

Low Carbon Fuel Standard Re-Adoption

May 30, 2014

Agenda

- Proposed Re-Arrangement of LCFS Regulatory Language
- Proposed Revisions
- Environmental Analysis for LCFS & Alternative Diesel Fuel Rules
- Next Steps

Proposed Re-Arrangement of the Regulatory Language

- Summarizes related provisions
- Logical
- Easier to read
- Easier to find provisions

Proposed Revisions

- **Indirect Land Use Change Values (status)**
- Fuel Pathways
- Electricity Provisions
- Credit Trading Provisions
- Reporting and Recordkeeping Provisions
- Enforcement Provisions

ILUC Update

- Evaluating feedback received from March 11th workshop
 - Reviewing literature provided by stakeholders
 - Utilizing data to support/modify current approach
 - Consulting with subject matter experts
- Model updates
 - Working on including irrigation impacts
 - Reviewing data to refine forestry issue
 - 1st Draft model expected to be available for testing mid-June 2014

May 30, 2014

5

ILUC Update (cont.)

- Additional work
 - Potential changes to scenario runs
 - Considering changes to Monte Carlo simulations
- Meetings with stakeholders to discuss ILUC feedback
- Next Workshop (end of June or early July 2014)

May 30, 2014

6

Proposed Revisions

- Indirect Land Use Change Values (status)
- **Fuel Pathways**
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Fuel Pathways Agenda

- Two-Tiered Pathway Framework
- Fuel Pathway Process
- New CA-GREET 2.0
- Physical Transport Mode

Two-Tiered Framework

- Providers of conventionally produced first-generation fuels would apply through the Tier 1 process
- The Tier 1 process is simpler and faster than the Tier 2 process
- Applicants would calculate their CIs using a Tier 1 interface in CA-GREET 2.0 (to be discussed later)
- The resulting CI would be, following Executive Officer approval, the certified pathway CI
- Our proposal no longer includes the bins that were proposed earlier

May 30, 2014

9

Two-Tiered Framework (cont.)

Two categories of fuels would fall into Tier 2:

- Next-generation fuels
 - Cellulosic alcohols
 - Waste-based fuels (alcohols, drop-ins)
 - Biomethane
 - Hydrogen
- First-generation fuels produced using innovative methods
 - Carbon capture and sequestration
 - Renewable sources of process energy
 - Reduced emissions from feedstock production
 - Unforeseen innovations

May 30, 2014

10

Two-Tiered Framework (cont.)

Tier 2 applicants would apply using the familiar Method 1, 2A, and 2B processes

- **Method 1:** Select, subject to Executive Officer approval, a pathway from the Lookup Tables
- **Method 2A:** Apply using a Lookup Table pathway or previously approved, producer-specific pathway as a reference pathway
- **Method 2B:** Apply for a pathway for which no reference pathways exist (new process; new fuel)

Two-Tiered Framework (cont.)

- We propose a proportional substantiality requirement for Method 2A
- For proposed Method 2A pathways with carbon intensities greater than 20 gCO₂e/MJ: 5.5 percent lower than the reference pathway well-to-wheels carbon intensity
- For proposed Method 2A pathways with carbon intensities of 20 gCO₂e/MJ or less: 1 gCO₂e/MJ less than the reference pathway well-to-wheels carbon intensity

Fuel Pathway Process

We propose to streamline the application process in two ways:

- The current fuel pathway application and producer registration processes would be consolidated
- The consolidated process would be completed interactively through the LCFS Reporting Tool (LRT) web portal

All applicants, regardless of Tier or Method, would start the process by completing a web-based New Pathway Request Form

Fuel Pathway Process (cont.)

- The New Pathway Request Form would obtain all information needed for:
 - Starting the pathway application process
 - Creating a new (initially inactive) record in the LRT
- Once the applicant's Tier placement has been approved, the applicant can:
 - Submit required Tier 1 materials
 - Request a Tier 2 Method 1 (Lookup Table) pathway
 - Submit required Tier 2 Method 2 materials
- All application materials can be securely uploaded via the LRT
- Upon approval, the inactive LRT record is activated

New CA-GREET 2.0

- We are processing to update the current CA-GREET 1.8b
- Two primary advantages
 - Updated life cycle inventory data
 - Ability to build a greater variety of fuel pathways
- We are basing this update on Argonne National Lab's GREET 2013

May 30, 2014

15

New CA-GREET 2.0 (cont.)

- Tier 1 Calculator for first-generation fuels
 - Starch- and sugar-based ethanol
 - Bio- and renewable diesel
 - Fossil and natural gas
- Tier 2 Modules for next-generation fuels
 - Innovative process, new feedstocks
 - User's calculation with CA-GREET
 - Upstream and other plant specific parameters

May 30, 2014

16

Evidence of Physical Transport Mode

- Nomenclature change
- Electricity exempt from this requirement
- Clarification for biogas injected into interstate pipeline
 - Must be used for transportation purpose in California
 - No double-counting of emission reductions
- Limit retroactivity of credits based on this provision to 2 quarters max

May 30, 2014

17

Proposed Revisions

- Indirect Land Use Change Values (status)
- Fuel Pathways
- **Electricity Provisions**
- Credit Trading Provisions
- Reporting and Recordkeeping Provisions
- Enforcement Provisions

May 30, 2014

18

Changes to Electricity Provisions

- Proposing to *exclude* some supplemental information that is now required in annual reporting
 - Number of credits generated, sold, and banked
 - Number of EVs operating in service territory
 - Number of charging stations and charging incidents
- Change in heavy duty EV EER based on data for EV buses operating in CA (current 2.7, proposed 3.8)

May 30, 2014

19

Changes to Electricity Provisions (cont.)

- Opportunity for transit agencies to generate credits for fixed guideway systems
- Opportunity for utilities to generate credits for electric forklifts
- Slightly modified credit formula for fixed guideway and forklift credits to account for exclusion in baseline
- Adding new EER values
 - Heavy rail 4.6
 - Light rail and trolley bus 3.3
 - Electric forklifts 3.1
- Various edits to promote clarity

May 30, 2014

20

Changes to Electricity Provisions (cont.)

- Section 95484(b)(3)(C)(1) states that effective January 1, 2015, reporting of electricity dispensed to electric vehicles in residences must be based on direct metering
- Many EV owners are choosing to charge at residences with no meter
- A robust estimation method has been developed for use by CalETC members
- Staff is proposing that an approved estimation technique be allowed for credit generation after January 1, 2015

May 30, 2014

21

Proposed Revisions

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May 30, 2014

22

Credit Transactions

- **Consolidated regulatory text from various sections into one place [new section 95487]**
- **New User Related Definitions**
 - “Broker”
 - “Credit Facilitator (CF)”
- **New Acronyms Added: “LRT-CBTS”**

May 30, 2014

23

Credit Transactions (cont.)

- **Credit Retirement Hierarchy**
 - Credits acquired as a “carryback” purchase
 - Credits acquired during a previous compliance period
 - Credits generated in the earliest previous quarter
- **Credit Transfers**
 - All credit transfers to occur in LRT-CBTS
 - Online Credit Transfer Form (CTF)
 - 15 day period for Buyer to “Complete” a transfer
 - Regulated parties can authorize “Broker(s)”
 - Prohibited transactions

May 30, 2014

24

Proposed Revisions

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- Credit Transactions
- **Reporting and Recordkeeping Provisions**
- Enforcement Provisions

May 30, 2014

25

Definitions

Definitions Added

- **Reported Fuels Definitions:**
 - “Liquefied Compressed Natural Gas (L-CNG)”
 - “Biogas L-CNG”
- **Definition of Fixed Guideway Transportation**
- **Reporting Related Definitions**
 - “Total Obligated Amount”
 - “Product Transfer Document (PTD)”
 - “Fuel Transaction Form (FTF)”
 - “Reporting Party”: pertains to chain of custody reporting

May 30, 2014

26

Definitions & Acronyms

Definitions Added (cont.)

- **Revised “Transaction Type” definition**
 - Updated “Production” with “Production for use in California”
 - Added “EV Charging” and “Forklift Charging”
 - Added “Fixed Guideway Charging”
 - Added “NGV Fueling”
- **New acronyms**
 - “HDV-CIE,” “HDV-SIE,” “NGV,” and “L-CNG”
 - “LRT-CBTS”
 - “TOA”

May 30, 2014

27

Reporting and Recordkeeping

- Pending credit transfers must be completed before annual report can be submitted
- Clarify reporting fuel production company ID and facility ID
 - Ethanol, biomass-based diesel, biogas, hydrogen facilities to be reported
 - Not required for CARBOB, diesel, fossil natural gas or electricity

May 30, 2014

28

Reporting and Recordkeeping (cont.)

- **Record Retention period extended to 5 years**
- **Documenting fuel transfers**
 - Product Transfer Documentation
 - Fuel Transaction Form
- **Correcting a previously submitted report**
 - Unlock Report Request Form
 - Provide Justification and Specify Changes
 - Corrected reports do not preclude enforcement based on misreporting

May 30, 2014

29

Documenting Fuel Transfers

Product Transfer Document (PTD)

Includes these parameters when obligation is passed:

- Transferor Company Name, Address and Contact Information
- Transferee Company Name, Address and Contact Information
- Date of Title Transfer
- Fuel Pathway Code (FPC) and Carbon Intensity (CI)
- Volume/Amount
- A statement identifying that the LCFS Obligation is passed to the transferee
- Fuel Production Company ID and Facility ID as registered with RFS2 program or LCFS program if not RFS2 registered

May 30, 2014

30

Documenting Fuel Transfers (cont.)

Fuel Transaction Form (FTF)

- Used to obtain confirmation and reconciliation prior to reporting
- Record aggregated and non-aggregated data from PTDs
- Upload and validate FTFs quarterly in LRT-CBTS
- Preview and route to Business Partners within LRT-CBTS
- Partner Confirmation and Reconciliation
- Significant reduction in report corrections

May 30, 2014

31

Documenting Fuel Transfers (cont.)

Fuel Transaction Form (FTF)

Includes these parameters:

- Business Partner - FEIN and Name
- Business Partner Name
- Year and Quarter
- Fuel Pathway Code (FPC)
- Volume/Amount
- Transaction Type
- Production Company ID
- Production Facility ID
- Physical Transport Mode Code
- Aggregation Indicator (T/F)
- Title Transfer Date or Aggregated Transaction Date (last day of quarter if aggregated) and a memo (optional)

May 30, 2014

32

Documenting Fuel Transfers (cont.)

FTF Data File Example

BusinessPartner	BusPartnerName	Year	Quarter	FuelPathwayCode	Amount	TransactionType	EPACompanyID	EPAFacilityID	PhysicalPathwayCode	Aggregation(T/F)	Transaction Date	Memo (optional)
34-0186998	Acme Oil	2016	1	Ethanol from ComETHC008	20000	Sold with obligation transfer	8920	32086	PHY02	T	3/31/2016	
34-0186998	Acme Oil	2016	1	Ethanol from ComETHC004	100000	Purchased without obligation transfer	3921	52186	PHY02	F	1/12/2016	
55-0123890	Alt-Fuel Co	2016	1	Ethanol from ComETHC008	55000	Purchased with obligation transfer	5024	10295	PHY05	T	3/31/2016	
55-0123890	Alt-Fuel Co	2016	1	Ethanol from ComETHC004	9600	Purchased with obligation transfer	5024	10295	PHY05	F	1/31/2016	
55-0123890	Alt-Fuel Co	2016	1	BiodieselBIOD007_1	15000	Sold with obligation transfer	1423	40792	PHY03	F	1/19/2016	
34-0186998	Cellulo Fuels	2016	1	Ethanol from ComETHC008	20000	Sold without obligation transfer	8920	32086	PHY02	T	3/31/2016	
34-0186998	Cellulo Fuels	2016	1	Ethanol from ComETHC004	100000	Purchased with obligation transfer	3921	52186	PHY02	T	3/31/2016	
65-0123890	Best Fuels	2016	1	Ethanol from ComETHC008	55000	Purchased with obligation transfer	5024	10295	PHY05	T	3/31/2016	
65-0123890	Best Fuels	2016	1	Ethanol from ComETHC004	2600	Purchased with obligation transfer	5024	10295	PHY05	T	3/31/2016	
35-5123891	A-1 Fuels	2016	1	BiodieselBIOD007_1	15000	Sold with obligation transfer	1423	40792	PHY03	F	3/20/2016	
35-5186991	A-1 Fuels	2016	1	Ethanol from ComETHC008	25000	Sold with obligation transfer	8920	32086	PHY02	T	3/31/2016	
35-5186991	A-1 Fuels	2016	1	Ethanol from ComETHC004	100000	Purchased with obligation transfer	3921	52186	PHY02	T	3/31/2016	
15-0123894	Posit Inc	2016	1	Ethanol from ComETHC008	55000	Purchased without obligation transfer	5024	10295	PHY05	F	2/11/2016	
15-0123894	Posit Inc	2016	1	Ethanol from ComETHC004	9600	Purchased with obligation transfer	5024	10295	PHY05	T	3/31/2016	
15-0123894	Posit Inc	2016	1	BiodieselBIOD007_1	35000	Sold without obligation transfer	1423	40792	PHY03	F	3/15/2016	

May 30, 2014

33

Documenting Fuel Transfers (cont.)

Schedule for Submitting Fuel Transaction Form Data

- FTFs are required to be submitted within 20 business days of quarter end date
- FTFs are to be acknowledged by Business Partners within 30 days of quarter end date

May 30, 2014

34

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- **Enforcement Provisions**

Agenda

Enforcement Provisions

- Executive Officer Authority
- Enforcement Protocols
- Jurisdiction
- Violations

Executive Officer Authority

New Section 95490.2

ARB Executive Officer has the authority to:

- Suspend an account
- Revoke credits
- Hold credits
- Limit or prohibit transfers of credits

Draft Amendment-Enforcement

- **Enforcement Protocols**

Section 95492 [Formerly Section 95490]

- **Jurisdiction**

Section 95493 [Formerly Section 95480.5]

Draft Amendment Violations

- **Violations**

Section 95494 [Formerly Section 95484(d)]

- **Stakeholder Feedback**

Generally supportive with some sensitivity to what is deemed a violation

Draft Amendment Violations (cont.)

Violation Language to include:

- **Violation examples**
 - Late, not reporting, or inaccurate reporting
 - Annual compliance: deficits
- **Penalties**
 - Existing H & S Code governs
 - Per deficit

Agenda

- Proposed Re-Arrangement of LCFS Regulatory Language
- Proposed Revisions
- **Environmental Analysis for LCFS & Alternative Diesel Fuel Rules**
- Next Steps

Environmental Analysis for LCFS and Alternative Diesel Fuel (ADF) Rules

- Environmental Analysis (EA) will be prepared to analyze environmental impacts of both the LCFS and ADF regulations since the two are interrelated
- CEQA checklist will be used to identify and evaluate potential impacts to environmental resource areas
- The EA will include:
 - Methods of compliance
 - Beneficial impacts and adverse impacts
 - Mitigation measures
 - Alternatives Analysis

2009 Environmental Analysis for the LCFS

The Air Quality Analysis in the EA prepared for the LCFS in 2009 identified:

- Significant GHG reductions due to production and use of lower CI fuels
- Potential reductions due to changes in vehicle fleet composition
- Estimated 2020 Biofuel Production Facilities
- No change in emissions from petroleum refineries, power plants, or existing corn ethanol facilities over baseline emissions
- Criteria pollutant emissions related to truck trips associated with delivery of feedstock and finished fuel
- Emissions offset by using newer trucks as prescribed by other State and federal regulations (such as LEV and CAFÉ standards)
- Health risk analysis to assess localized impacts

May 30, 2014

43

EA for Proposed 2014 Rules

- As part of 2014 EA, staff will assess beneficial and adverse environmental impacts from the proposed 2014 LCFS and ADF regulations
- Conclusions in 2014 EA may vary from those previously reached in the 2009 LCFS EA
- Air Quality Analysis will be a major focus of 2014 EA, as it was in the 2009 analysis
- Air Quality Analysis will address the potential for proposed LCFS and ADF regulations to increase NOx emissions

May 30, 2014

44

Public Feedback on Scope of the EA

ARB staff invites feedback on appropriate scope and content of the EA as it's being developed. The scope and content of the EA would include:

- Identification of potentially significant adverse impacts from the LCFS and ADF regulations
- Alternatives to the proposed LCFS or ADF regulations that might avoid or substantially lessen significant adverse impacts
- Mitigation measures that should be analyzed for any significant adverse impacts

We welcome your feedback on the planned EA

Please submit to Katrina Sideco (ksideco@arb.ca.gov)

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- Proposed Re-Arrangement of LCFS Regulatory Language
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- Environmental Analysis for LCFS & Alternative Diesel Fuel Rules
- **Next Steps**

Next Steps

- Feedback due June 13, 2014
- Submit via email to Katrina Sideco at ksideco@arb.ca.gov
- Additional public workshops
- Board Update – Summer (July?) 2014
- Staff report – Summer (September?) 2014
- Board Hearing – Fall (November?) 2014

May 30, 2014

47

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May 30, 2014

48

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<http://www.arb.ca.gov/fuels/lcfs/lcfs.htm>

Thank You