Low Carbon Fuel Standard Re-Adoption
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
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)
Proposed Revisions

• Indirect Land Use Change Values (status)

• Fuel Pathways

• Electricity Provisions

• Credit Trading Provisions

• Reporting and Recordkeeping Provisions

• Enforcement Provisions
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.
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
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 gCO$_2$e/MJ: 5.5 percent lower than the reference pathway well-to-wheels carbon intensity

• For proposed Method 2A pathways with carbon intensities of 20 gCO$_2$e/MJ or less: 1 gCO$_2$e/MJ less than the reference pathway well-to-wheels carbon intensity
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
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
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
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
Proposed Revisions

• Indirect Land Use Change Values (status)
• Fuel Pathways
• Electricity Provisions
• Credit Trading Provisions
• Reporting and Recordkeeping Provisions
• Enforcement Provisions
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)
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
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.
Proposed Revisions

- Indirect Land Use Change Values (status)
- Fuel Pathways
- Electricity Provisions
- Credit Transactions
- Reporting and Recordkeeping Provisions
- Enforcement Provisions
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”
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
Proposed Revisions

• Indirect Land Use Change Values (status)
• Fuel Pathways
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• Enforcement Provisions
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
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”
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
• 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
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
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
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)
### Documenting Fuel Transfers (cont.)

#### FTF Data File Example

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May 30, 2014
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
Proposed Revisions

• Indirect Land Use Change Values (status)
• Fuel Pathways
• Electricity Provisions
• Credit Transactions
• Reporting and Recordkeeping Provisions
• Enforcement Provisions
Agenda

Enforcement Provisions

• Executive Officer Authority
• Enforcement Protocols
• Jurisdiction
• Violations
New Section 95490.2

ARB Executive Officer has the authority to:

- Suspend an account
- Revoke credits
- Hold credits
- Limit or prohibit transfers of credits
• 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
Violation Language to include:

- Violation examples
  - Late, not reporting, or inaccurate reporting
  - Annual compliance: deficits

- Penalties
  - Existing H & S Code governs
  - Per deficit
• 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
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
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
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)
Agenda

- Proposed Re-Arrangement of LCFS Regulatory Language
- Proposed Revisions
- 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
## Contact Information

<table>
<thead>
<tr>
<th>Category</th>
<th>Name</th>
<th>Phone Number</th>
<th>Email</th>
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<tbody>
<tr>
<td>LCFS Re-Adoption (Overall Lead)</td>
<td>Katrina Sideco</td>
<td>(916) 323-1082</td>
<td><a href="mailto:ksideco@arb.ca.gov">ksideco@arb.ca.gov</a></td>
</tr>
<tr>
<td>Revised Indirect Land Use Change (iLUC) Values</td>
<td>Anil Prabhu</td>
<td>(916) 445-9227</td>
<td><a href="mailto:aprabhu@arb.ca.gov">aprabhu@arb.ca.gov</a></td>
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<tr>
<td>Electricity Credits for Fixed Guideway Transportation and Forklifts</td>
<td>Carolyn Lozo</td>
<td>(916) 445-1104</td>
<td><a href="mailto:clozo@arb.ca.gov">clozo@arb.ca.gov</a></td>
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<tr>
<td>Fuel Pathways</td>
<td>Hafizur Chowdhury</td>
<td>(916) 322-2275</td>
<td><a href="mailto:hchowdhu@arb.ca.gov">hchowdhu@arb.ca.gov</a></td>
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May 30, 2014
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http://www.arb.ca.gov/fuels/lcfs/lcfs.htm
Thank You