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An Introduction To The Renewable Fuel Standard & The RIN Credit Program

Agenda



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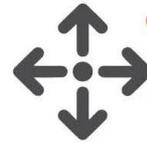
- Renewable Fuel Standard (RFS)
 - Renewable Volume Obligation (RVO)
 - Renewable Identification Number (RIN)
 - Registration & Compliance Issues

A Leader In Carbon Credit Realization



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Audits of
OVER 150
BIOFUEL PLANTS
in **18 COUNTRIES**



OVER
1 BILLION
GALLONS OF BIOFUEL CAPACITY
UNDER MANAGEMENT

OVER
50 PRODUCERS
have enrolled in
RIN COMPLIANCE PROGRAM

WHY ECOENGINEERS?



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ONE OF THE FIRST
USEPA RECOGNIZED
RIN Quality Assurance Programs

Assisted
REGISTRATION
& PREPARATION
for over **30 LCFS**
PATHWAY PROJECTS



TRANSACTIONED OVER
1.7 BILLION
RINS IN 2014

4.7 MILLION RINS 
PROCESSED **EACH DAY**
on our automated platform

Developing Sustainable Solutions For the World



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WHAT WE DO:

1. Understand clean fuel regulations & standards
2. Connect our clients to carbon credit and fuel markets
3. Give our clients confidence in the compliance status and value of new investments
4. Help create a world less dependent on fossilized carbon– Design, build, own, operate renewable projects

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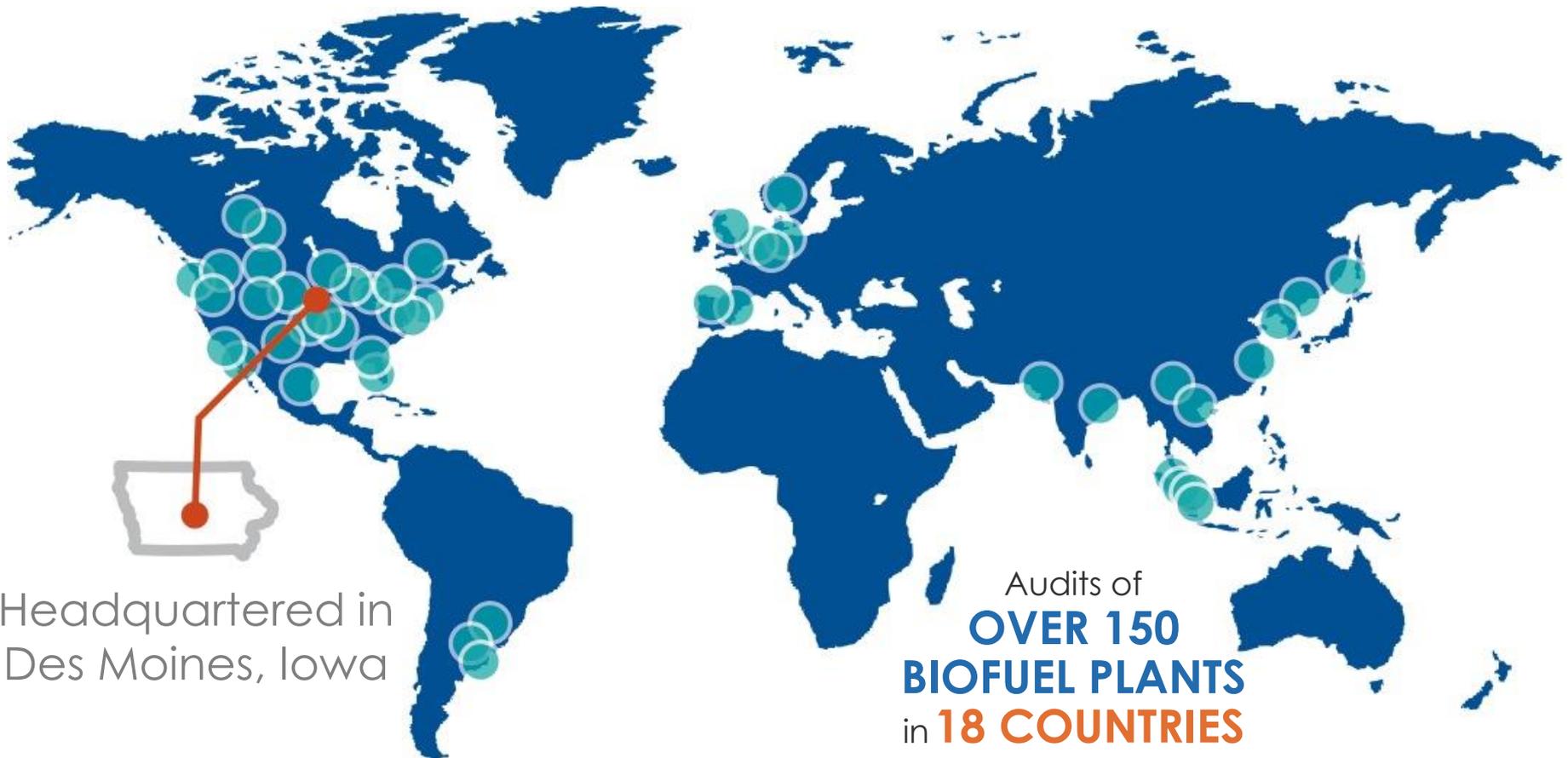


Global Presence Midwest Roots



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Headquartered in
Des Moines, Iowa

Audits of
OVER 150
BIOFUEL PLANTS
in **18 COUNTRIES**

Services



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Providing creative solutions to environmental problems and fostering market connections that build sustainable communities.



Compliance & Regulatory



Engineering Reviews



Advocacy



GREET Modeling



Studies



Design



Pathway Evaluation



CDX Registration

EcoEngineers RIN Track At 2015 Energy Conference



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WHEN

Sept. 21-23, 2015



WHERE

Des Moines, IA

Downtown Embassy Suites

Lisa Coffelt

RINAlliance, Business Development

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The Renewable Fuel Standard (RFS2)



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The RFS requires the blending of Renewable Fuels with the nation's motor vehicle fuel supply

Origins in EISA and RFS1 (2007)

Promulgated in July 2010

Created 4 renewable fuel categories

Set a 36 billion gallon goal for 2022

Expanded the RIN program

Developed the EMTS (EPA Moderated Transaction System)



Fuel Types, RIN Codes & GHG Reduction



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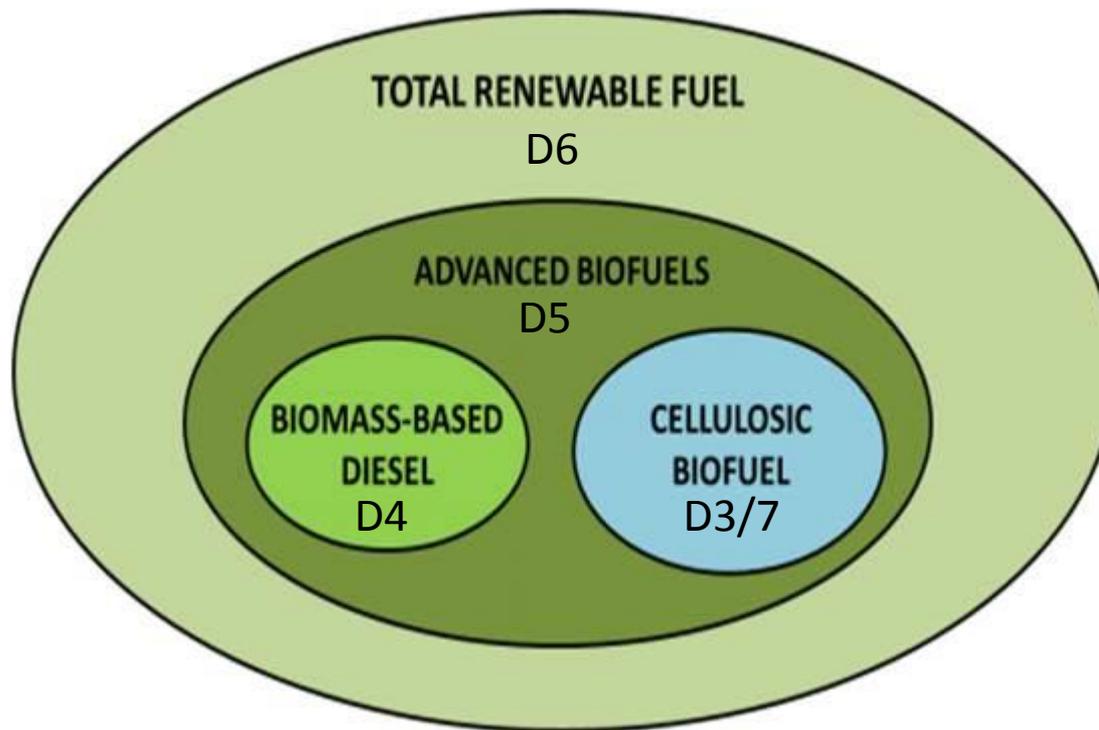
RIN D Code	Fuel Type	GHG Reduction Requirement	Fuel
D3 / D7	Cellulosic Biofuels	60%	Cellulosic ethanol, cellulosic naphtha, cellulosic diesel, Renewable CNG/LNG, etc.
D4	Biomass-based Diesel	50%	Biodiesel, renewable diesel, etc.
D5	Advanced Biofuels	50%	Sugarcane ethanol, renewable heating oil, biogas, etc.
D6	Renewable Fuel	20% or less	Corn ethanol, etc.

The Nested Nature of the Mandate



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Nested Renewable Fuel Categories under the RFS



(from the House Of Representatives Energy and Commerce Committee)

Original RFS Volume Mandates (BGY)



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Year	Cellulosic biofuel (D3/D7)	Biomass-based diesel (D4)	Advanced biofuel (D5)	Renewable Fuel (D6)	Total
2014	1.8	tbd	3.75	14.4	18.15
2015	3.0	tbd	5.5	15	20.50
2016	4.3	tbd	7.25	15	22.25
2017	5.5	tbd	9	15	24.00
2018	7.0	tbd	11	15	26.00
2019	8.5	tbd	13	15	28.00
2020	10.5	tbd	15	15	30.00
2021	13.5	tbd	18	15	33.00
2022	16.0	tbd	21	15	36.00

Aggressive advanced fuel mandate

Starch ethanol capped at 15 BGY

Current RFS Volume Mandates (BGY)



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Year	Cellulosic biofuel (D3/D7)	Biomass-based diesel (D4)	Advanced biofuel (D5)	Renewable Fuel (D6)	Total
2014	0.033	1.63	2.68	13.25	15.93
2015	0.106	1.70	2.90	13.4	16.30
2016	0.206	1.80	3.40	14	17.40
2017	tbd	1.90	9	15	24.00
2018	tbd	tbd	11	15	26.00
2019	tbd	tbd	13	15	28.00
2020	tbd	tbd	15	15	30.00
2021	tbd	tbd	18	15	33.00
2022	tbd	tbd	21	15	36.00

Advanced Fuel volumes reduced

Starch ethanol volumes reduced

What will advanced biofuel volumes be 2017 - 2022?



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2021	tbd	tbd	18	15	33.00
2022	tbd	tbd	21	15	36.00

The opportunity for biogas and other advanced fuels

RIN Generation Data



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Fuel	2013	2014	2015 (As of June 10)
Cellulosic Biofuel	810,185	33,072,542	37,056,414
Biomass-Based Diesel	2,729,681,144	2,702,827,296	954,771,458
Advanced Biofuel	551,583,652	143,220,826	34,725,859
Renewable Fuel	13,325,610,271	14,339,412,529	5,989,560,856

Biogas Pathways Introduced in 2014



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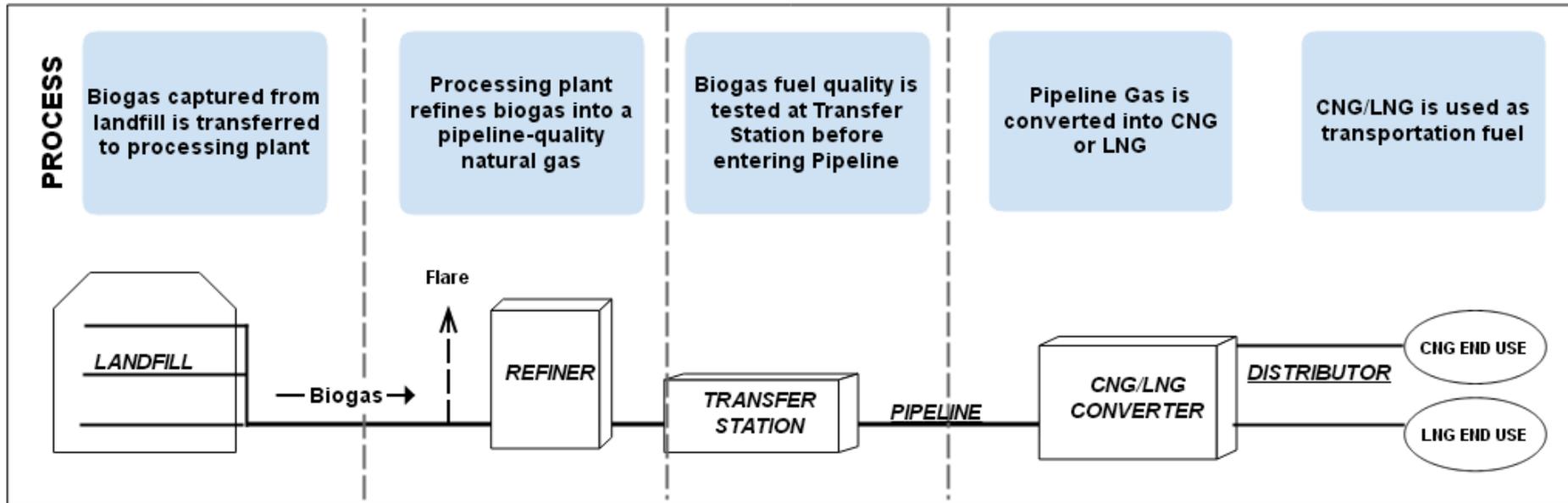
	Fuel Type	Feedstock	Production Process Requirements	D-Code
Q	Renewable Compressed Natural Gas, Renewable Liquefied Natural Gas, Renewable Electricity	Biogas from landfills, municipal wastewater treatment facility digesters, agricultural digesters, and separated MSW digesters; and biogas from the cellulosic components of biomass processed in other waste digesters	Any	3
T	Renewable Compressed Natural Gas, Renewable Liquefied Natural Gas, and Renewable Electricity	Biogas from waste digesters	Any	5

Note: The RFS also has liquid fuel pathways that require the use of biogas for process energy.

How The Biogas Pathway Works



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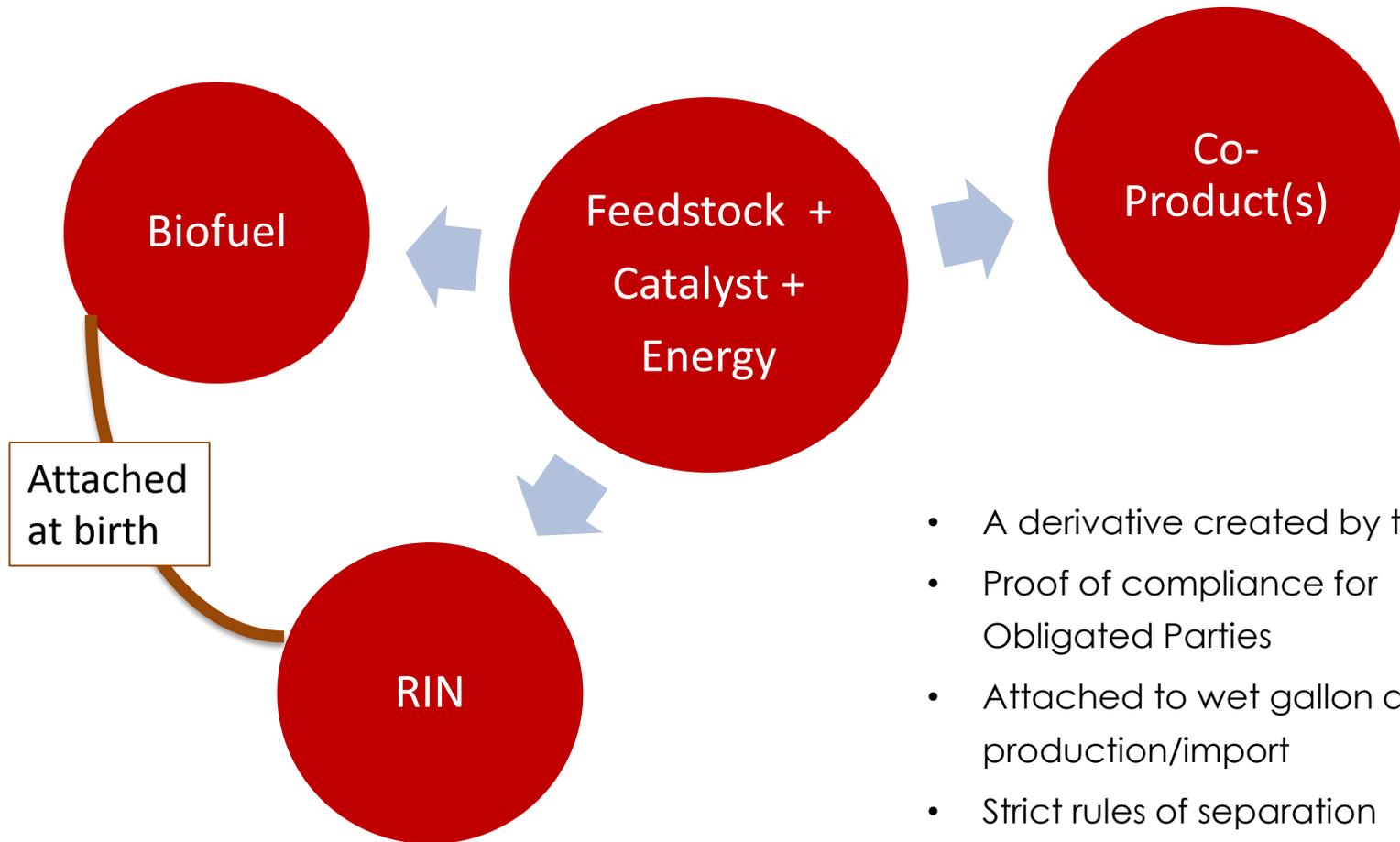


Note: RIN Generator is responsible for fulfilling all RFS2 reporting requirements and keeping all records pertaining to each step in the biogas process - from extraction to end-use.

A RIN is Proof That Biofuels Were Blended



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- A derivative created by the RFS
- Proof of compliance for Obligated Parties
- Attached to wet gallon at production/import
- Strict rules of separation

Petroleum Refiners & Importers Required To Prove Compliance



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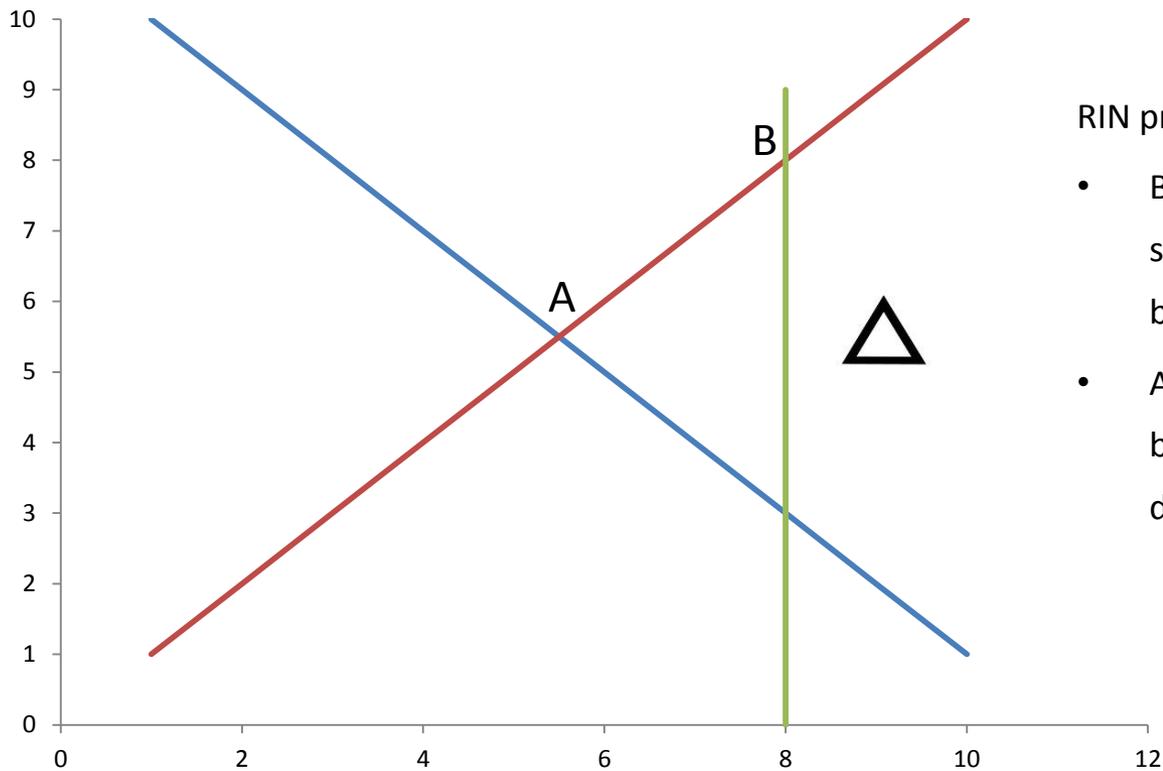
An Obligated Party (OP) must acquire RINs to prove biofuel blending obligations were fulfilled.

- An OP is:
 - A refiner that produces gasoline or diesel fuel within the 48 contiguous states or Hawaii during a compliance period
 - An importer that imports gasoline or diesel fuel into the 48 contiguous states or Hawaii during a compliance period.
- A party that simply blends renewable fuel into gasoline or diesel fuel is not an obligated party.

Theoretical RIN Pricing



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RIN prices:

- Bridge the delta between supply and demand caused by a mandate
- Attract investments in biofuel production & distribution

Successful Projects Must Manage RIN Volatility



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D5 RINs (cents)



Volatility Caused by Regulatory Uncertainty & Fraud

How Many RINs Can I Produce?

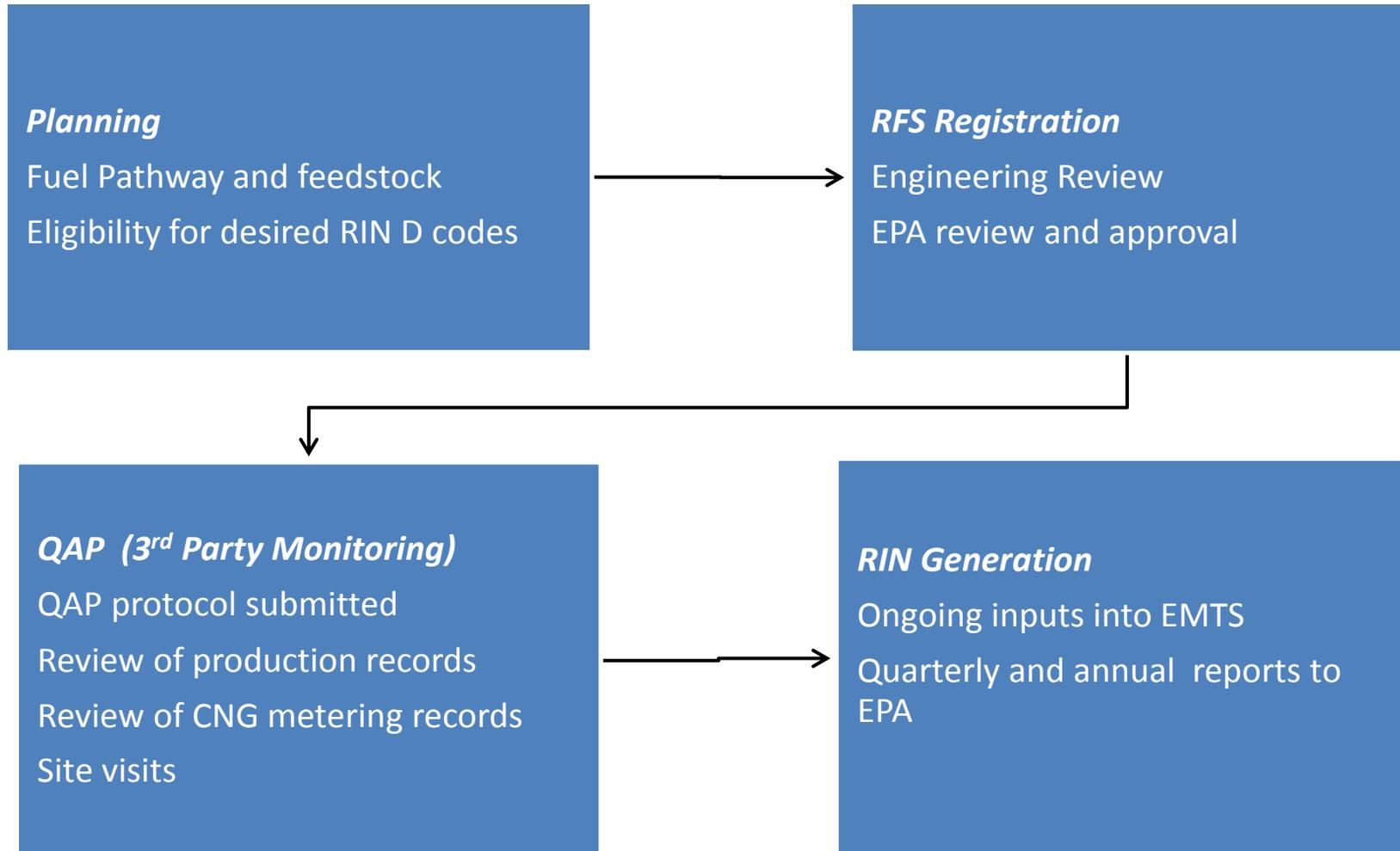


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Fuel (1 gallon or equivalent)	Equivalence Value	RIN Volume
Ethanol	1	1
Biodiesel	1.5	1.5
Butanol	1.3	1.3
Non-ester renewable diesel	1.6 / 1.7	1.6 / 1.7
Biogas (77,000 Btus)	1	1
Others	Undetermined	Unknown

How to Enter the Market

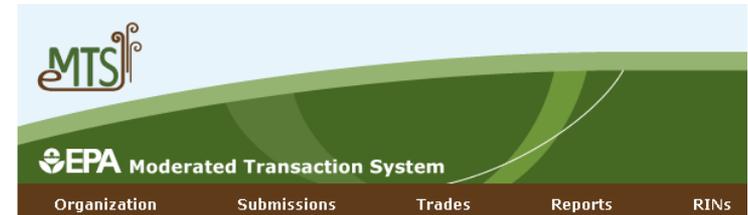


The EPA Moderated Transaction System (EMTS)



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- RINs are generated and transferred in EMTS.
- RINS don't exist outside EMTS.
- All parties with RFS2 RIN-related responsibilities must use EMTS starting July 1, 2010.
- Allows EPA to monitor the RIN universe
- Starting 2015, all RINs are tagged in EMTS as:
 - Q-RIN – QAP Verified
 - Unverified
 - Legacy (status not recorded in EMTS)



Good Evening Mr. Shashi Menon,

Regulated parties are urged to conduct due diligence Identification Number (RIN) transactions. Neither EPA (EMTS), certify or validate RINs or make any provision RINs. As specified in the regulations at 40 CFR 80.14: the Renewable Volume Obligations of an obligated p. the RINs were valid at the time they were acquired. / creation or transfer to any person of a RIN that is inv



To view pending transaction details, click the fo



You can submit your XML file here. [Submit File](#)

Generating RINS



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• RIN Generator

- Information Required to generate a RIN:
 - Quantity of temperature corrected fuel volume
 - Pathway Information: Fuel Type, Process, EV
 - Originating Facility
 - Type of Feedstock utilized
 - Quantity of Feedstock utilized to create fuel
 - Fuel Production Date



RIN Separation and Sale



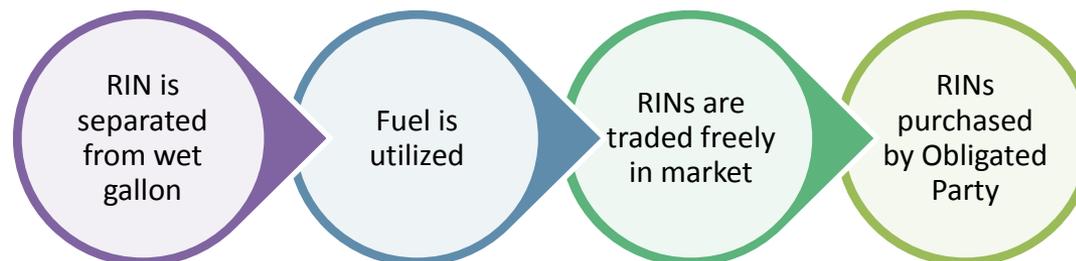
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BLENDER

OBLIGATED
PARTY

END USER

1. The physical fuel and the RIN are separated when the fuel is designated, blended and sold / utilized as transportation fuel, heating oil or jet fuel.
2. Once the RIN is separated from the fuel, it can be traded in the secondary market.
3. Obligated Parties purchase RINs from the market and retire the RINs to fulfill their Renewable Volume Obligation (RVO).



RIN Fraud History



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- **Clean Green Fuels, LLC**
 - > 35M fraudulent biodiesel RINs / No production or facility capable of producing biodiesel
 - Feb 2013: Owner sentenced to 12 yrs and ordered to pay > \$42M in restitution
- **Absolute Fuels, LLC**
 - > 48M fraudulent biomass-based diesel RINs / No production of qualifying biomass-based diesel
 - March 2013: Owner sentenced to 15 yrs and ordered to pay > \$54M in restitution
- **Green Diesel, LLC**
 - Alleges > 60M fraudulent biomass-based diesel RINs / Alleges no production of qualifying biomass-based diesel
- 24 obligated parties penalized for use of invalid Clean Green RINs towards their RVOs



RFS Prohibited Acts

- Generate RINs without qualifying renewable fuel
- Create or transfer an invalid RIN
- Produce via a feedstock/process not in the producer's registration
- Improper RIN separation
- Use an invalid RIN towards an RVO
- Fail to acquire sufficient RINs to meet an RVO
- Cause another person's violation
- Batch volume inconsistencies
- Incorrect temperature correction procedures
- Incorrect facility IDs, feedstock codes, etc.
- "Fat finger" mistakes
- Any other failure to meet an RFS requirement

EPA Enforcement



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- Penalties for each day of violation
- Up to \$37,500 per day per violation
- Disgorgement of economic benefit
- Penalties must account for:
 - Gravity of the offense
 - Economic benefit of noncompliance
 - Violator's size and penalty's impact on business
 - Violator's history of compliance

What Downstream Wants



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What they want

- Guarantee that RINs are valid
- Ability to replace invalid RINs
- Someone to hold accountable
- Third Party Verifications

What they are doing

- Enhanced credit and legal checks
- Trading on a specified RIN generator basis
- Conducting their own audits
- RIN QAP

3rd Party Review + Records Management = QAP



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Q-RINs provide an affirmative defense against:

- transferring an invalid RIN (violation of §80.1460(b)(2))
- Using an invalid RIN to meet annual RVOs (violation of §80.1460(c)(1)),

The generator of an invalid RIN is not eligible for affirmative defense.

RINs are marked in EMTS as Q-RINs.



RFS is maturing into adulthood.

- EPA is showing resolve in improving RFS implementation and enforcement
 - Fixing programmatic details for efficiency & transparency in RIN markets (QAP)
- EPA is generally not backtracking on policy
 - 2014-2016 RVOs could be seen as exception
- Staff cuts / furloughs / buyout packages could affect implementation and enforcement ability
- Huge opportunity for Advanced Biofuels to prove that supply is available for 2017-2022



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