
Renewable Fuel Standard (RFS-2)

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Office of Transportation and Air Quality
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Key Changes Required by EISA

- **The Energy Independence and Security Act (EISA) enacted in December 2007 required changes to the RFS program**
 - Significantly increased volumes of renewable fuel – to 36 billion gallons
 - Separation of the volume requirements into four separate categories of renewable fuel: cellulosic biofuel, biomass-based diesel, advanced biofuel, total renewable fuel
 - Changes to the definition of renewable fuels to include minimum lifecycle GHG reduction thresholds and grandfathering of volume from certain facilities
- **Final rulemaking published in March of this year**
- **RFS-2 program went into effect on July 1**

The Four Categories & Standards

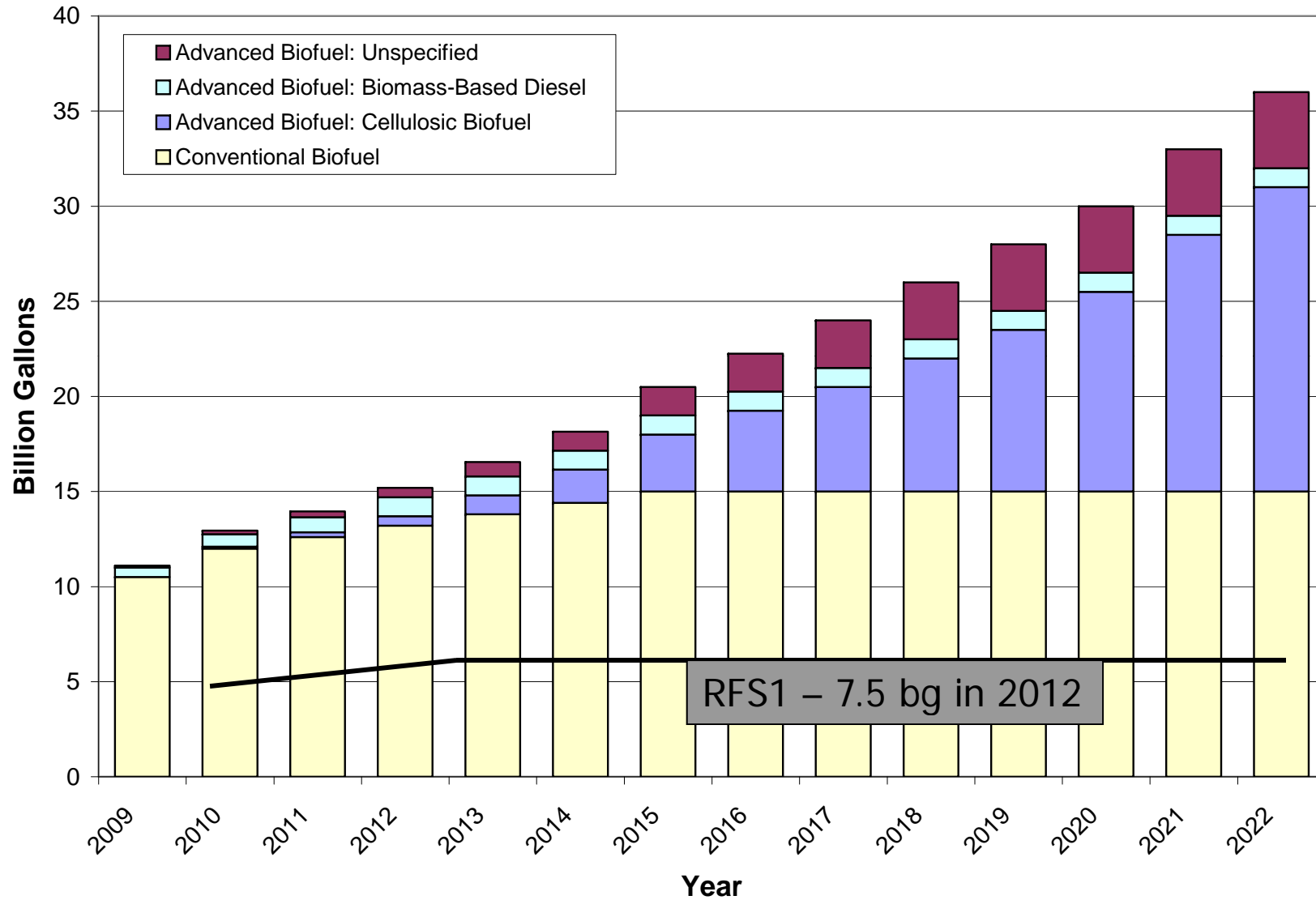
- **Biomass-Based Diesel: 1 Bgal by 2012 and beyond**
 - Biodiesel, “renewable diesel” (if fats and oils not co-processed with petroleum)
 - Soy, wastes, algae
 - Must meet a 50% lifecycle GHG threshold

- **Cellulosic Biofuel: 16 Bgal by 2022**
 - Renewable fuel produced from cellulose, hemicellulose, or lignin
 - Cellulosic ethanol, BTL diesel, green gasoline, etc.
 - Must meet a 60% lifecycle GHG threshold

- **Advanced Biofuel: Total of 21 Bgal by 2022**
 - Includes cellulosic biofuels and biomass-based diesel, plus an additional 4 Bgal
 - Essentially anything but corn starch ethanol
 - Must meet a 50% lifecycle GHG threshold

- **Renewable Biofuel: Total of 36 Bgal by 2022 (Minimum of 15 Bgal additional above advanced biofuel category)**
 - Ethanol derived from corn starch (or any other qualifying renewable fuel)
 - Must meet 20% lifecycle GHG threshold
 - *Existing biofuel facilities (domestic and foreign) are not required to meet GHG threshold for the general renewable biofuel category – these facilities are “grandfathered”*

RFS-2 Volumes



Overview of Impacts of the RFS-2 Program

- **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

- **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 in 2022.

- **Emissions and Air Quality:**

- EISA directs the agency to further evaluate these potential impacts and to mitigate, to the extent possible, any adverse impacts.

Questions?

- For Additional information:
 - <http://www.epa.gov/otaq/renewablefuels/index.htm>
 - Factsheets
 - RFS2 Rulemaking Package
 - Preamble
 - Regulations
 - Regulatory Impact Analysis
 - Links to Other Information
 - Frequently Asked Questions

- Send new questions to: EPAFuelsPrograms@epa.gov

AAQTF Presentation

Research Triangle Park, NC
September 29, 2010

Topics

- Solid Waste/Incineration Rules
- Boiler Rules
- Engine Rules
- Fire Policy
- Biomass Call for Information

Burning Solid Waste: Definitions & Regulations

- Solid Waste Definition
 - Proposal published on June 4, 2010.
 - Final rule to be signed on or before January 16, 2011.
- Regulations
 - The definition of “solid waste” impacts the final outcome of the following rules:
 - The Commercial and Industrial Solid Waste Incineration (CISWI) rule,
 - Industrial Boilers Maximum Achievable Control Technology (MACT) standards rule (“Boilers Rule”).
 - Area Source Boilers
 - Both rules are under a court ordered deadline to be signed by January 16, 2011.

Incinerator Rules

- Commercial and Solid Waste Incineration (CISWI)
 - Schedule
 - Proposal signed on April 29, 2010
 - » Published in the **Federal Register** on June 4, 2010
 - Public Comment period ended August 23, 2010
 - Promulgation – January 16, 2011 (Court-ordered)
 - Source Impacts
 - Covers about 176 units
 - 5 subcategories based on design type
 - Estimated reductions of 29,770 tpy
- Other Solid Waste Incineration (OSWI)
 - Federal register notice to begin collecting information expected in fall 2010.
 - Potentially affected sources : institutional waste incineration (IWI) units, very small municipal waste combustors (VSMWC), pathological waste incinerators and animal crematories, on-farm incineration units (e.g., for disposal of animals or agricultural waste), and construction and demolition waste incinerators.

Boiler Rules

- Schedule
 - Proposal signed on April 29, 2010
 - Published in the **Federal Register** on June 4, 2010
 - Public Comment period ended August 23, 2010
 - Promulgation – January 16, 2011 (Court-ordered)
- Sources Impacts
 - Boiler MACT
 - Covers about 13,555 boilers and process heaters at about 1,600 major source facilities
 - 11,500 of the major source units are gas-fired
 - Mostly industrial but include universities, municipalities, and military installations
 - Eleven subcategories based on boiler design
 - Boiler Area Source Rule
 - Covers about 183,000 boilers at an estimated 92,000 area source facilities
 - 1.3 million gas-fired boilers located at area sources are not included in source category
 - Mostly commercial and institutional but include industrial sources
 - Three subcategories based on boiler design

Stationary Engine Regulations – Recent Rulemakings

- RICE NESHAP (part 63 subpart ZZZZ)
 - March 3, 2010 amendments:
 - Regulate existing stationary compression ignition (diesel) engines that are:
 - ≤ 500 HP at major sources or any size at area sources, and constructed before June 12, 2006
 - non-emergency engines > 500 HP at major sources constructed before December 19, 2002
 - Compliance date: May 3, 2013
 - August 20, 2010 amendments:
 - Regulate existing stationary spark ignition (gas-fired) engines constructed before June 12, 2006 that are ≤ 500 HP at major sources or any size at area sources
 - Compliance date: October 19, 2013
- Stationary Engine NSPS (part 60 subparts IIII and JJJJ)
 - Proposed amendments on June 8, 2010
 - Comment period ended September 8, 2010
 - Final rule expected to be signed by May 22, 2011

Fire Policy

- Draft Fire Policy was submitted for OMB review in February 2010 and was withdrawn in May 2010.
- Met with Federal agencies and are working through a process to understand and address their specific concerns.
- Plan to met with States and other stakeholders before the draft policy is resubmitted to OMB.
 - 60 day public review and comment period.

The Call for Information

- In Tailoring Rule decision, EPA committed to revisit the bioenergy/biogenic emissions issue.
- OAP worked with OTAQ and OAQPS to develop a “Call for Information” published in the Federal Register on July 15, 2010.
- Objective: “to solicit information and viewpoints from interested parties on approaches to accounting for greenhouse gas emission from bioenergy and other biogenic sources.”
 - “serves as a first step for EPA in considering options for addressing emissions of biogenic CO₂ under the Title V and PSD programs”
- Comment period closed September 13, 2010.
 - http://www.epa.gov/climatechange/emissions/biogenic_emissions.html

Call For Information (con't)

- What's in the Call For Information:
 - What criteria might be used to distinguish biomass and other fuels under PSD and BACT?
 - National-scale carbon neutrality under IPCC Guidelines.
 - Scaling down IPCC approach below the national scale.
 - Alternative accounting approaches, specifically referencing time interval and spatial scale.
 - Metrics for comparing fossil and bioenergy sources.
 - Metrics for comparing among biomass feedstocks.
 - Other biogenic sources: how should they be estimated?
 - Broad request for data: current and projected emissions and utilization, drivers for projected changes, emission factors, impacts on other industries and other air pollutants, etc.

Call For Information (con't)

- 7,258 comments received as of September 17, 2010.
- 6,649 comments were mass email comments
- 596 unique comments:
 - Variety of stakeholder groups representing numerous industries & viewpoints.
 - Major industries and trade associations include AF&PA, RFA, Weyerhaeuser, UARG, Edison Electric Institute.
 - Environmental groups include CATF, EDF, The Wilderness Society.
 - States also submitted comments: WGA, CA, MA, MN, WI, IA.
- Mass email campaigns primarily from environmental groups (Friends of the Earth, Clean Water Action/ Democracy in Action) in favor of Tailoring Rule decision to treat CO₂ emissions from biogenic and fossil sources equivalently