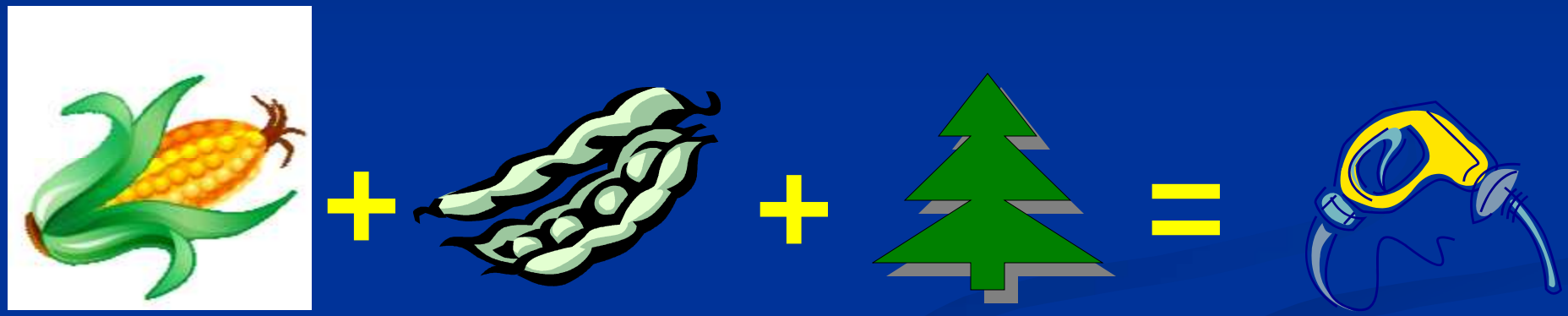
The Renewable Fuels Standard – Deja Vu



National Biodiesel Board Conference
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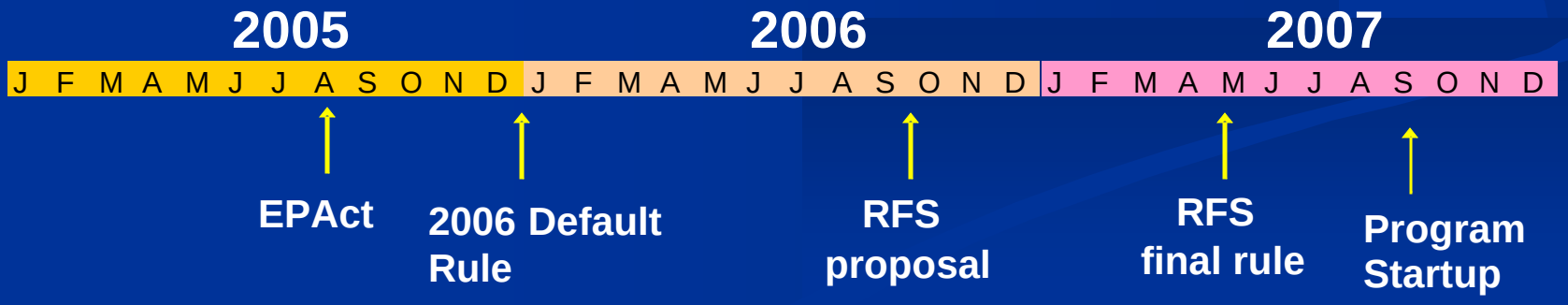
EPA's Office of Transportation and Air Quality

Presentation Overview

- RFS1
  - What's been done?
- RFS2
  - What will be the same?
  - What will be different?

RFS1

- A rule on a rapid schedule
  - Required by EPAct 2005
  - EPA final regulations published May 1, 2007
  - Implementation workshop May 10
  - Start of the program Sept 1, 2007
- Designed a whole new regulatory program, in particular the RIN system, from the ground up
- Accomplished through extensive collaboration with a wide range of stakeholders
  - NBB, RFA, ACE, API, NPRA, NACS, PMAA, DOE, USDA, NRA, ACGA, States, Enviros, etc.



RFS1 – The Program Basics

- Ethanol Equivalent Volumes Required
  - **2006: 4.0 billion gallons/yr**

  - **2012: 7.5**
  - **2013+: Constant %, 0.25 Bgal cellulosic std**

- "Equivalence Value" for various renewables based on volumetric energy content in comparison to ethanol:
  - **Corn-ethanol: 1.0**
  - **Biodiesel (alkyl esters): 1.5**
  - **Renewable diesel: 1.7**
  - **Biobutanol: 1.3**
  - **Cellulosic biomass ethanol: 2.5** (Mandated by Act thru 2012)

Ethanol Equivalent Volumes

- Each November EPA publishes the % standard for the following year based on gasoline projections from EIA

$$\text{\% Standard} = \frac{\text{Required volume of renewable fuel}}{\text{49-State gasoline volume (Less small refiners)}}$$

- Obligated parties include refiners, importers, gasoline blenders
  - **Small refiners/refineries are exempt until 2011**

RIN Compliance/Trading System

- 38 digit RIN serial numbers are assigned
  - By renewable fuel producers
  - To each gallon/batch of renewable fuel produced
- Contains
  - Company registration ID
  - Facility registration ID
  - Year of production
  - Batch serial number
  - Batch volume
  - Equivalence value
  - Etc.

RIN Compliance/Trading System

- These RINs are the currency for the credit trading program and used for compliance.
- Obligated parties acquire RINs in order to show compliance.
- Compliance is assured thru reporting to EPA's Central Data Exchange

RIN Compliance/Trading System

- RINs must be transferred along with renewable fuel through the distribution system;
  - Can not be “separated” from the renewable fuel by marketers
  - Can only be “separated” by obligated parties or renewable fuel blenders.
- Once separated, no restrictions on who can buy, sell, or trade RINs or how many times
- RINs are valid for compliance in the calendar year generated - or the following year up to a cap of 20%

RFS1 is Up and Running

- Registration, Recordkeeping, Reporting
- Extensive educational outreach effort since May
- Growing pains of implementing a new program are beginning to lessen
- RINs are becoming valuable
  - 0.25¢ to as much as 5¢ since December
- Just in time for the Sequel…

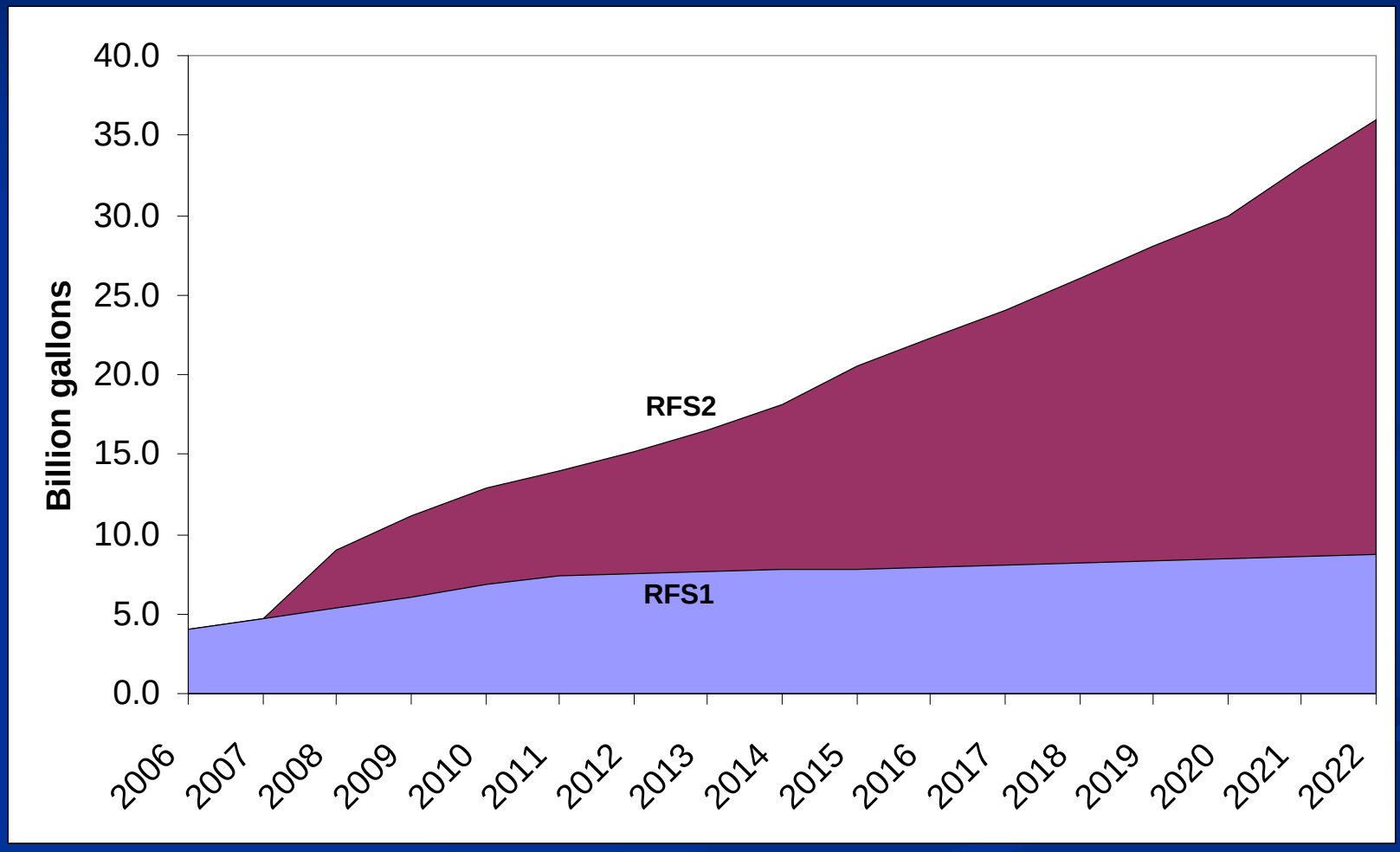
RFS2: Deja Vu

- Another rule required on an even shorter schedule
  - Required by EISA December 19, 2007
  - Final Rule required by December 19, 2008
  - Required to be effective January 1, 2009
    - Currently evaluating options
- EISA also increases volume under RFS1 for 2008
  - Volume changed from 5.4 to 9.0 bill gal
  - Can be implemented without going through a rulemaking process - a new Federal Register Notice

RFS2

- Can build off of the foundation of RFS1
  - RIN system may remain virtually intact
  - Still 38 digits
- But still trying to figure out what EISA will really mean
  - Several new challenging provisions
  - High volumes make every issue very serious
- Picking up where we left off from RFS1 with our stakeholders

RFS2: Much Higher Volumes



RFS2: 4 Separate Stds

Year	Advanced Biofuel			Total Renewable Fuel
	Biomass-Based Diesel	Cellulosic Biofuel	Total Advanced Biofuel	
2006				4.0
2007				4.7
2008				9.0
2009	0.5		0.6	11.1
2010	0.65	0.1	0.95	12.95
2011	0.80	0.25	1.35	13.95
2012	1.0	0.5	2.0	15.2
2013	1.0	1.0	2.75	16.55
2014	1.0	1.75	3.75	18.15
2015	1.0	3.0	5.5	20.5
2016	1.0	4.25	7.25	22.25
2017	1.0	5.5	9.0	24.0
2018	1.0	7.0	11.0	26.0
2019	1.0	8.5	13.0	28.0
2020	1.0	10.5	15.0	30.0
2021	1.0	13.5	18.0	33.0
2022	1.0	16.0	21.0	36.0

New Obligations

- Standard extended to:
  - Diesel fuel in addition to gasoline
  - Nonroad fuel in addition to highway
- Obligated parties now include refiners, importers, blenders of these fuels
- Jet fuel and heating oil aren't covered, but renewable sold into these markets can generate RINs

New Renewable Fuel Definitions

- Significantly changed from RFS1
- Creates new categories
- Eliminates some old categories
  - Waste-derived ethanol
  - "90% renewable process heat" cellulosic ethanol
- Definitions now include new elements
  - “Existing cropland” criterion
  - Lifecycle GHG reduction thresholds

New “Existing Cropland” Criteria

- Renewable fuels must now be produced from renewable biomass harvested from land “cleared or cultivated” prior to EISA
- Development of this provision will require extensive stakeholder interaction
  - Renewable fuel producers usually do not know the source of their feedstocks – how enforce?
  - How far back could it have been cropland – the Anasazi?
  - How apply/enforce internationally?

New Lifecycle GHG Criteria

- Renewable fuels must now meet a 20% lifecycle GHG threshold relative to the gasoline or diesel fuel they displace
  - EPA must determine lifecycle performance the various fuels
  - Including emissions resulting from international land-use changes
- Facilities that commenced construction prior to EISA are grandfathered
  - Definition of “commenced construction”
  - Application to future expansions, changes in feedstock, changes in energy source?
  - Application internationally?
- Anticipate extensive interaction with stakeholders

New Renewable Fuel Definitions

- Biomass-Based Diesel
  - E.g., Biodiesel (FAME), “renewable diesel” if fats and oils not co-processed with petroleum
  - Must meet a 50% Lifecycle GHG threshold
  - 20-50% still counts as renewable fuel
- Cellulosic Biofuel
  - Renewable fuel produced from cellulose, hemicellulose, or lignen
  - E.g., Cellulosic ethanol, BTL diesel
  - Must meet a 60% Lifecycle GHG threshold
- Advanced Biofuel
  - Essentially anything but corn starch ethanol
  - Includes Cellulosic Ethanol and Biomass-based diesel
  - But must meet a 50% Lifecycle GHG threshold
- Provisions for EPA to adjust the lifecycle GHG thresholds by as much as 10%

General Waiver Authority

- Anyone (not just States) can now petition for a waiver or relaxation of any of the four standards
  - Severe harm to the economy
  - Inadequate supply
- EPA must approve or disapprove within 90 days
- But requires opportunity for notice and comment
- Limited to one year, but can be renewed

Biomass-Based Diesel Waivers

- EPA can lower the standard in the Act
  - If significant supply or other market circumstances lead to high prices
- Up to 15%
  - 30% if renewed
- Can reduce advanced biofuel and total renewable fuel standards accordingly

Cellulosic Biofuel "Waiver"

- Irrespective of the volumes required in the Act
  - The Administrator must set the cellulosic standard
  - Each November for the following year
  - "Based on" October EIA projections
- If the cellulosic standard is set less than the volume required in the Act,
  - EPA must make EPA-RINs available for sale at the greater of
    - 25 cent/gallon
    - $3.00 per gallon less the wholesale price of gasoline (at today's prices this equates to ~70 c/gal)
  - EPA can reduce the standards for advanced biofuel and total renewable fuel accordingly
- Anticipate extensive interaction with stakeholders

Future Standard Modifications

- If any of the four standards are lowered by more than 20% in two consecutive years or more than 50% in one year
- Then EPA is required to issue a rule to change the standards for all subsequent years
  - But only for post 2016 standards
  - Reduces the need for future waivers

Next Steps

- FR Notice for 2008
- Launch the rulemaking process
- Stakeholder outreach is already underway

For More Information..

Web page:

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

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