Energy Independence Act

An Online Continuing Education Course for Engineers

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Contents

Introduction

The Energy Independence and Security Act is an energy policy law that consists of provisions designed to increase energy efficiency and the availability of renewable energy. This course provides a summary of the provisions under each of the titles in the law.

The three key provisions enacted are the Corporate Average Fuel Economy (CAFE) Standards, the Renewable Fuel Standard (RFS), and the appliance/lighting efficiency standards.

- **Corporate Average Fuel Economy (CAFE) Standards.** The law sets a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020. Also, a fuel economy program is established for medium- and heavy-duty trucks, and a separate fuel economy standard is created for work trucks.
- **Renewable Fuel Standard (RFS).** The law sets a modified standard that starts at 9.0 billion gallons of renewable fuel in 2008 and rises to 36 billion gallons by 2022. Of the latter total, 21 billion gallons is required to be obtained from cellulosic ethanol and other advanced biofuels
- **Appliance and Lighting Efficiency Standards.** Energy efficiency standards are set for broad categories of incandescent lamps, incandescent reflector lamps, and fluorescent lamps. A required target is set for lighting efficiency, and energy efficiency labeling is required for consumer electronic products. Also, efficiency standards are set by law for external power supplies, residential clothes washers, dishwashers, dehumidifiers, refrigerators, refrigerator/freezers, freezers, electric motors, residential boilers, commercial walk-in coolers, and commercial walk-in freezers. Further, DOE is directed to set standards by rulemaking for furnace fans and battery chargers.

Two controversial provisions that were not included in the enacted law were the proposed Renewable Energy Portfolio Standard (RPS) and the proposed repeal of tax subsidies for oil and gas.

Under an RPS, retail electric utilities must provide a minimum amount of electricity from renewable energy resources or purchase tradable credits that represent an equivalent amount of renewable energy production. The minimum requirement is often set as a percentage share of a supplier's total retail electricity sales. It was proposed to include a national RPS target that aimed to reach 15% of total electricity sales by 2020. Up to 4 percentage points of the 15% target could be met with energy efficiency measures. However, this program was excluded from the Act.

Another provision that was excluded would have repealed about $22 billion of oil and gas subsidies that were designed to offset the cost of supporting a variety of energy efficiency and renewable energy tax incentives. These proposed incentives would have included a four-year extension of the renewable energy electricity production tax credit. The law does include the repeal of two tax subsidies in order to offset the estimated cost to implement the CAFE provision.

Title I: Improved Vehicle Fuel Economy

Title I concerns improved vehicle fuel economy and includes new CAFE standards, funding assistance for advanced battery development, and federal fleet requirements.

Subtitle A. Increased Corporate Average Fuel Economy

This subtitle requires an increase in CAFE standards and a restructuring of the fuel economy program. A single CAFE standard of 35 miles per gallon (mpg) by model year 2020 (MY2020) is established, and the distinction between the passenger car and light truck fleet is preserved. The new standards will be based on vehicle attributes and expressed in the form of a mathematical function. Interim standards will be set, beginning with MY2011. Manufacturers will be required to come within 92% of the standard for a given model year. However, manufacturers can earn credits for exceeding the standards in one vehicle class that can be applied to boost, within limitations, the CAFE of a different vehicle class that is falling short of compliance.

CAFE originated with the Energy Policy Conservation Act of 1975. It is the sales weighted average fuel economy, expressed in miles per gallon of a manufacturer's fleet of passenger cars or light trucks with a gross vehicle weight rating (GVWR) of 8,500 lbs. or less, manufactured for sale in the United States, for any given model year. Fuel economy is defined as the average mileage traveled by an automobile per gallon of gasoline consumed as measured in accordance with the testing and evaluation protocol set forth by the Environmental Protection Agency (EPA).

Additionally, credits may be sold and bought between manufacturers. CAFE credits for the manufacture of flexible-fueled vehicles (FFV) are retained but phased out by MY2020. Civil penalties assessed for non-compliance will be deposited to the general fund of the U.S. Treasury to support future rulemaking and to provide grants to manufacturers for research and development, and retooling in support of increasing the fuel efficiency of their fleets. The law requires the development of standards for "work trucks" and commercial medium- and heavy-duty on-highway vehicles.

Subtitle B. Improved Vehicle Technology

This subtitle establishes a loan guarantee program for advanced battery development, grant programs for plug-in hybrid vehicles, incentives for purchasing heavy-duty hybrid vehicles for fleets, and credits for various electric vehicles.

Subtitle C. Federal Vehicle Fleets

Federal agencies are prohibited from acquiring any light-duty motor vehicle or medium-duty passenger vehicle that is not "a low greenhouse gas emitting vehicle" as defined in this subtitle. Alternatively, the agency may demonstrate that it has adopted cost-effective policies to reduce its petroleum consumption sufficiently to achieve a comparable reduction in greenhouse gas emissions. By 2015, federal agencies are required to achieve at least a 20% reduction in annual petroleum consumption and a 10% increase in annual alternative fuel ption. These increases are to be calculated from a 2005 baseli established and agencies will report annuall rogram are requir

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Subtitle B. (R&D)

This subtitle p earch on the expansion of the use of biodiesel and biogas as motor fuels. Grants are authorized for R&D and commercial applications of cellulosic