

**A CLOSER LOOK:
Registering as a Biogas Producer Under the EPA
RFS2 Program**

Iris Caldwell, PE
Senior Engineer
First Environment, Inc.

Randy Lack
Chief Marketing Officer
Element Markets, LLC

January 2014

About First Environment

- Engineering expertise and environmental stewardship since 1977
- Core practice areas:
 - Third-party verification services
 - Climate change technical assistance
 - Litigation support
 - EH&S management and regulatory support
 - Site investigation & remediation design engineering
 - Environmental due diligence



About First Environment

Where we are:

- New Jersey (HQ)
- New York
- California
- Illinois
- Mississippi
- Georgia
- Puerto Rico
- British Columbia

Who we are:

- Engineers
- Geologists/hydrogeologists
- Attorneys
- Economists
- Business/policy strategists
- Management system experts
- Health and safety experts

About First Environment

- EPA pre-approved Quality Assurance Plan (QAP) for RIN verification
- Voted *Environmental Finance's* Best Verification Company for Voluntary Markets in 2011 and 2012
- Voted *Environmental Finance's* Best Verifier for North American Markets 2008 through 2012

About Element Markets



ELEMENT MARKETS

- Element Markets has transacted over **\$1.6 billion** in environmental commodities to date and is an industry leader in Biogas, RFS, and LCFS
- Transported over **8.4 million MMBtu** of biogas to date
- Dedicated gas logistics team utilizing proprietary gas tracking software for utmost reliability
- Significant experience in Biogas project development and management

About Element Markets



ELEMENT MARKETS

RENEWABLE FUEL STANDARD

- Registered 4 of 12 pipeline-injected landfill biogas facilities under RFS
- Over 29 million RINs transacted to date
- Registered as a RIN generator with several Biogas production facilities
- EPA pre-approved Quality Assurance Plan (QAP) for RIN verification
- EPA-approved system for demonstrating qualifying use of Biogas for RIN generation

LOW-CARBON FUEL STANDARD

- Registered 6 of 15 pipeline-injected landfill biogas pathways under LCFS
- First party to register a landfill biogas facility with a facility-specific Carbon Intensity
- Existing relationships with multiple offtakers in California

EPA's Renewable Fuel Standard

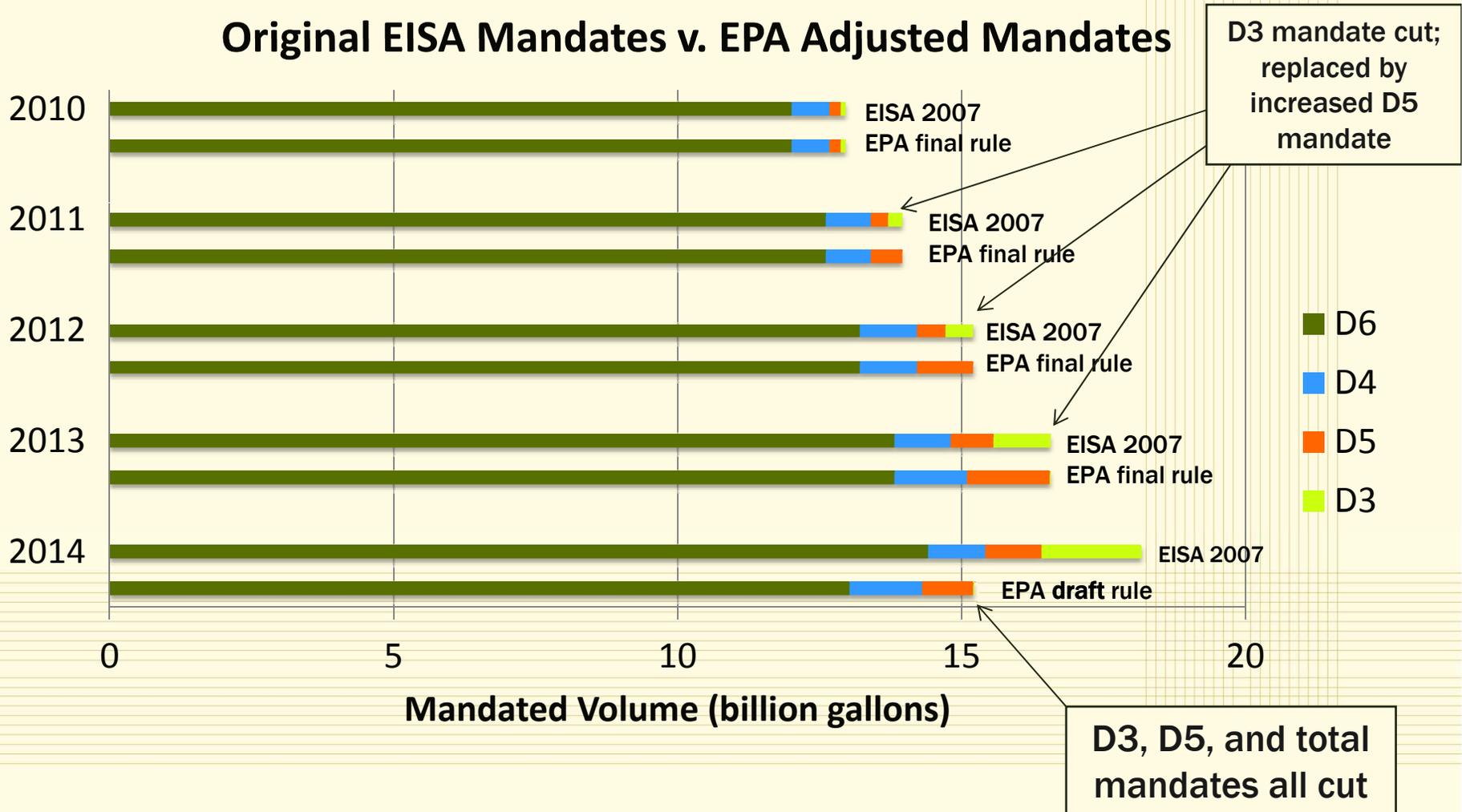
- Mandates minimum volume of biofuels in U.S. transportation fuel supply each year
 - Target: 36 billion gallons by 2022
- Establishes standards for fuel suppliers and RIN tracking system
 - Suppliers have annual renewable volume obligations (RVO)
 - A RIN represents 1 ethanol-gallon-equivalent

EPA's Renewable Fuel Standard

- RINs only generated from qualifying feedstocks
- RINs must be reported to EPA by producer or importer
- RINs are then saleable or transferable to be used for RVOs

EPA's Renewable Fuel Standard

Original EISA Mandates v. EPA Adjusted Mandates



Biogas Opportunity

- Biogas is qualifying feedstock for CNG/LNG fuel production
- Direct use or transported by pipeline for final processing
- CNG/LNG must be transportation fuel



Renewable transportation fuels used in California generate both RINs and LCFS Credits so long as the fuel is transported and consumed in CA

RIN Pricing

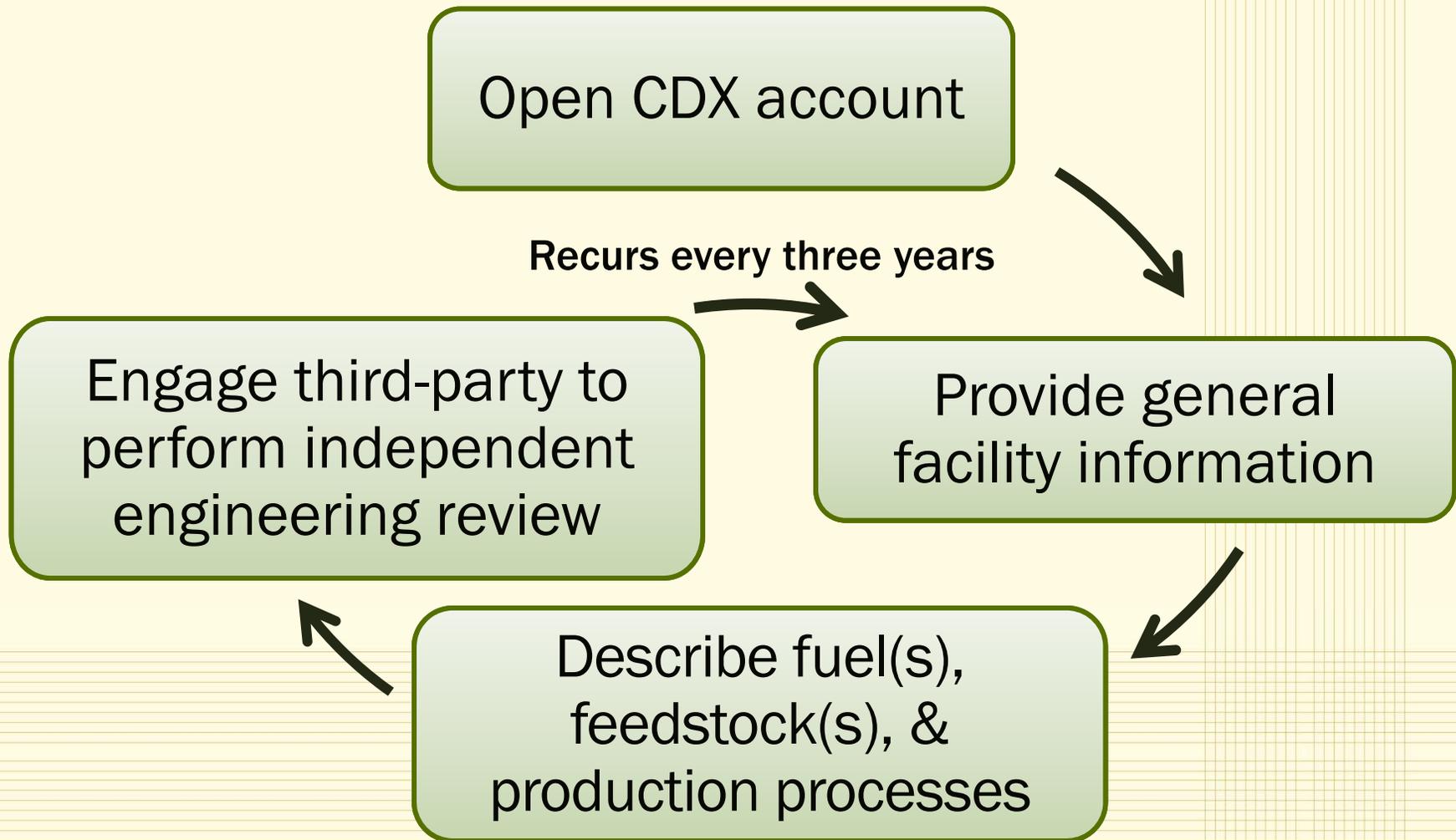
D5 RINs are currently valued at \$0.32

1 dth biogas = 11.727 RINs = \$3.75/dth

D5 RIN Price



Registration Process



Registration Updates

- Changes that affect D code
 - Submit revised engineering review at least 60 days prior
- Changes that do not affect D code
 - Update registration at least 7 days prior
- All producers must update registration and engineering review every three years

Engineering Review

- Engineering review verifies accuracy of registration information
- Performed by licensed professional engineer
- Independent from fuel producer
- Requires site visit and records review



Unique Considerations for Biogas

- Engineering review includes biogas production facility and processing plants
- Proper identification of fuel producer
- Must be written contract for sale of biogas
- Must designate for transportation fuel use
- In case of pipeline, must demonstrate physical pathway

Common Pitfalls in Registration Process

- Contract arrangements not complete
- Fuel use not clearly designated
- Inadequate documentation of physical pathway
- Limited production data available



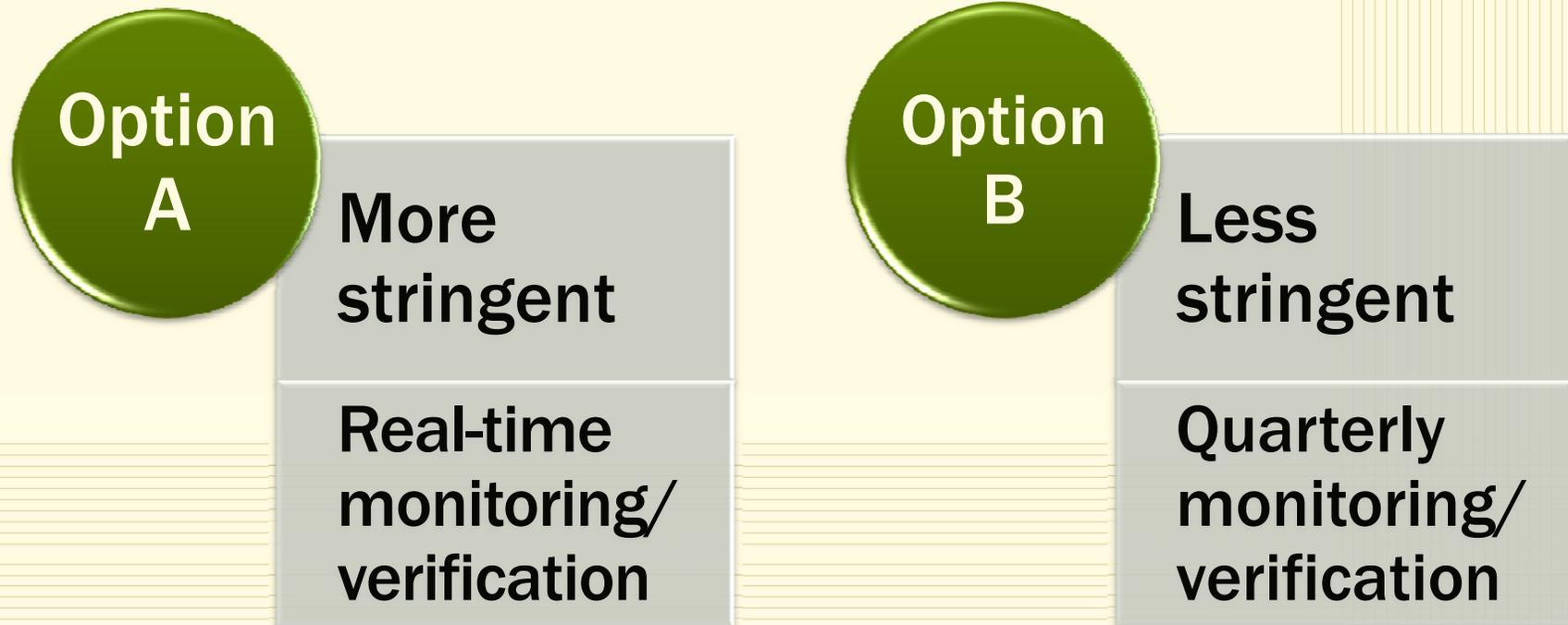
QAP Verification



- Addresses concern of invalid RINs
- Promotes greater liquidity in transfer/use of RINs
- Provides recognized audit process for third-parties

QAP Verification

- RIN verification is voluntary
- Provides flexibility for managing risk and cost



Summary

Despite market volatility, value of biogas continues to be well-supported

EPA striving to increase opportunities for biogas

Increased market transparency with QAP verifications