

Renewable Fuels Policy Landscape

Kansas Energy Conference

Wednesday, October 13, 2010

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ICM: Who Are We?

ICM has a mission to provide innovative technologies, solutions and services to sustain agriculture and advance renewable energy

- Founded in 1995 with an industry history dating back to 1970's
- Privately held company headquartered in Colwich, Kansas
- Approximately 300 employees
- Industry leading Engineers, Plant Operators, Scientists, and Project Managers
- More than 200 combined years of ethanol plant operations experience
- More than 200 combined years of total R & D experience
- More than 345 combined years of engineering experience
- Since 1995 ICM has designed and engineered 102 commercial ethanol plants
- ICM has completed 13 non-ICM technology plant design modifications or “retrofits”



Federal Renewable Fuels Standard (RFS 2)

RFS 2 Mandates – Green House Gas Reduction (calculation including International Indirect Land Use)

Four RFS 2 Annual Standards	GHG Emissions % Reduction*
Renewable Fuel	20%
Advanced Biofuel	50%
Cellulosic Biofuels	60%
Cellulosic Diesels	50% or 60%

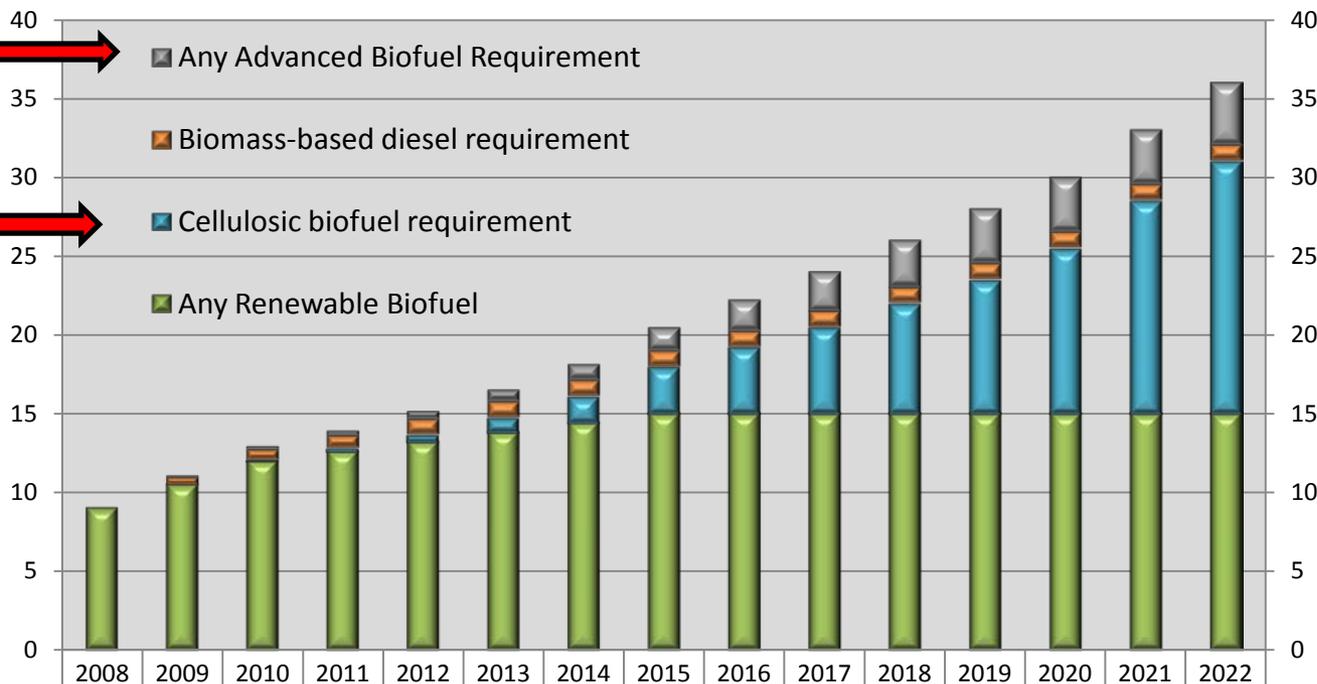
**Percent reduction from 2005 gasoline or diesel baseline (gasoline 92.6 grams/CO2/MJ)*

Federal Renewable Fuels Standard (RFS 2)

RFS2: Four Annual Standards

Meeting the Mandated Standards

Billions of Gallons



ADVANCED

Any Advanced Biofuel Requirement	0	0.1	0.2	0.3	0.5	0.75	1	1.5	2	2.5	3	3.5	3.5	3.5	4
Biomass-based diesel requirement	0	0.5	0.65	0.8	1	1	1	1	1	1	1	1	1	1	1
Cellulosic biofuel requirement	0	0	0.1	0.25	0.5	1	1.75	3	4.25	5.5	7	8.5	10.5	13.5	16
Any Renewable Biofuel	9	10.5	12	12.6	13.2	13.8	14.4	15	15	15	15	15	15	15	15
Total renewable fuel requirement	9	11.1	12.95	13.95	15.2	16.55	18.15	20.5	22.25	24	26	28	30	33	36

Biomass Diesel in 2013 and on will be at least 1 BG



Next Generation Technologies

Green House Gas Reduction Strategies – non-grandfathered plants or plants seeking Advanced Biofuel production

Carbon Lifecycle Assessment - calculate plant's carbon footprint (measured in grams CO₂ per megajoule)

Sorghum as Feedstock – very minor to no modifications needed to current technology

Bio-Methanation – reduce natural gas usage → reduce carbon footprint

Gasification – move off the fossil fuel grid

E15 Waiver Update

- US Dept. of Energy has completed testing on 2007 and newer vehicles.
- US EPA may announce a partial decision on the requested waiver. This is a partial decision because this 2007 and newer vehicle testing is complete.
- Total # of vehicles on road today = 239 million
- 2007 through 2011 vehicles = 43 million (**18% of total**)

E15 Waiver Update

- Second decision from US EPA expected yet in 2010 when the tests are completed for the 2001-2006 vehicles.
- 2001 through 2006 = 86.3 million vehicles **(36% of total)**

2001 through 2011 = 129.3 million

54% of all vehicles on the road

E15 Waiver Update - Labeling

- US EPA is expected to propose a labeling rule to notify consumers about the use of E15 at the pump.
- There will likely be a 60 day public comment period.

USEPA E15 Waiver

- Assuming US EPA grants a partial waiver soon, this is the first “crack” in the blend wall in more than 3 decades.
- Approval of E15 for newer vehicles is a good first step that should be followed by approval for older model vehicles once US DOE completes its testing on them later this year.
- Industry testing on 1994-2000 vehicles has also been positive but not USEPA sanctioned

E15 – Possible Next Steps

- A decision by US EPA on 2007 and newer vehicles would allow time to address the required regulatory hurdles before E15 can be sold, including:
 - › ‘health effects’ testing; fuel registration; state regulations; and others
- Clearing these regulatory hurdles now means the delay in putting E15 into commerce will be shortened if a 2nd decision is made later this year.
- Acceptance of E15 will depend on market forces – if retailers can make more \$\$ on E15 they will adopt it.

Federal Legislation Update

- Congress recessed until November 15; expect lame duck session.
- Ethanol tax credits – VEETC – currently \$.45 per gallon – proposals being considered
 - › VEETC renewal one year – short term
 - Biodiesel tax credit in search of similar renewal
 - › Revise to producer credit, reduce amount per gallon, and revise/rescind import tariff

Federal Legislation Update

- Ethanol tax credit legislation (cont.)
 - › Create additional credits for ethanol producers that reduce their carbon footprints
 - › Increase numbers of Flexible Fuel Vehicles in US gasoline-powered fleet to 100%
 - › Redirect federal savings from VEETC to retail infrastructure implementation for blender pump dispensers – need for 200,000 nationwide
 - Note - Recent guidance from US DOE to State and Local Grantees allowing Recovery Act funds use for blender pumps

Other Policy Issues

- Low carbon fuel standards
 - › Federal legislation
 - › State/Regional legislation and programs
 - California AB 32
 - NESCAUM (Northeast states)
 - Midwest Governors Association
- US EPA Proposed Greenhouse Gas Regulations
 - › Tailoring Rule
 - › Sustainability Call for Information
 - › Various Proposals Impacting Ag Production

THANK YOU

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