



Notice of Proposed Rulemaking for Annual Renewable Fuel Standards: 2014, 2015, and 2016 (and 2017 For Biomass-Based Diesel)

June 19, 2015

Background

- The RFS program was first put into place (RFS1) by EPA in 2007 in response to Clean Air Act amendments in EPAct 2005, and then was revised by EPA in 2010 (RFS2) in response to EISA 2007
- The Clean Air Act lays out a schedule of volumes for cellulosic biofuel, advanced biofuel and total renewable fuel to be achieved through 2022, and biomass-based diesel (BBD) through 2012. EPA is to set volume requirements for years after those in the statute based on review of a number of factors.
- The statute enables EPA to waive the statutory volumes for various reasons, including inadequate domestic supply
- The Act requires EPA to set annual percentage standards that apply to refiners and importers and are designed to achieve renewable fuel volume requirements
- EPA proposed annual standards for 2014 in November 2013, but they were never finalized

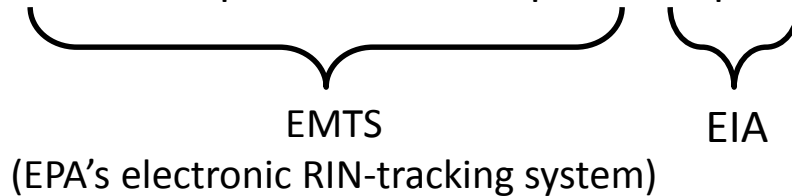
Proposal Overview

- This proposal includes proposed standards for 2014, 2015, and 2016 for all biofuel categories under the RFS program
- EPA will finalize the rule by November 30, 2015, which returns us to statutory timetable for issuing volume rules
- The proposal also includes the 2017 volume for BBD in this package since it must be set 14 months ahead of 2017 (i.e., November 2015)
- The proposal also addresses requests from States and others for a waiver of 2014 volumes
- The proposal places strong emphasis on the intent of Congress to push volumes, while recognizing limitations that exist on the supply of sufficient renewable fuels to consumers

General Approach to Proposed Standards

- 2014 would be set at the volumes actually supplied

- Supply = domestic production + imports - exports



- 2015 volumes would include a projection of growth, but standards take into account the fact that the year is partially over
- 2016 will be the first year for which proposal would be able to drive growth on the statutory timeline
 - 2016 proposed standards would provide for substantial growth over historical volumes

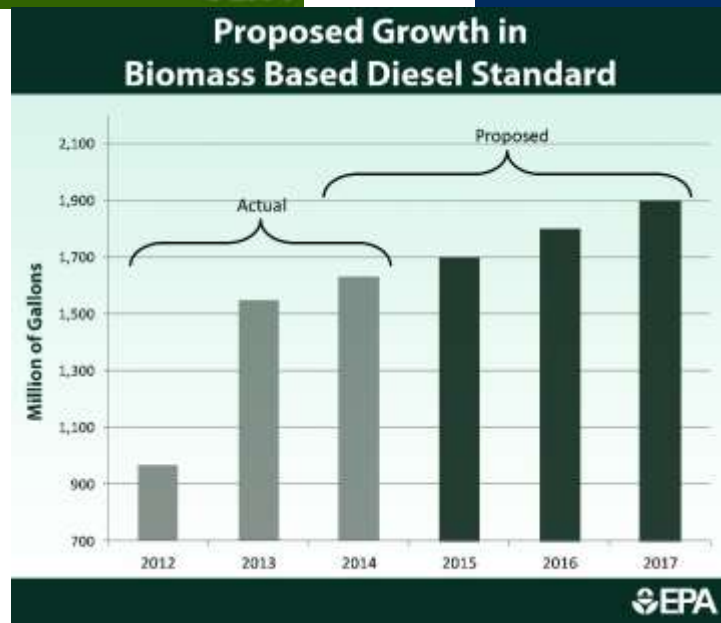
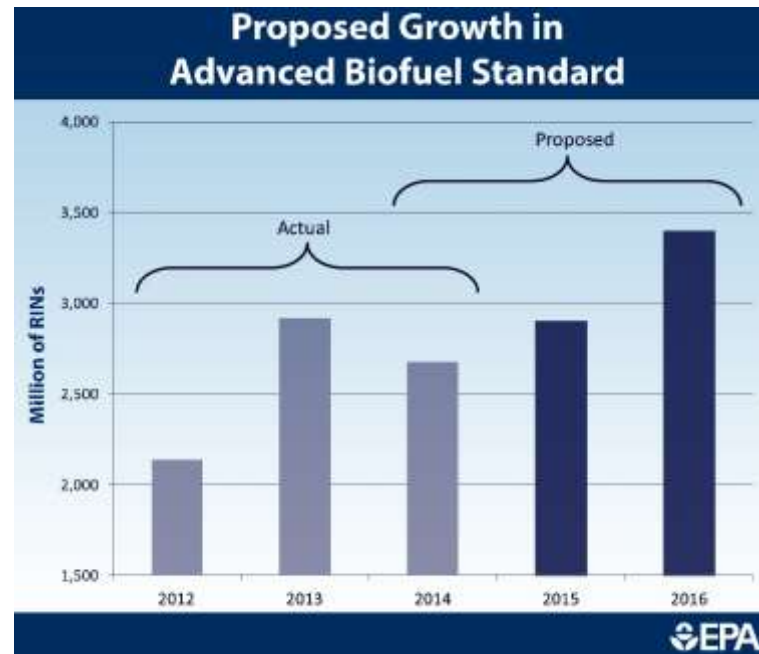
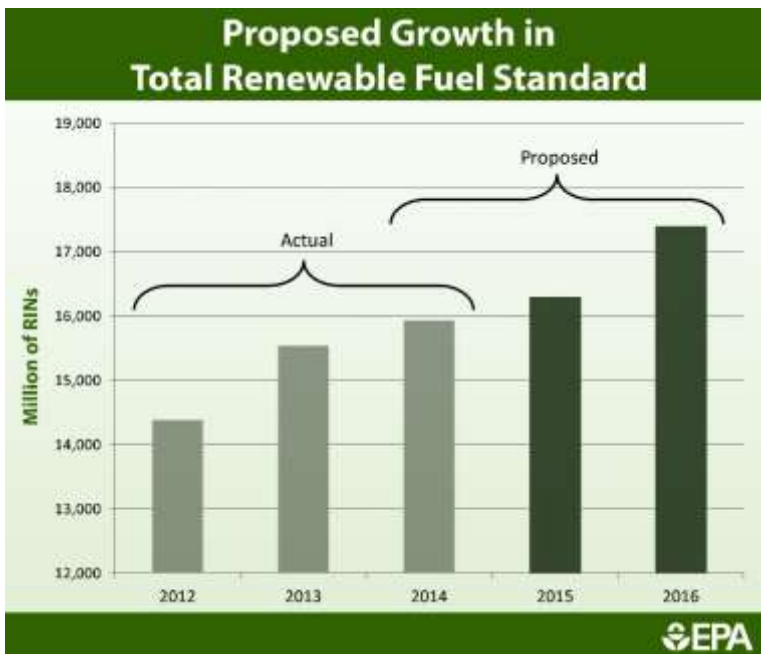
Proposed Volumes

	2014	2015	2016	2017
Cellulosic biofuel	33	106	206	
Biomass-based diesel	1,630	1,700	1,800	1,900
Advanced biofuel	2,680	2,900	3,400	
Total renewable fuel	15,930	16,300	17,400	

Conventional renewable fuel (total standard - advanced standard)	13,250	13,400	14,000	
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All volumes are ethanol-equivalent, except for biomass-based diesel which is biodiesel-equivalent

Trends Over Time



Legal Approach

- Cellulosic Biofuel
 - Statutory requirement for "projected volume available"
 - January 2012 court directive for a "neutral aim at accuracy"
- Biomass-based diesel
 - Statutory requirement that we analyze a set of factors
 - Consideration of the contribution of BBD to advanced biofuels and the benefits of providing incentives for both biodiesel and other advanced
- Advanced biofuel and total renewable fuel
 - Combination of the cellulosic waiver authority and the general waiver authority
 - We use the same approach for all three years
 - Interpreting "supply" under the general waiver authority to include supply to the vehicles and engines that can consume fuel
 - Constraints on supply thus include any infrastructure issues that could impact the actual use of renewable fuel
 - Statutory volumes for total and advanced cannot be met on statutory timeline
 - Original Congressional targets were too ambitious

Advanced Biofuel and Total Renewable Fuel

- Proposal places strong emphasis on the intent of Congress to push volumes
- The proposed standards are market-forcing and rely on the ability of the market to respond to the standards we set to drive growth
 - Proposed standards would push beyond BAU growth
- In setting the proposed standard EPA considered 2 factors:
 - Constraints imposed by the E10 blendwall and limitations in production and import capability of advanced biofuels
 - The ability of the market to respond to ambitious standards
- The proposed standards ensure growth in advanced, total, and conventional biofuels
 - Total = Conventional + Advanced
- The market will determine the precise mix of biofuels which are used to meet the standards

Advanced Biofuel and Total Renewable Fuel

- We have used 2014 as our baseline in determining the growth that can be achieved in 2015 and 2016
 - 2015: Given that the standards will be set after a large portion of 2015 is over, we have projected moderate growth of ~400 mill gal over the 2014 volume
 - 2016: We believe that growth of an additional 1.1 bill gal is possible over the 2015 volume, though it is very ambitious

- We are proposing to reduce both advanced and total together by the same amount using both the cellulosic and general waiver authorities, and then reduce total further using just the general waiver authority
 - We use the same approach for all three years

- In response to a market-forcing total standard, we anticipate growth in
 - E85 volumes, or
 - Non-ethanol volumes (mostly biodiesel) or
 - Some combination of the two

- E10 blendwall

Biomass-Based Diesel

- EPA is required to consider a list of statutory factors
- The proposed volume biodiesel standard principally reflects two considerations:
 - Intent to provide certainty to the biodiesel industry which is currently the predominant contributor to the advanced biofuel standard
 - Support for growth in other advanced biofuels (e.g., naphtha, renewable gasoline, jet fuel)
- The volume requirements provide for guaranteed ongoing growth in BBD while allowing for growth in other advanced biofuels if they can compete

Cellulosic Biofuel

- As for all previous annual standard-setting rulemakings, our projections of cellulosic biofuel are based upon facility-specific analyses
- Methodology
 - Establish a range for each company based on actual past production (low end) and a 6 month ramp-up to full production (high end)
 - Divide companies into two groups based on whether or not they have had consistent commercial production in the past
 - Project volumes for each group using 25th percentile for those who have not had consistent commercial production in the past and 50th percentile for those who have
- For each year, the majority of the fuel is expected to come from CNG/LNG derived from biogas (remainder is primarily ethanol)
 - About 98 out of 106 mill gal in 2015
 - About 170 out of 206 mill gal in 2016

Benefits of Proposed Volumes

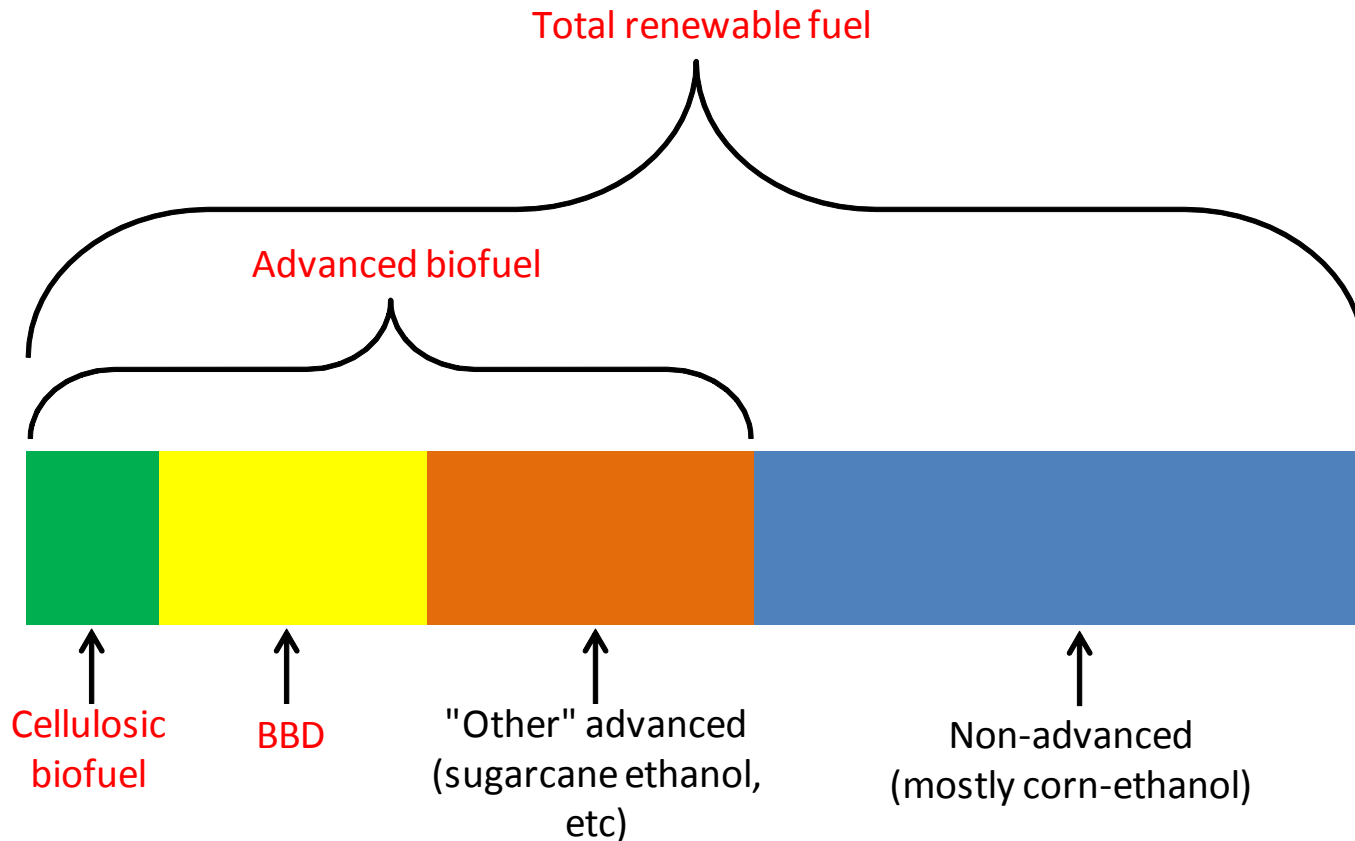
- Growth in advanced and total volumes push the market while also recognizing that the statutory volumes are not achievable on the Congressional timeline
- Conventional biofuel volumes continue to grow toward the 15 billion gal-limit imposed by Congress
- The biomass-based diesel standard guarantees growth in biodiesel industry while still allowing room for the growth in other advanced biofuels needed in the future
- The cellulosic standard recognizes the new role of cellulosic biogas, thereby substantially increasing requirements over past years

Next steps

- Public hearing: June 25, Kansas City KS
- Comment period will end on July 27, 2015
- Final rule by November 30, 2015

Appendix

Interaction Between Standards



Statutory Volumes

	Cellulosic biofuel	Biomass-based diesel	Advanced biofuel	Other advanced (advanced minus cellulosic minus BBD)	Total renewable fuel	"Conventional" (total renewable minus advanced)
2009	na	0.5	0.6	-0.15	11.1	10.5
2010	0.1	0.65	0.95	-0.125	12.95	12
2011	0.25	0.8	1.35	-0.10	13.95	12.6
2012	0.5	1	2	0	15.2	13.2
2013	1	a	2.75	0.25	16.55	13.8
2014	1.75	a	3.75	0.5	18.15	14.4
2015	3	a	5.5	1.0	20.5	15
2016	4.25	a	7.25	1.5	22.25	15
2017	5.5	a	9	2.0	24	15
2018	7	a	11	2.5	26	15
2019	8.5	a	13	3.0	28	15
2020	10.5	a	15	3.0	30	15
2021	13.5	a	18	3.0	33	15
2022	16	a	21	3.5	36	15

a: statute sets 1b gal minimum, but EPA may raise requirement