, we calculated the extent to which these cases differed in terms of petroleum product consumption and imports. We then calculated the ratio between changes in imports and changes in consumption. Unexpectedly, total petroleum product imports were calculated to be 0.039 quads higher in 2006 with the proposed standards than in the reference case, although this was more than offset by a calculated 0.073 quad decline in crude oil imports. Thus, the above-mentioned ratio was –1.05 in 2006. However, during the rest of the period, petroleum product imports were calculated to be lower always with the proposed light truck standards than in the reference case, and the ratio of changes in petroleum product imports to changes in petroleum product consumption ranged from 0.62 to 1.14. As for cumulative changes, the ratio was 0.97 during 2006–2020 and 0.99 during 2007–2020. In other words, for every CAFE-induced 100-gallon reduction in petroleum product consumption, NEMS predicted that petroleum product imports would fall by 97–99 gallons.

We have discussed the disparity between these forecast trends and the implications of current and historic gasoline supply data with representatives of the Department of Energy (DOE) and EIA. They acknowledge that predicting the specific gasoline supply sources likely to be affected by the reductions in U.S. gasoline use associated with the new CAFE standards is extremely difficult and its results uncertain. DOE also indicated that the sources of changes in refined gasoline supply vary greatly by region of the U.S., with nearly all variation in gasoline demand on the East Coast met by changes in supply from foreign refiners, while changes in demand in other regions of the U.S. are

¹⁰ www.eia.gov, "This Week in Gasoline," four-week period ending February 14, 2003.