



Transportation Program Regulatory Initiatives

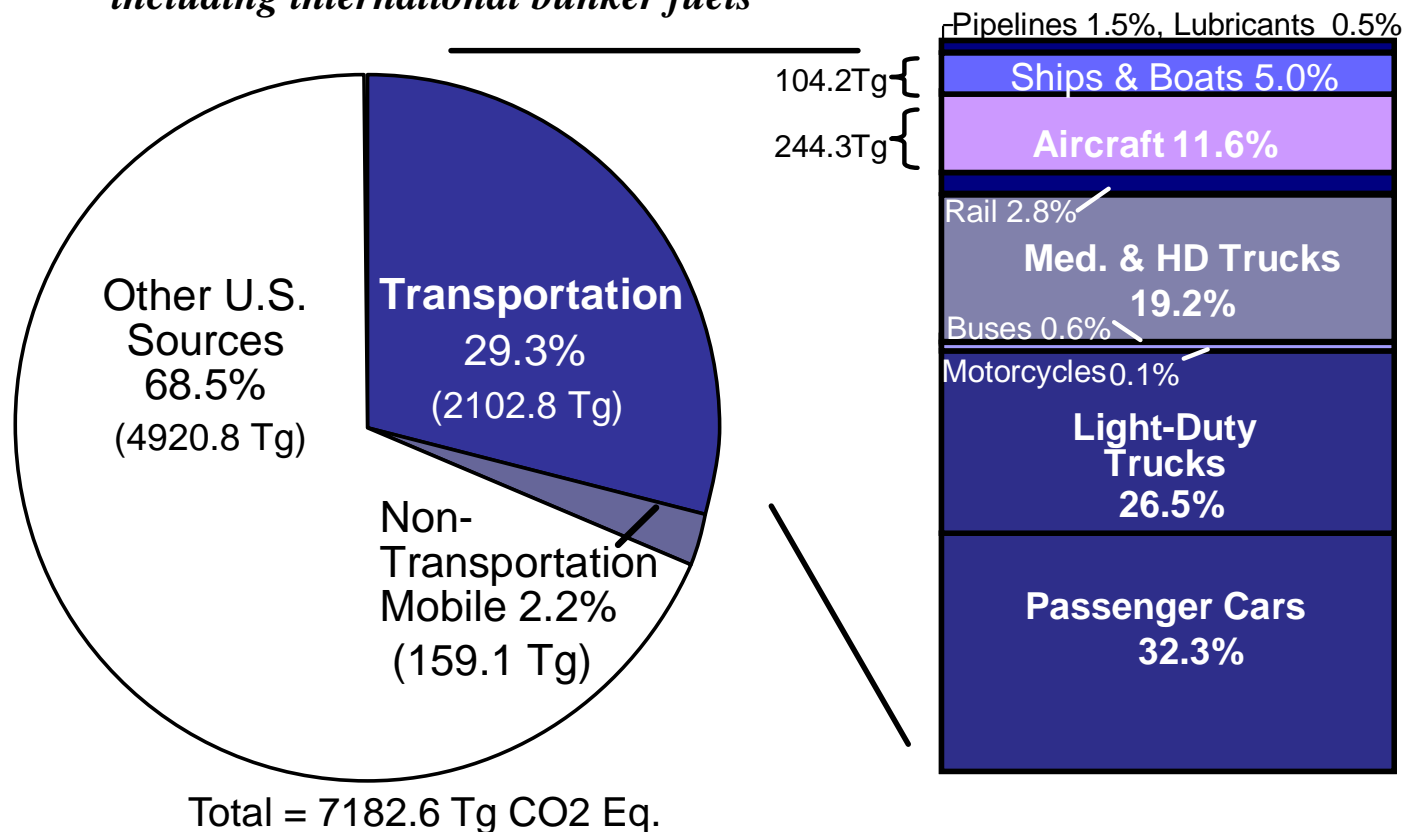
Western Governors Association
Transportation Fuels Council

EPA Update
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June 1, 2010

Mobile Sources Represent a Large and Growing Share of the Nation's GHGs

2006 U.S. GHG Emissions

including international bunker fuels



Transportation is the fastest-growing source of GHGs in the U.S., accounting for 47 percent of the net increase in total U.S. emissions from 1990-2006.

2012-2016 Vehicle GHG Rule

- Final rule in April, 2010 established coordinated federal GHG and CAFE standards
 - Consistent with President Obama's May 19, 2009 Announcement and the EPA-NHTSA Joint Notice of Intent
 - Coordinated national standards which provide regulatory certainty and consistency for the auto industry
 - Avoids separate NHTSA, EPA, and state regulations
 - Automakers can meet NHTSA, EPA, and California requirements with a single national fleet
- Each manufacturer's standard based on the footprint of vehicles produced - actual standards are curves which equate a vehicle size to its specific CO₂ or MPG target

2012-2016 Vehicle GHG Rule

- EPA's proposed standards estimated to achieve a fleet-wide level of 250 grams/mile of CO₂ in model year 2016
 - Standards would phase in beginning in model year 2012
- Fleetwide CO₂ standard could be met partially through credits from improved air conditioner (A/C) operation
 - A/C credits include CO₂ & hydrofluorocarbon (HFC) refrigerant reductions
 - HFC refrigerant is a powerful GHG
- The 250 gram/mile CO₂ standard corresponds to 35.5 mpg “equivalent” if all reductions resulted from fuel economy improvements
- NHTSA's final CAFE standards require vehicles to meet an estimated combined average fuel economy level of 34.1 in 2016
- Benefits
 - 1.8 billion barrels of oil reduced
 - 960 million metric tons of CO₂ eq. Reduced
 - Total benefits of \$240 billion & net benefits of \$190 billion



Heavy-Duty Truck GHG Emissions also Need to be Addressed

- The Endangerment Finding included heavy-duty truck emissions as well as light-duty vehicle GHGs.
- Heavy-duty trucks are the largest mobile source of GHG emissions after light-duty vehicles and represent approximately 20% of all mobile source GHG emissions and fuel consumption
- Heavy-duty trucks are a fast growing source of GHG emissions (GHG emissions increased 79% from 1990-2007 while passenger cars over the same period grew 21%)
- Technologies developed through EPA's SmartWay program and through DOE's 21st Century Truck program are available to achieve reductions from the majority of heavy-duty vehicles.

Presidential Announcement, May 21, 2010

- On May 21, 2010 President Obama announced a Presidential Memorandum, “Improving Energy Security, American Competitiveness and Job Creation, and Environmental Protection through a Transformation of our Nation’s Fleet of Cars and Trucks”
 - The Memorandum included several directives for EPA, DOT and DOE

Medium and Heavy-Duty Trucks

- EPA and NHTSA work on joint rulemaking under the CAA and EISA to establish fuel efficiency and GHG emissions standards for commercial MD and HD vehicles, beginning in model year 2014.
- The Administrators of EPA and NHTSA are requested to:
 - Include fuel efficiency and GHG standards that take into account the market structure of the trucking industry and unique demands of HD vehicle applications
 - Seek harmonization with applicable State standards
 - Consider the findings and recommendations of the NAS report on MD and HD truck regulation
 - Strengthen the industry and enhance job creation in the US
- Final rule to be issued by July 30, 2011

Presidential Announcement, May 21, 2010 (continued)

Passenger Cars and Light-Duty Trucks

- EPA and the NHTSA requested to develop, through a joint rulemaking, a coordinated national program under the CAA and EISA to improve fuel efficiency and reduce GHG emissions for model years 2017-2025.
- Administrators of EPA and NHTSA to work with the State of California to develop, by September 1, 2010 a technical assessment to inform the rulemaking process.
- Issue by September 30, 2010 a joint Notice of Intent to Issue a Proposed Rule that includes key elements of the program, potential standards for 2017-2025, and a schedule for setting those standards.

Cleaner Vehicles and Fuels and Necessary Infrastructure

- EPA to review current non-greenhouse gas emissions regulations for new vehicles/engines and fuels, and promulgate regulations if the Administrator finds new regulations are required.
- DOE to promote deployment of advanced technology vehicles by providing technical assistance to cities, and to develop voluntary standards to facilitate deployment of advanced vehicle technologies in coordination with NHTSA and EPA.

Renewable Fuel Standards – Energy Independence and Security Act

- **Established Four Separate Standards for 2022**
 - **Renewable Biofuel: Total of 36 billion gallons by 2022**
 - Ethanol derived from corn starch – or any other qualifying renewable fuel
 - Must meet 20% lifecycle GHG threshold - Only applies to fuel produced in new facilities
 - **Advanced Biofuel: Total of 21 billion gallons by 2022**
 - Essentially anything but corn starch ethanol
 - Includes biomass-based diesel and cellulosic biofuel
 - Must meet a 50% lifecycle GHG threshold
 - **Biomass-Based Diesel: 1 billion gallons by 2012 and beyond (subset of Advanced)**
 - E.g., Biodiesel, “renewable diesel” if fats and oils not co-processed with petroleum
 - Must meet a 50% lifecycle GHG threshold
 - **Cellulosic Biofuel: 16 billion gallons by 2022 (subset of Advanced)**
 - Renewable fuel produced from cellulose, hemicellulose, or lignin
 - E.g., cellulosic ethanol, BTL diesel, green gasoline, etc.
 - Must meet a 60% lifecycle GHG threshold

NOTE: Existing biofuel facilities (domestic and foreign) are not required to meet GHG threshold for conventional biofuel category – facilities are “Grandfathered.”

Highlights of the Final RFS2 Rule

- **The RFS2 Regulations will go into effect July 1, 2010.**
- **The rule establishes 2010 volume standards for specific categories of renewable fuels.**
 - **Total Renewable Standard:** 12.95 billion gallons
 - **Biomass-Based Diesel Standard:** 1.15 billion gallons, - combines 2009 and 2010 standards, including special provisions to account for the 2009 biomass-based diesel volume requirements in EISA.
 - **Cellulosic Standard:** 6.5 million gallons.
- **Significant updates were made to the lifecycle assessment since the proposal. Based on this updated analysis, EPA has determined that:**
 - Ethanol produced from corn starch at a new natural gas, biomass, or biogas fired facility (or expanded capacity from such a facility) using advanced efficient technologies will meet the 20% GHG emission reduction threshold.
 - Biodiesel and renewable diesel from soy or waste oils, fats, and greases will meet the 50% GHG threshold for biomass-based diesel.
 - Biodiesel and renewable diesel produced from algal oils will comply with the 50% threshold.
 - Ethanol from sugarcane complies with the applicable 50% reduction threshold for advanced biofuels.
 - Cellulosic ethanol and cellulosic diesel (based on currently modeled pathways) comply with the 60% reduction

Overview of Impacts of the RFS2

■ **Petroleum Consumption, Energy Security and Fuel Costs:**

- We estimate this program will replace about 7 percent of expected annual gasoline and diesel consumption in 2022
- Decrease oil imports by \$41.5 billion
- Result in additional energy security benefits of \$2.6 billion.

■ **Greenhouse Gas Emissions:**

- When fully implemented in 2022, renewable fuels are expected to reduce greenhouse gas emissions by 138 million metric tons -- equivalent to the annual emissions of 27 million passenger vehicles.

■ **Agriculture Sector and Related Impacts:**

- In 2022, the increased use of renewable fuels is expected to expand the market for agricultural products such as corn and soybeans and open new markets for advanced biofuels – increasing net farm income by an estimated \$13 billion dollars.

■ **Emissions and Air Quality:**

- Increased use of renewable fuels will also impact emissions.
- Some emissions such as NO_x, acetaldehyde, and ethanol are expected to increase and others such as benzene and carbon monoxide are expected to decrease.
- The impacts of these emissions on criteria air pollutants will vary from area to area.
- EISA directs the agency to further evaluate these potential impacts and to mitigate, to the extent possible, any adverse impacts.



Alternative Fuel Conversion Proposal

- NPRM signed on May 5, 2010
- Scope
 - Fuel neutral - covers all fuels (gaseous, alcohol, electricity, etc)
 - LD vehicles, HD vehicles and engines
- Establishes age-based compliance categories with different demonstration requirements
 - “New” vehicles/engines
 - Intermediate-age vehicles/engines
 - Outside EPA defined useful life vehicles/engines
- Streamlines reporting process
- Maintains EPA oversight
- Final rule expected by Fall 2010



New Vehicle/Engine Program Proposal

- Retains current certification requirements for new vehicles/engines (< 2 years old)
 - Keeps level playing field for OEM products and alt fuel converters modifying “new” vehicles
 - Vehicles < 2 years old still representative of certified configuration
 - This age group represents the bulk of current conversions
- Would reduce manufacturer burden significantly:
 - Allows converters to combine OEM test groups
 - Converters can transfer into intermediate-age program once age threshold is met – annual re-certification and fees no longer required

Intermediate Age Program Proposal

- New demonstration/notification option for intermediate-age vehicles/engines (> 2 years and < EPA defined useful life)
- Would significantly reduce burden compared to certification requirement
 - Must submit data from FTP/evap testing to demonstrate compliance with standards
 - OBD testing no longer required – converter must attest that OBD still works
 - Further flexibilities for expanded test groups
 - Submit demonstration data via EPA template (outside Verify data system)
 - Eliminates need for annual recertification
- No certificate of conformity issued
 - System becomes compliant upon EPA receipt/review of proper notification package
 - EPA will maintain publicly available list (e.g. via web site) of systems that have satisfied demonstration and notification requirements
- Intermediate-age converters may still choose certification
 - Some converters prefer status and authority conferred by certificate



Outside Useful Life Program Proposal

- NPRM requests comment on three demonstration options (one demonstration will be finalized)
 - Option 1: Good engineering judgment
 - Option 2: Good engineering judgment + FTP testing
 - Meet inside useful life standard or do back-to-back testing
 - Option 3: Good engineering judgment + OBD scan

How to Comment on the NPRM

- Submit comments by one of two methods:
 - On-line at: www.regulations.gov
 - Send by mail to:
 - Environmental Protection Agency, EPA Docket Center (EPA/DC), Air and Radiation Docket, Mail Code 2822T, 1200 Pennsylvania Avenue NW, Washington, DC 20460, Attn: Docket ID No. **EPA-HQ-OAR-2009-0299**
 - Also send copy of comments to: Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attn: Desk Officer for EPA, 725 17th Street NW, Washington, DC 20503
- Information updates on EPA Alternative Fuels website:
 - <http://epa.gov/otaq/consumer/fuels/altfuels/altfuels.htm>
 - Sign-up for e-mail updates using link to “Enviroflash”