

California Low Carbon Fuel Standard Cost Containment Provisions

Oregon Clean Fuels Program Workshop

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Sam Wade

Chief, Transportation Fuels Branch

California Environmental Protection Agency

 **Air Resources Board**

Outline

- Why did the California Low Carbon Fuel Standard (LCFS) add a “cost containment” mechanism?
- Options that were considered
- Why the Credit Clearance Market (CCM) was selected as the preferred option
- Examples of how the CCM works and real world experience with the mechanism in 2016

Why did the California LCFS add a Cost Containment mechanism?

- Overarching Goal:
 - Ensure that the LCFS achieves its Greenhouse Gas (GHG) goals within a reasonable and predictable range of costs.
- Sub-Goals:
 - Provide a route for compliance and certainty that parties can comply even if a credit shortfall occurs
 - Strengthen incentives to invest in low-CI fuels
 - Increase certainty regarding the maximum cost of compliance
 - Prevent extreme market volatility
 - Ensure that willing credit generators can sell available credits

What the Cost Containment Provision is not Intended to Do

- Substitute for a feasible set of LCFS performance goals and standards
- Act to reduce or eliminate any party's net obligation to obtain credits or reduce the GHG benefits of the LCFS
- Address a chronic or pervasive shortfall in credit supply extending for numerous compliance periods
- Unduly affect the LCFS market on an ongoing basis (other than to place an effective cap on credit prices)

Options for Additional Flexibility/Cost Containment

Option	Prior to 2016	Added in 2016
Shift abatement across parties	<ul style="list-style-type: none"> • Credit Trading 	
Shift abatement across time	<ul style="list-style-type: none"> • Banking 	<ul style="list-style-type: none"> • Credit Clearance Market (extend borrowing if price is high)
Expand where abatement comes from	<ul style="list-style-type: none"> • Credits fungible between gasoline and diesel pools • Innovative crude credits 	<ul style="list-style-type: none"> • Refinery credits • Electric rail and forklifts • Hydrogen forklifts • Renewable electricity and solar heat added to innovative crude options
Pay your way out		<ul style="list-style-type: none"> • Max enforcement penalty set at \$1,000/deficit
More credit for certain abatement	Not yet allowed	

Cost Containment Stakeholder Process in CA LCFS

- May 2013, ARB [Whitepaper](#) and [Workshop](#) discussed five options:
 - Credit window (pay your way out and receive credits)
 - Noncompliance penalty (pay your way out, no credits received)
 - Reinvestment plan (expand borrowing/where abatement comes from)
 - Credit multiplier (more credit for certain actions)
 - Credit clearance (expand borrowing if price is high)
- October 2013, [UCD Research Report](#) evaluate ARB options and recommended credit window or noncompliance penalty
- April 4, 2014 ARB [Workshop](#) narrowed discussion to credit window vs. credit clearance market
- October 27, 2014 ARB [Workshop](#) Staff indicated preference for credit clearance market option as the main tool

Options Considered - Credit Window

- Regulated parties with outstanding deficits purchase and retire compliance-only credits issued by the ARB
- Credit window credits would be offered for sale at a pre-determined price
 - Provides a strong and transparent price cap
- Proceeds from the sale of credit window credits could be:
 - Distributed to low-CI fuel producers to incent clean fuels, or
 - Used for other GHG reductions to mitigate the loss in LCFS benefits

Options Considered - Per-Ton Noncompliance Penalty

- Regulated party with a net deficit at the end of a compliance year have the option to pay a pre-established non-compliance penalty
- Key RP Question: Is this considered a violation, or a payment in lieu of receiving a violation?
- These noncompliance funds would be deposited into the Air Pollution Control Fund and not earmarked for any LCFS-specific use

Options Considered - Reinvestment Plan

- ARB would establish a credit price threshold. If credits consistently trade at or above that price, the reinvestment option would be triggered.
- Regulated parties would have the option of putting money into a series of investments that would be specified in the regulation that advance the objectives of the LCFS
- Such investments might include:
 - Production facilities for low-CI fuels
 - Conversion of conventional petroleum processing equipment to use renewable feedstocks
 - Infrastructure for the distribution of low-CI fuels
 - Commercial scale carbon-capture-and-sequestration projects
 - Energy efficiency improvements

Options Considered - Credit Multiplier

ARB would establish a credit price threshold. If credits consistently trade at or above that price, the credit multiplier option would be triggered.

- ARB would then apply a credit multiplier to fuels that are below a specified carbon-intensity (CI) threshold
- The CI threshold(s), the value of the multiplier, and the period during which it would remain in effect would be known prior to trigger
- A sliding scale of multipliers could be used based on different CI thresholds
- Sends a strong signal to fuel providers that the lower-CI fuels are a key goal of the program, but lacks investment certainty

Options Considered - Credit Clearance Mechanism

- Parties holding credits pledge them for sale in the process
- Each out-of-compliance regulated party (RP) needs to obtain a specified amount of credits determined by the ARB to be the RP's "pro rata" share of the pledged credits
- Clearance credits are sold at or below \$200/MT (adjusted annually for inflation)
- RPs carry an obligation to "repay" any remaining deficits after purchasing their pro rata share of credits.
- RPs must retire outstanding deficits within 5 years
- Outstanding deficits are increased by 5% per year

Comparison of the Options

Design Feature	Credit Window	Non-compliance penalty	Reinvestment Plan	Credit Multiplier	Credit Clearance
All credits represent real CI reductions?	Maybe	N/A	N/A	No	Yes
Easy to develop and implement?	No	Yes	No	Yes	Yes
ARB collects funds?	Yes	Yes	No	No	No
Who determines use of funds?	Legislature	Existing Statute	Fuel Producers	N/A	N/A
Confidence in limit on credit prices?	Strong	Strong	Strong	Weak	Moderate

Credit Clearance Process was Judged to be Superior

- Keeps proceeds within the clean fuels marketplace
- Preserves overall GHG accounting in the LCFS
- Provides clear incentive to invest in low CI fuels
- Ensures all available credits are marketable*
- Avoids “pay-to-pollute” and “its just a tax” criticisms of Credit Window and Non-compliance Penalty approaches
- Provides a reasonably effective price cap mechanism

* If CCM occurs and deficits exceed pledged credits, all pledged credits must be bought

Credit Clearance

Example Calculation of Pro-rata Credit Obligation

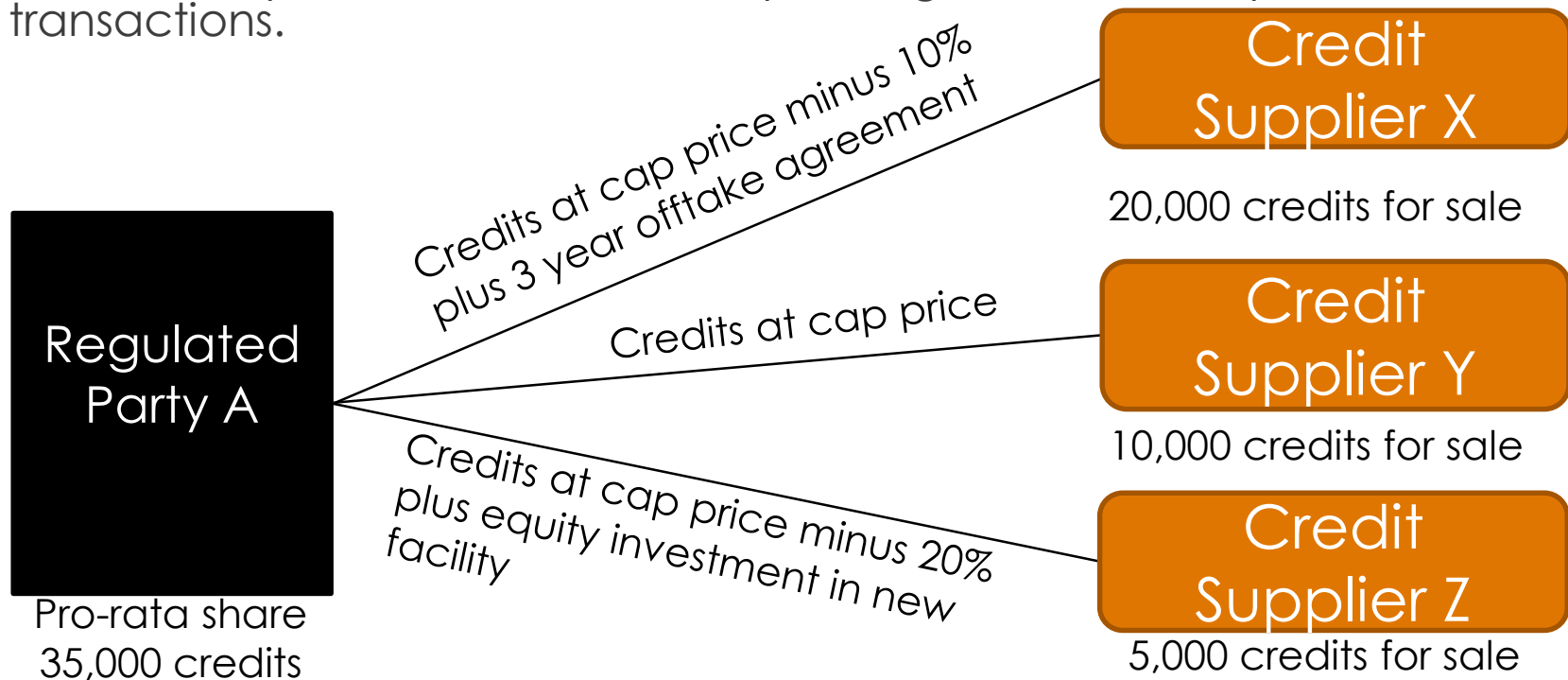
- Assume 50,000 credits were pledged to the Clearance Market
- Total need across all RP who are short is 100,000 credits

Regulated Party	Additional Credits Required	Pro-rata Share of Compliance Shortfall	Credits Purchased via Clearance Process*	Debt Carryover
Regulated Party A	70,000	70% (= 70,000/100,000)	35,000 (= 50,000 x 70%)	35,000
Regulated Party B	10,000	10%	5,000	5,000
Regulated Party C	20,000	20%	10,000	10,000
TOTAL	100,000	--	50,000	50,000

Credit Clearance

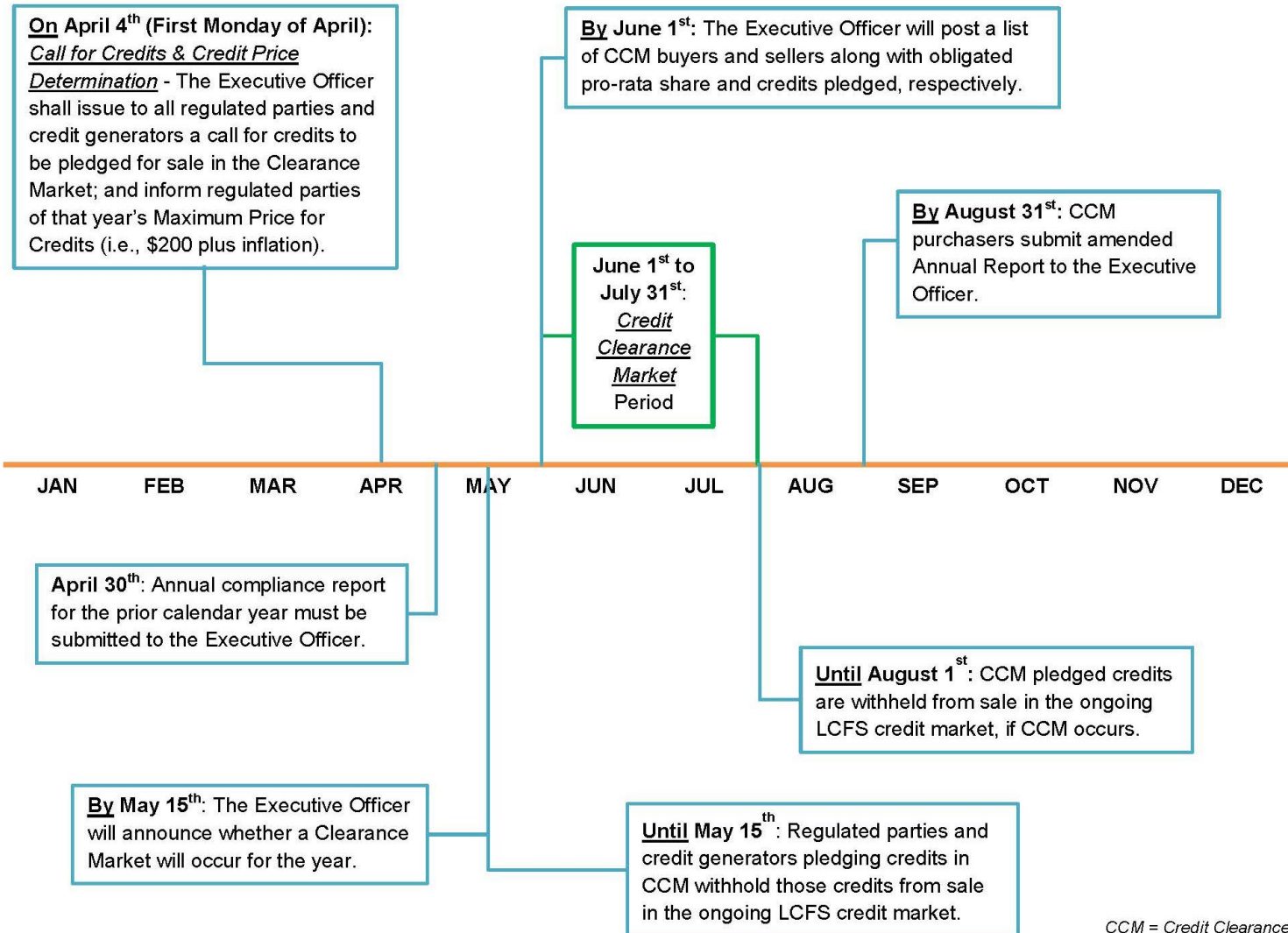
Credit Clearance Transactions Offer Flexibility

- Provides buyers and sellers flexibility to negotiate mutually beneficial transactions.



- After purchasing its share of clearance market credits, Regulated Party A will have fully complied for the year but must retire 35,000 outstanding deficits within 5 years.

CCM Timeline Details (2016)



2015 Data Year CCM Experience

- 98% compliance rate for the 2015 Compliance Year
 - Only one party (Astra Oil) was short after the compliance deadline
- Ran the CCM in 2016 for Astra to cover their remaining 2015 obligation
 - Three parties pledged credits (BP, Calgren, Titan El Toro)
- Astra has acquired the needed credits through the CCM mechanism

Credit Clearance

Summary of Benefits

Conventional Fuel Suppliers

- Prevents destabilizing increases in credit prices.
- Increases certainty regarding the maximum cost of compliance.
- Enables compliance without having to pay for credits or fuels the market has failed to produce.

Low-Carbon Fuel Suppliers

- Prevents destabilizing increases in credit prices.
- Improves market durability, increasing confidence and supplies of low-CI fuels.
- Ensures producers and investors can better assess the value for low-CI fuels & credits, results in increased investments.

For more information...



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