

BEAST

Bioenergy / Biofuels Environmental Assets Strategies and Tactics

Powered by The Prasino Group

Caitlin Sparks

SVP Strategic Development, The Prasino Group

We Make Sustainability Real

- Consulting, product development, project development, project finance
- Agriculture, energy and food
- Bioenergy/Biofuels practice in US/CA: **BEAST™** and Bioenergy Association of CA (BAC)



50+ years international experience in environmental asset development



Vision and Big Picture

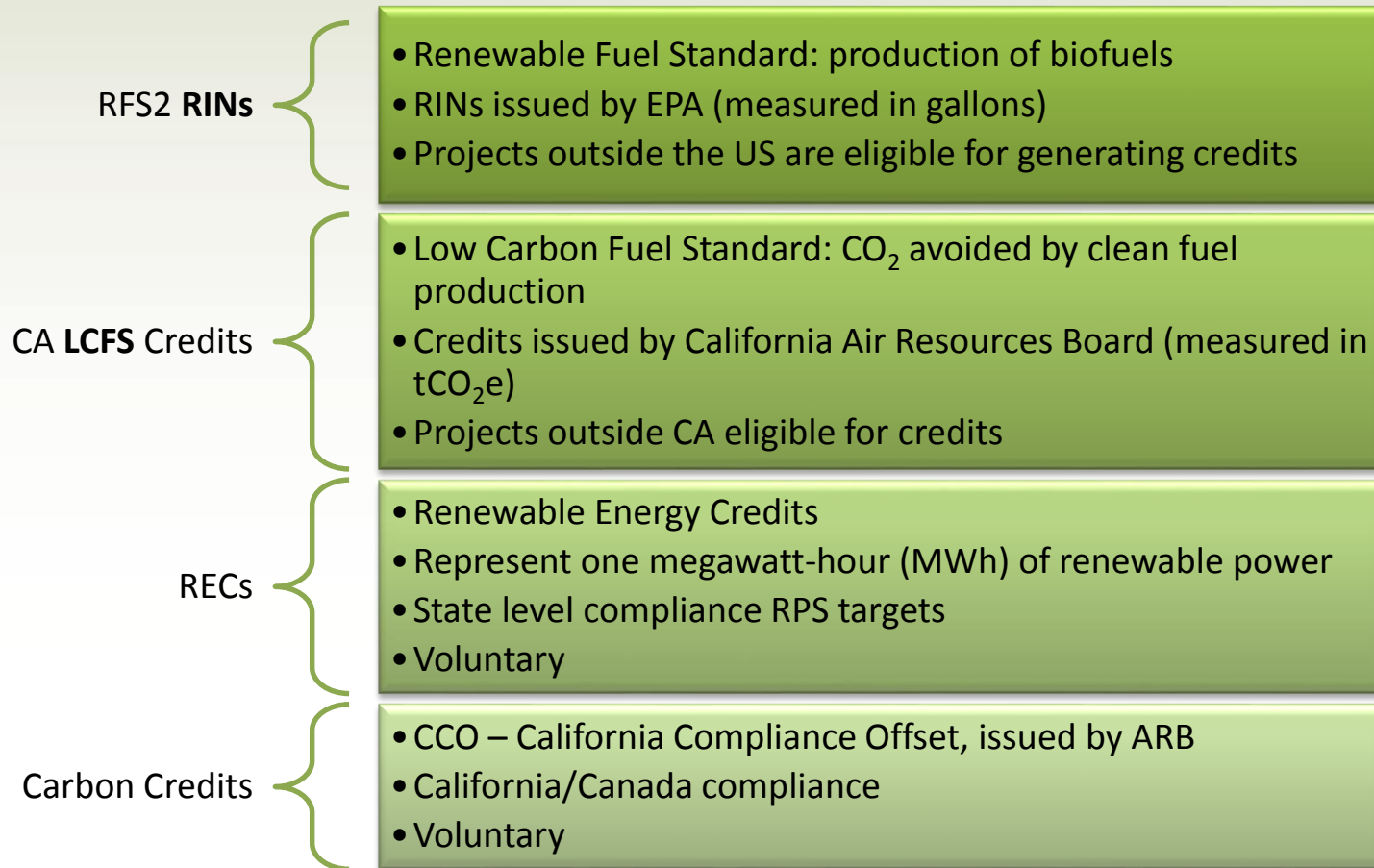
- Regulatory drivers behind bioenergy and biofuels asset development
- The assets in play: RFS2 **RINs**, **LCFS** credits vs. energy
- **BEAST™**: Prasino practice for environmental asset development



Why ? Regulatory Drivers

RFS2	LCFS	RPS/REC
<ul style="list-style-type: none">• Created in 2005, expanded in 2007 under Energy Independence and Security Act (EISA)<ul style="list-style-type: none">• New categories of fuel/ new targets• Lifecycle GHG performance standard• Final rulemaking for RFS2 published in the Federal Register on March 26, 2010	<ul style="list-style-type: none">• Schwarzenegger Exec Order in 2007 to enact LCFS<ul style="list-style-type: none">• 10 percent reduction in CI of CA transportation fuels by 2020• Eligibility criteria defined by CARB in 2009• LCFS took effect Jan. 2011• California LCFS considers full life cycle emissions (well to wheel)	<ul style="list-style-type: none">• Renewable Portfolio Standard established 2002<ul style="list-style-type: none">• Utilities must procure increasing percentages of retail power from renewables –wind, solar and biomass• 33% overall by 2020• Can comply through purchase of RECs

Value Proposition on the Totem Pole



RFS2 -- EPA RIN Codes and Fuel Types

D Code RIN	Fuel Type	Fuel	GHG Reduction Requirement
D3	Cellulosic Biofuels	Cellulosic ethanol, RCNG!	60%
D4	Biomass-based Diesel	Biodiesel, renewable diesel	50%
D5	Advanced Biofuels	Sugarcane ethanol, Sorghum/biogas ethanol, RCNG	50%
D6	Renewable Fuel	Corn ethanol	20%
D7	Cellulosic Diesel	Cellulosic diesel	60%

Pricing between .25 and .50 USD, was over 1.00 USD



Working with RFS2 -- Pathways

that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(i); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this proposed action merely approves state law as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 12866 (58 FR 19885, April 23, 1993);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 1625 of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272) because application of those requirements would be inconsistent with the Act; and
- does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this proposed action does not have tribal implications as specified by Executive Order 13175 (65 FR 67499, November 9, 2000), because the SIP is not approved to apply in an Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52
Environmental protection, Air pollution control, Hydrocarbons, Incorporation by reference,

Intergovernmental relations, Oxides of nitrogen, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.
Dated: November 8, 2013.
Juliah A. Eack,
Regional Administrator, Region 2.
[FR Doc. 2013-2767 Filed 11-19-13; 8:45 am] [PLS use code 69628-6](http://www.regulations.gov)

ENVIRONMENTAL PROTECTION AGENCY
40 CFR Part 80
EPA-405-OAR-2013-0478; FRL-9903-10-OAR
RIN 2060-AR76
Public Hearing for the 2014 Standards for the Renewable Fuel Standard Program
AGENCY: Environmental Protection Agency (EPA).
ACTION: Announcement of public hearing.
SUMMARY: The EPA is announcing a public hearing to be held for the proposed rule 2014 Standards for the Renewable Fuel Standard Program, which EPA will publish separately in the Federal Register. The hearing will be held in Washington, DC on December 5, 2013. In the separate notice of proposed rulemaking EPA has proposed amendments to the renewable fuel standard program regulations to establish annual percentage standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and renewable fuels that would apply to all gasoline and diesel produced in the U.S. or imported in the year 2014. In addition, the separate proposal includes a proposed biomass-based diesel applicable volume for 2015.
DATES: The public hearing will be held on December 5, 2013 at the location noted below under ADDRESSES. The hearing will begin at 9 a.m. and end when all parties present who wish to speak have had an opportunity to do so. Parties wishing to testify at the hearing should notify the contact person listed under FOR FURTHER INFORMATION CONTACT by November 26, 2013.
ADDITIONAL INFORMATION: Additional information regarding the hearing appears below under SUPPLEMENTARY INFORMATION.
SUPPLEMENTARY INFORMATION: The hearing will be held at the following location: Hyatt Regency Crystal City, 2790 Jefferson Davis Highway, Arlington, VA 22202 (phone number 703-413-6718). A complete set of documents related to the proposal will be available for public inspection at

the EPA Docket Center, located at 1301 Constitution Avenue NW, Room 3334, Washington, DC between 8:30 a.m. and 4:30 p.m., Monday through Friday, excluding legal holidays. A reasonable fee may be charged for copying. Documents will also be available through the electronic docket system at <http://www.regulations.gov>.
FOR FURTHER INFORMATION CONTACT: Julia MacAllister, Office of Transportation and Air Quality, Assessment and Standards Division, Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105; telephone number: (734) 214-4131; Fax number: (734) 214-4816; Email address: macallister.julia@epa.gov.
SUPPLEMENTARY INFORMATION: The proposal for which EPA is holding the public hearing has been published separately in the Federal Register.
Public Hearing: The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning the proposal (which can be found at <http://www.epa.gov/qa/ra/renewablefuel/index.htm>). The EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as any oral comments and supporting information presented at the public hearing. Written comments must be received by the last day of the comment period, as specified in the notice of proposed rulemaking.
How can I get copies of this document, the proposed rule, and other related information?
The EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2013-0478. The EPA has also developed a Web site for the Renewable Fuel Standard (RFS) program, including the notice of proposed rulemaking, at the address given above. Please refer to the notice of proposed rulemaking for detailed information on accessing information related to the proposal.
Dated: November 14, 2013.
Christopher Gravelle,
Director, Office of Transportation and Air Quality, Office of Air and Radiation.
[FR Doc. 2013-2767 Filed 11-19-13; 8:45 am] [PLS use code 69628-6](http://www.regulations.gov)



§80.1426 How are RINs generated and assigned to batches of renewable fuel by renewable fuel producers or importers?

(a) General requirements.—¶

(1) To the extent permitted under paragraphs (b) and (c) of this section, producers and importers of renewable fuel must generate RINs to represent that fuel if the fuel:¶

(i) Qualifies for a D code pursuant to §80.1426(f), or EPA has approved a petition for use of a D code pursuant to §80.1416; and¶

(ii) Is demonstrated to be produced from renewable biomass pursuant to the reporting requirements of §80.1451 and the recordkeeping requirements of §80.1454; and¶

(A) Feedstocks meeting the requirements of renewable biomass through the aggregate compliance provision at §80.1454(g) are deemed to be renewable biomass.¶

(B) [Reserved]¶

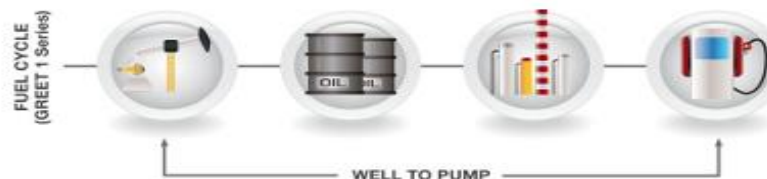
(iii) Was produced in compliance with the registration requirements of §80.1450, the reporting requirements of §80.1451, the recordkeeping requirements of §80.1454, and all other applicable regulations of this subpart M.¶

(2) To generate RINs for imported renewable fuel, including any renewable fuel contained in imported transportation fuel, heating oil, or jet fuel, importers must obtain information from a foreign producer that is registered pursuant to §80.1450 sufficient to make the appropriate determination regarding the applicable D code and compliance with the renewable biomass definition for each imported batch for which RINs are generated.¶



Working with LCFS

- **REET: Greenhouse gases, Regulated Emissions, and Energy** use in Transportation model.
- **Method 1, 2A and 2B**
- Re-adopted as **Tier 1 and Tier 2**
 - **Tier 1:** conventional biofuels – starch, sugar ethanols, bio-diesel.
 - **Tier 2:** Next generation fuels, conventional biofuels w innovative process. Producer-specific CI.
 - **REET 2.0:** More exacting. Upstream and plant-specific.
- **Current Price:** \$35 USD / tonne



LCFS Carbon Intensities

CARBON INTENSITY OF FUELS



Bioenergy Environmental Asset Strategies and Tactics (BEAST™)

Consulting and Development Services

understand, develop and maximize the value of environmental assets

Workshops

lessons learned and best-practices

ongoing policy requirements

asset prices/market understanding

sharing project types or technologies



Service Range

Cost/benefit analysis of asset development per project

Funding potential / grants

Targeted asset development assistance and project/asset documentation/application submission

Assistance with asset stacking

Broader asset strategy / asset marketing / contract structuring

Data management system integration for multiple sites

Buyer identification and commercial assistance



LCFS and RIN Scorecard

RIN Category	Annual Generation Capacity	\$ @ 30 cents/RIN
D3	2M	0.6M
D4	46M	13.8M
D5	432M	129.6M
D6	78M	23.4M
Annual Tonnage Generation Capacity		\$ @ \$40/MT
LCFS Credits	625,000	25M
Total:		\$192.4M



LCFS and RINs: What's Needed

- Fuel + LCFS + RINs = very attractive BUT
- Legal resolution and re-adoption
- More CIs and movement through resource bottlenecks – RVO?
- Additional verification and enforcement standards – will come
- Finance and price assurance



Biogas development: Issues to consider

- + **Combined returns** very attractive
 - + **Pathways** fairly **straightforward**
 - + Shift to **natural gas economy**
 - + People profit planet
-
- Financing with assets difficult, no future price certainty
 - **Permits** and site specific regulatory issues – AD in CA?
 - **Infrastructure** costs – pipeline, tube trailers
 - Injecting into pipeline = utilities
 - Selling fuel/credits = dealing with traders



Lessons Learned

1. From preliminary assessment to asset delivery it can take a **few months** to a **few years** to develop and realize these assets
2. The regulations are **constantly evolving** and new pathways are being created – navigating the regulatory documents is complicated
3. **Projects outside of the US** are **eligible** to generate RINS; projects **outside CA** are **eligible** to generate LCFS credits
4. LCFS credits and RINs can be stacked
5. **Relationships** with regulators help a lot
6. These markets are **real!**



Questions?

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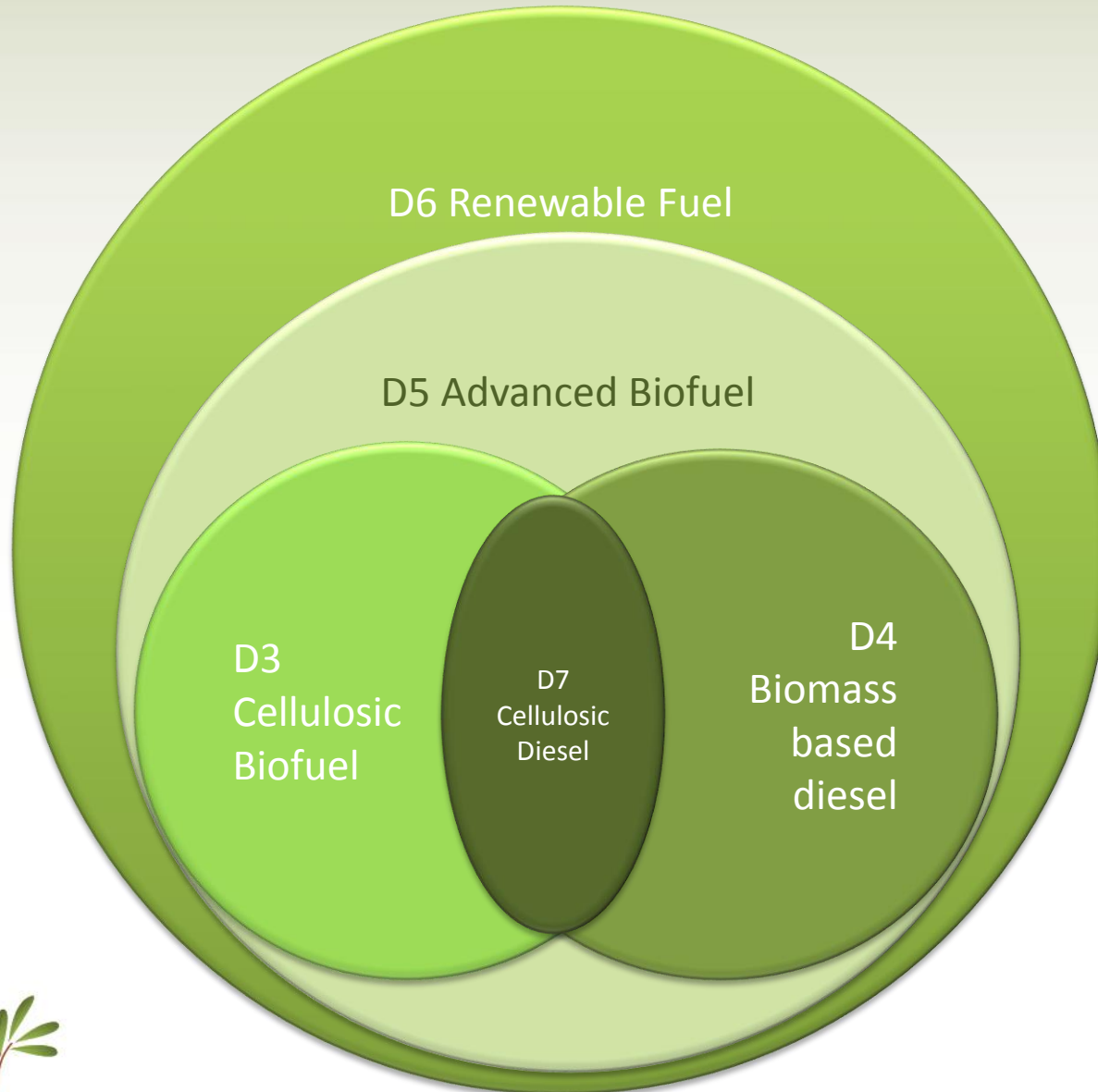
EPIC – Electricity Program Incentive Charge

- \$163 million per year in clean electricity funding
 - 80% administered by CEC and 20% by IOU's
 - \$55 million per year for applied R&D
 - \$45 million per year for Technology Deployment & Demonstration
 - at least 20% of which must go to bioenergy
 - \$15 million for market facilitation

For more info: www.energy.ca.gov



Working with RFS2



Clean Fuels and Alternative Transportation – AB1118



- Includes \$20 million per year for biofuels
- \$9 million for natural gas vehicle deployment
- \$15 million for medium and heavy duty advanced vehicle demonstration
- \$1.5 million for natural gas fueling infrastructure



RFS2 -- Engineering Reviews



Engineering Reviews are required by regulation under RFS2 for a facility to generate RINs



Independent third party opinion by certified engineer that the facility is capable of producing a transportation fuel of sufficient quality and quantity to meet the requirements and objectives of the RFS2 program

