The Renewable Fuels Standard

Agricultural Air Quality Task Force

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Overview

- EPAct
- Renewable Fuels Standard (RFS)
- 2006 “Default” Rule
- 2007+ RFS Rule

Energy Policy Act of 2005

- Numerous Regulatory Actions
  - **Renewable Fuel Standard and related provisions**
  - Elimination of the RFG oxygenate mandate
  - Mobile Source Air Toxics
- Numerous Studies, Reports to Congress, non-regulatory Actions
  - Boutique Fuels Studies
  - Health and environmental impacts of the fuel provisions
- Our primary focus is to deliver on RFS

What the RFS is

- EPA must promulgate regulations that ensure the use of renewable fuels
  - 2006: 4.0 billion gallons/yr
  - 2007: 4.7
  - 2008: 5.4
  - 2009: 6.1
  - 2010: 6.8
  - 2011: 7.4
  - 2012: 7.5
  - 2013+: Same percent of renewables for 2012 (0.25 billion gal of which must be cellulosic ethanol)
- Converted into percent of gasoline production
  - Based on annual EIA predictions of gasoline consumption given to EPA each Oct 31

Rule Must Also

- Define who are the liable parties
  - Refiners/blenders/importers as appropriate
- Establish a credit trading program
  - Not every gallon of gasoline has to contain renewables
  - Not every refiner's production has to contain renewables
- Establish "appropriate" credit for different renewables
- Establish compliance assurance provisions
- Account for…
  - Deficit carryover from one year to the next
  - Small refiner exemptions and participation
  - State waivers if any

Default Rule for 2006

- The Act provided a default renewable fuel standard for 2006
  - 2.78%
- The Act required implementing regulations for the default std to address
  - Who?
  - How?
- 2006 was already upon us
  - Wanted to provide market certainty

Default Rule for 2006

- EPA published as a direct final rule on December 28, 2005
- Applies to 2006 only
- Refiners, importers, and gasoline blenders held responsible collectively; no individual liability
- 2.78% of all gasoline nationwide must contain renewable
  - ~4.0 billion gallons
  - Ethanol and biodiesel both count
- If 2.78% is not met, the deficit would carry over to the RFS requirement for 2007
- Expect far greater than 4.0 billion in 2006
  - >4.0 billion gallons was already used in 2005
- Since no adverse comments were received, it will go into effect on February 28, 2006

2007+ RFS Rule

- Key effort is the design of the credit program
  - What is a credit?
  - Who can generate credits?
  - How are credits generated?
  - How are credits traded (how will the market work)?
  - What are the “appropriate” credits for non-ethanol renewables?
- Also regulatory impact analyses
  - Economic impacts
  - Environmental impacts
  - Energy impacts

Simplified Gasoline and Ethanol Distribution System

Liable for RFS

45 Importing Companies

Marine Tankers

Barge

142 Refineries

Pipeline

Refinery Terminals

Rail

~1,000 Bulk Terminals

~12,000 Transport Trucks

~10,000 Bulk Plants

~50,000 Tank Wagons

~1300 Ethanol Blenders

Major Ethanol Producers

Transport Trucks

Barge

Rail

Independent Brokers

~90 Ethanol Plants

~170,000 Retail Facilities

Centrally-fueled Fleets

>100,000 Farm Tanks

Potentially Qualifying Renewable fuels

- Ethanol
  - Corn
  - Other Starches
  - Cellulose
  - Sugar
- Biodiesel (ester) and Renewable Diesel
  - Veg Oils and Animal Fats
- Biocrude
  - Veg Oils and Animal Fats
- ETBE
- CNG, Fischer-Tropsch diesel/gasoline, MTBE, Methanol
  - Biogas
  - Biomass gasification
  - Sewage plant
- Others…

Stakeholder Input

- Gathering input from all key stakeholders
  - Refiners
  - Renewable producers
    - Ethanol
    - Biodiesel
    - Other possible renewables
  - Distributors and Marketers
  - Agricultural interests
  - DOE
  - Environmentalists
- Working to develop a program with broad based consensus

Guiding Principles for the RFS Program Structure

- All qualified renewable fuels must be able to participate
- Not require changes to the current business practices for production, distribution, trading, and use of ethanol/biodiesel
- Every gallon of renewable is counted, with no double-counting
- Credit generation, ownership, and trading mechanisms are clear and consistent year to year
- Simple in design and implementation
- No new grades of gasoline
- Minimize economic and other impacts on consumers

Credit Trading Program Concepts

- Discussions with stakeholders have yielded 3 broad trading program concepts

1. Renewable producer concept

2. First purchaser concept

3. Blender concept

Significant Benefits Anticipated

- Based on Argonne Natl Laboratory's GREET model (v1.6), the energy and carbon emission benefits could be significant

	Corn-ethanol	Cellulosic ethanol	Biodiesel
Fossil energy	45%	88%	65%
Petroleum energy	92%	92%	92%
GHG	26%	86%	71%
CO2	39%	100%	73%

- % reduction resulting from using one gallon of ethanol/biodiesel to displace the equivalent volume of gasoline/diesel (Calculated on energy equivalent basis)

Other Environmental Impacts

- For the other pollutants, we expect the impacts to be relatively minor
  - On new vehicles the impacts of ethanol on criteria pollutants are expected to be much smaller than in the past
- Testing over the next couple years will be done to confirm

2007+ RFS Rule

- Normally a 2+ year process for a major rule
  - 1+ years to develop proposal and supporting documents
  - Public hearing and comment period
  - Final rule
- Planning to accelerate the process for RFS
  - Proposal in late summer/early fall 2006
  - Final rule in early 2007
- Only possible if broad stakeholder consensus on the proposal

For More Information...

Web pages:

www.epa.gov/otaq/renewablefuels/index.htm

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