Chapter 6 Unavoidable Adverse Impacts; Short-term Uses and Long-term Productivity; Irreversible and Irretrievable Commitment of Resources

6.1 UNAVOIDABLE ADVERSE IMPACTS

The National Highway Traffic Safety Administration (NHTSA) proposed action is to implement Corporate Average Fuel Economy (CAFE) standards for model years (MY) 2011-2015. The cumulative impacts analysis (*see* Chapter 4) considers implementation of CAFE standards for MY 2011-2015 and implementation of CAFE standards for MY 2016-2020.[1] Under Alternative 1 (No Action), NHTSA would not take action to implement the MY 2011-2015 CAFE standards. The six action alternatives (Alternatives 2 through 7) would result in a decrease in carbon dioxide (CO_2) emissions and associated climate change effects and a decrease in energy consumption as compared to the No Action Alternative.

Based on NHTSA's current understanding of global climate change, certain effects are likely to occur due to total greenhouse gas (GHG) emissions to the atmosphere. Neither the proposed action nor its alternatives would prevent these effects. As described in Sections 4.4 and 4.5, the action alternatives could diminish the effects of climate change and contribute to global GHG reductions.

Oxides of nitrogen (NO_x), particulate matter ($PM_{2.5}$), oxides of sulfur (SO_x), volatile organic compounds (VOCs), benzene, 1,3-butadiene, and diesel particulate matter (DPM) exhibit decreases in emissions for all alternatives and input scenarios and for all analysis years under both the Reference Case and the High Scenario. Any negative health impacts associated with these emissions are expected to be similarly reduced, and there would be no unavoidable negative impacts of these emissions.

According to NHTSA's analysis, emissions of carbon monoxide (CO), acetaldehyde, acrolein, and formaldehyde could increase under certain alternatives or input scenarios. Thus, the potential for unavoidable impacts depends on the selection of the final standards. In all cases, the increases are approximately 1 percent or less over the No Action Alternative. In addition, as noted in Chapter 5, the acrolein emissions reported in the FEIS represent an upper bound, and thus potential unavoidable impacts of acrolein emissions might be less.

Localized increases in criteria and toxic air pollutant emissions could occur in some nonattainment areas as a result of implementation of the CAFE standards under the action alternatives, largely due to increases in vehicle miles traveled. These localized increases represent a slight decline in the rate of reductions being achieved by implementation of Clean Air Act standards.

6.2 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The six action alternatives (Alternatives 2 through 7) would result in a decrease in energy (crude oil) consumption and reductions in CO_2 emissions and associated climate change impacts compared to those of Alternative 1, No Action. Manufacturers would need to apply various technologies to the production of passenger cars and light trucks to meet the MY 2011-2015 CAFE standards under the six

[1] Although NHTSA will set CAFE standards for MY 2016-2020 in a future rulemaking action, NHTSA's National Environmental Policy Act analysis makes assumptions about the MY 2016-2020 standards based on the MY 2011-2015 standards and the EISA requirements.

action alternatives. NHTSA cannot predict which specific technologies manufacturers would apply to meet the CAFE standards under any of the six action alternatives; however, existing technologies and existing vehicle production facilities can be applied to meet the standards under the six action alternatives. Some vehicle manufacturers might need to commit additional resources to existing, redeveloped, or new production facilities to meet the CAFE standards. Such short-term uses of resources by vehicle manufacturers to meet the CAFE standards would enable the long-term reduction of national energy consumption and would enhance long-term national productivity.

6.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES UNDER THE ACTION ALTERNATIVES

Energy consumption in the United States would decrease under all the action alternatives compared to the No Action Alternative. Tables 3.2-2 and 3.2-3 (*see* Section 3.2 of this FEIS) summarize fuel consumption for the Reference Case under each alternative for passenger cars and light trucks, respectively, and Tables 3.2-4 and 3.2-5 summarize fuel consumption for the High Scenario under each alternative for passenger cars and light trucks, respectively. For the Optimized Alternative (Alternative 3) the Reference Case fuel savings[2] over the No Action Alternative in 2060 would be 4.3 billion gallons for passenger cars and another 4.3 billion gallons for light trucks. The Optimized Alternative High Scenario fuel savings over the No Action Alternative in 2060 would be 9.6 billion gallons for passenger cars and 11.0 billion gallons for light trucks.

As discussed in Section 6.2, manufacturers would need to apply various technologies to the production of passenger cars and light trucks to meet the MY 2011-2015 CAFE standards under the six action alternatives. NHTSA cannot predict which specific technologies manufacturers would apply to meet the CAFE standards under any of the six action alternatives. Existing technologies and existing vehicle production facilities can be applied to meet the CAFE standards under the six action alternatives. However, some vehicle manufacturers might need to commit additional resources to existing, redeveloped, or new production facilities to meet the standards. The specific amounts and types of irretrievable resources (such as electricity and other energy consumption) manufacturers would expend in meeting the CAFE standards would depend on the specific methods and technologies manufacturers choose to implement. Commitment of resources for manufacturers to comply with the CAFE standards would tend to be offset by the fuel savings from implementing the standards.

[2] Fuel savings are expressed as the sum of the number of gallons of diesel fuel and gasoline without adjustment for the energy content per gallon of each fuel.