

California Environmental Protection Agency



Air Resources Board

***Low Carbon Fuel Standard
Proposed Amendments***

September 14, 2011

Agenda

- Introduction
- Revised Draft Regulatory Language and Concepts
 - Enhanced Regulated Party
 - Opt-In/Opt-Out Provisions
 - Credit Trading
 - Method 2A/2B Certification
 - Electricity Regulated Party
 - Energy Efficiency Ratio (EER) Revisions
 - Low-Energy-Use Refineries
 - High Carbon-Intensity Crude Oil (HCICO)
 - Land Use Change (LUC)
- Next Steps

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- **Enhanced Regulated Party**
- Opt-In/Opt-Out Provisions
- Credit Trading
- Method 2A/2B Certification
- Electricity Regulated Party
- Energy Efficiency Ratio (EER) Revisions
- Low-Energy-Use Refineries
- High Carbon-Intensity Crude Oil (HCICO)
- Land Use Change (LUC)

Draft Amendments

- Presented at first workshop - July 22, 2011
 - Revised “import facility” definition
 - Revised “producer” definition
 - Added definition for “transloading facility”
- Draft amendments would have granted initial regulated party status to:
 - Out-of-state fuel producers
 - Transloading operators

Comments

Comments and suggested revisions:

- Revise “import facility” definition to include transportation equipment
 - Previous draft excludes suppliers, distributors, marketers, entities involved in importation process
 - Broader interpretation is needed
- Delete definition for “transloading facility”
- Add definition of “supplier”
- Revise definition of “producer” to identify shipments designated for use in California only

Proposed Amendments

- Revised “import facility” definition
 - Includes transportation equipment
 - Broadens definition to include importation entities
- Deleted “transloading facility” definition
- Revised “importer” definition
 - Specified as those who own an imported product when delivered at import facility in CA
- Revised “producer” definition
 - Report volumes designated for shipment to CA only

Note: Revisions reflect changes to previously proposed draft amendments presented on July 22, 2011.

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- Enhanced Regulated Party
- **Opt-In/Opt-Out Provisions**
- Credit Trading
- Method 2A/2B Certification
- Electricity Regulated Party
- Energy Efficiency Ratio (EER) Revisions
- Low-Energy-Use Refineries
- High Carbon-Intensity Crude Oil (HCICO)
- Land Use Change (LUC)

Draft Amendments

- Presented at first workshop - July 22, 2011
 - Detailed the CI selection for Opt-In fuels
 - Provided Opt-Out procedures
 - Inclusion of jurisdictional language
- Draft amendments specified procedure:
 - Necessary information to provide for CI selection
 - Timeline for submission of Opt-Out notice

General Comments

- Suggestions and recommended revisions:
 - How intermediate or upstream parties would opt-in
 - Additional time requested for providing notice of opt-out
- Proposed amendments :
 - Opt in for
 - non-CA ethanol or biomass-based diesel producers
 - intermediates (between producer & importer)
 - gas companies in lieu of fueling station owners
 - Address multiple parties claiming reg party status for same fuel
 - Revised 30-day opt out notice to 90 days

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- Enhanced Regulated Party
- Opt-In/Opt-Out Provisions
- **Credit Trading**
- Method 2A/2B Certification
- Electricity Regulated Party
- Energy Efficiency Ratio (EER) Revisions
- Low-Energy-Use Refineries
- High Carbon-Intensity Crude Oil (HCICO)
- Land Use Change (LUC)

Draft Amendments

Presented at first workshop - July 22, 2011

- Revisions to 95484(b)
 - Credit Calculations
 - Annual Compliance
- Creation of 95488
 - Generation and Acquisition of Transferable Credits
 - Credit Transfers
 - Mandatory Retirement of Credits for the Purpose of Compliance
 - Public Disclosure of Credit and Deficit Balances and Credit Transfer Information

Draft Amendments (Cont.)

Draft amendments offer:

- Clear distinction between credit generation and annual deficit compliance
- The framework for a credit trade market
- Details to be included for each credit transfer
- Unique IDs for tracking of credits
- Compliance hierarchy for credit retirement

General Comments

Suggestions and recommended revisions:

- No distinctions for when a credit is generated
- Reporting of credit market activities remain on a aggregated basis
- Removal of credit price on credit transfer forms
- Review of credit transfer to occur within 6 months
- Clarify language in 95484(b) where compliance period is used in two separate ways

ARB's Response

- Proposed amendments:
 - Clarified language in 95484 to address uncertainty
 - Revise Credit Transfer and Allocation forms
- No proposed revisions:
 - Credit IDs
 - IDs will have generalized names
 - Related only to the fuel type and generation quarter
 - Average transaction price will be reported
 - Individual transaction prices will be kept confidential
 - Necessary to provide accurate trends for LCFS

ARB's Response (Cont.)

No proposed revisions (cont.):

- Credit retirement hierarchy
 - Tracked through Credit IDs
 - Burden of tracking is on ARB staff
 - Invalid credits which were retired can be replaced with currently available credits.
 - Invalid credit burden would fall upon credit generator

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- Enhanced Regulated Party
- Opt-In/Opt-Out Provisions
- Credit Trading
- **Method 2A/2B Certification**
- Electricity Regulated Party
- Energy Efficiency Ratio (EER) Revisions
- Low-Energy-Use Refineries
- High Carbon-Intensity Crude Oil (HCICO)
- Land Use Change (LUC)

Method 2A/2B Certification

- No significant changes in direction or approach have occurred since the last workshop
- We continue to refine and develop the certification process
 - Additional detail on information submission requirements and the evaluation process are in the current version of the regulation language.
- Our responses to the comments from the last workshop show why we're headed in this direction.

Method 2A/2B Certification

Responses to main comments received:

- Keep the adoption of new pathways within the regulation change framework.
 - Rulemakings require substantial ARB resources.
 - Rulemaking process impractical for frequent Lookup Table updates.
 - Resolution 09-31 directs transition to certification program, if feasible.
 - Certification process will retain transparency, public review.
 - Discretion is minimized.

Method 2A/2B Certification

Responses to main comments received (Cont.):

- Some commenters questioned our documentation submission requirements. Reasons:
 - Direct inspection of out-of-state plants impractical.
 - Comprehensive documentation needed to show that ARB decisions are well-founded and sound.

Method 2A/2B Certification

- Staff also proposes to clarify the language found at 95486 (b)(2)(B)
- Regarding the use of Method 1 (reporting using Lookup Table CIs), it says:
 - . . . the regulated party must use the carbon intensity value in [the] Lookup Table that most closely corresponds to the production process used to produce the regulated party's fuel.*
- The proposed revision would clarify applicable procedure when no Lookup Table pathway closely corresponds with the regulated party's pathway.

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- Enhanced Regulated Party
- Opt-In/Opt-Out Provisions
- Credit Trading
- Method 2A/2B Certification
- **Electricity Regulated Party**
- Energy Efficiency Ratio (EER) Revisions
- Low-Energy-Use Refineries
- High Carbon-Intensity Crude Oil (HCICO)
- Land Use Change (LUC)

Changes in Proposed Regulation Language Since July Workshop

- Opportunity added for businesses to receive credits for employees charging EVs at work
- Requirements added for all potential regulated parties
- Scope of requirements to receive credits broadened
- Reporting requirement added
- Potential default credit recipients added

General Requirements to Receive Credits

- Offer TOU rate schedule that encourages off-peak charging
- Actively educate the public about the environmental and economic benefits of electric transportation
- Report annually including:
 - Detailed summary of satisfaction of requirements
 - Accounting of the number of EVs and/or charging events in the service area

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- Enhanced Regulated Party
- Opt-In/Opt-Out Provisions
- Credit Trading
- Method 2A/2B Certification
- Electricity Regulated Party
- **Energy Efficiency Ratio (EER) Revisions**
- Low-Energy-Use Refineries
- High Carbon-Intensity Crude Oil (HCICO)
- Land Use Change (LUC)

Data for EER Calculation for FCVs

- Honda FCX Clarity: 61 mpg
- Honda Accord (reference vehicle): 26 mpg
- $EER = 61 / 26 = 2.35$
- Mercedes F-Cell: 54 mpg
- Mercedes SLK350, SLK300, C300 (reference vehicle): 21 mpg
- $EER = 2.57$
- $Average\ EER = (2.35 + 2.57) / 2 = 2.46$
- Average EER is divided by 1.3 to reflect 30% mpg improvement for gasoline vehicles due to Pavley Regs.:
 $EER = 2.46 / 1.3 = 1.9$

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- Enhanced Regulated Party
- Opt-In/Opt-Out Provisions
- Credit Trading
- Method 2A/2B Certification
- Electricity Regulated Party
- Energy Efficiency Ratio (EER) Revisions
- **Low-Energy-Use Refineries**
- High Carbon-Intensity Crude Oil (HCICO)
- Land Use Change (LUC)

Low Energy Use Refineries

- CI of refining portion of lifecycle assessment significantly less
- Board directed staff to consider provisions
- Staff proposal
 - Refiner must show lower refining CI of at least 5g CO₂e/MJ from current average (substantiality)
 - Lower CI of 5g CO₂e/MJ correlates to LCFS standard in 2018
 - Low energy use refiners would not generate deficits before 2018

Low Energy Use Refineries

- Credit generation identical to current process
 - No additional credits generated for lower CI CARBOB and ULSD
 - Credits generated with CIs lower than the LCFS standard in effect
- Credits can be accumulated, sold, or both

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- Enhanced Regulated Party
- Opt-In/Opt-Out Provisions
- Credit Trading
- Method 2A/2B Certification
- Electricity Regulated Party
- Energy Efficiency Ratio (EER) Revisions
- Low-Energy-Use Refineries
- **High Carbon-Intensity Crude Oil (HCICO)**
- Land Use Change (LUC)

HCICO Provision

- Staff presented five potential approaches to the treatment of HCICOs
 - Current Approach with Amendments
 - CA Average Approach
 - Hybrid Approach
 - Company Specific Approach
 - Worldwide Average Approach
- Received written comments on HCICO provisions
 - Letters received are posted on our website
 - Ask for removal of HCICO provisions
 - Provide specific input on the five approaches

Evaluating Potential Approaches

- Currently gathering information: Refiners survey sent in August
- Received data from six companies so far
 - Three companies have provided complete data
 - Three companies have provided partial data
- Some companies have referred to CEC for data

Proposed Amendments

Revised Draft Regulatory Language and Concepts

- Enhanced Regulated Party
- Opt-In/Opt-Out Provisions
- Credit Trading
- Method 2A/2B Certification
- Electricity Regulated Party
- Energy Efficiency Ratio (EER) Revisions
- Low-Energy-Use Refineries
- High Carbon-Intensity Crude Oil (HCICO)
- **Land Use Change (LUC)**

Agenda

- Presentation by Wally Tyner on GTAP model revisions and revised land conversion estimates
- Comments/Questions
- Presentation by Holly Gibbs on carbon stock estimates
- Presentation by Rich Plevin on emission factor model
- Comments/Questions
- Presentation by ARB staff on sensitivity of LUC CI to model structure and parameter changes
- Comments/Questions

Next Steps

- Comments due Sept 28, 2011
- Next public workshop - October 2011
- 45-day comment period begins Oct 31, 2011
- Board hearing – Dec 2011

Contact Information

Enhanced Regulated Party	Aubrey Sideco (916) 324-3334 asideco@arb.ca.gov
Opt-In/Opt-Out Provisions Credit Trading	Stephen d'Esterhazy (916) 323-7227 sdesterh@arb.ca.gov
LCFS Reporting Tool (LRT)	Greg O'Brien (916) 323-0023 gobrien@arb.ca.gov
Electricity Regulated Party	Carolyn Lozo (916) 445-1104 clozo@arb.ca.gov

Contact Information

Method 2A/2B Certification	Hafizur Chowdbury (916) 322-2275 hchowdhu@arb.ca.gov
Energy Efficiency Ratios (EERs)	Kevin Cleary (916) 323-1009 kcleary@arb.ca.gov
Land Use Change	Jim Duffy (916) 323-0015 jduffy@arb.ca.gov
High Carbon-Intensity Crude Oil (HCICO)	Manisha Singh (916) 327-1501 mansingh@arb.ca.gov

Contact Information

Mike Waugh, Chief, Transportation Fuels Branch
(916) 322-8263, mwaugh@arb.ca.gov

Floyd Vergara, Chief, Alternative Fuels Branch
(916) 327-5986, fvergara@arb.ca.gov

John Courtis, Manager, Alternative Fuels Section
(916) 323-2661, jcourtis@arb.ca.gov

Wes Ingram, Manager, Fuels Evaluation Section
(916) 322-3984, wingram@arb.ca.gov

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

Thank You