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Energy and Industrials Weekly: California Air Resource Board's Regulatory Impact Assessment Signal LCFS Credit Friendly Changes Likely

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- **Capstone believes the California Air Resources Board's (CARB) Standardized Regulatory Impact Assessment (SRIA) that outlined changes to the state's Low Carbon Fuel Standard (LCFS) signals CARB's intent to alter the program in a way that will support credit prices.**

- **The changes, released on September 8, 2023, are broadly in line with prior Capstone predictions. Major changes include a 30% reduction in the 2030 standard as expected, a 5% step down beginning in 2025 (a year later than many expected), and an auto acceleration mechanism to automatically lower the carbon intensity (CI) threshold without board intervention.**

- **Notably, CARB staff has remained consistent in saying that the rulemaking will take effect in 2024, suggesting that some changes that are supportive of credit prices could be implemented before 2025 if there are no additional delays in the rulemaking process.**

- **CARB Staff did not provide much additional context on the LCFS rulemaking in an Environmental Justice Advisory Committee (EJAC) Meeting held on September 14th. However, environmental justice stakeholders expressed displeasure with the direction taken by CARB in the SRIA, advocating for an immediate phase-out of the avoided methane crediting that benefits RNG products and a strict cap on the participation of crop-based fuels.**

- **We believe it is unlikely that CARB will adopt the changes proposed by environmental justice advocates in the EJAC meeting and believe that the changes outlined in the SRIA are ultimately likely to form the basis of the final rulemaking.**

A DEEPER LOOK

Standardized Regulatory Impact Assessment

CARB released the Standardized Regulatory Impact Assessment (SRIA) on September 8th, implementing much-awaited changes to the LCFS to address persistently low credit prices. The SRIA is the first step in the formal rulemaking process for the LCFS and contains the first look at potential changes from CARB. There is generally significant regulatory inertia in the CARB rulemaking process, and these changes are likely to form the basis of the final rule, likely to be approved at a CARB board meeting in Q1 2024. The SRIA is based on the following major changes to the LCFS.

2030 CI Standard and Near-Term Stepdown

Capstone has previously predicted that a 30% CI reduction by 2030, confirmed by the SRIA, would triple the demand for LCFS credits per megajoule of traditional gasoline consumed in the state relative to 2022 credit demand. CARB has long considered increasing the 2030 compliance target of a 20% CI reduction (relative to 2010 levels) to 25%, 30%, or 35%. Capstone has previously expressed that a strong reduction of 30% or 35% is the most likely scenario. In multiple workshops, stakeholders have called for a CI reduction target higher than 25% to ensure strong credit price signals that will support ongoing investment in carbon reduction.

Importantly for credit prices in the near term, there is no change in the 2024 CI reduction standard of 12.5% (Exhibit 1), and the announced 5% "step down" that many anticipated to take effect in 2024 would be implemented in 2025. This delay would likely keep credit prices lower than they otherwise would be with a 2024 step down until early 2025. In prior workshops, industry stakeholders have expressed to CARB that they believe the step down is the single most important action CARB can take to address low credit prices.

Exhibit 1: CARB CI Benchmarks Beginning in 2024

Year	Current Target	Proposed CI Reduction Target
2024	12.5%	12.5%
2025	13.75%	18.75%
2026	15.0%	21.0%
2027	16.25%	23.25%
2028	17.5%	25.5%
2029	18.75%	27.75%
2030	20.0%	30.0%

Source: CARB

Auto Acceleration Mechanism

The SRIA includes a proposed auto acceleration mechanism, as expected. If approved this will adjust CI stringency automatically without board action to avoid future periods like this of sustained low credit prices. As proposed, the mechanism would move the standard ahead one year if certain trigger conditions are met. The SRIA specifies that the mechanism would only be triggered by a certain imbalance in the number of credits versus deficits over a given amount of time, and stakeholders we have spoken with believe it is unlikely that CARB would make credit prices a trigger for the auto adjustment mechanism. As expected, the auto adjustment mechanism proposed is designed to only move in one direction, increasing the CI stringency to increase credit prices, and is not designed to decrease credit prices in any way.

RNG Avoided Methane Crediting and Book and Claim

The SRIA includes a proposed phase-out of avoided methane crediting for dairy and swine manure by 2040. Applications certified before 2030 would be eligible for a 10-year crediting period. If their crediting period expires between 2030 and 2035, applications would be eligible for an additional 5-year crediting period. These changes would be less negative for the RNG industry than changes discussed in previous CARB workshops, and those sought by the environmental justice community.

The SRIA also includes a phase-out of book and claim crediting for RNG projects by aligning its deliverability requirements with those for other fuels that have to be physically consumed in California. However, the rule is sparse on details aside from this. We continue to expect the board to approve a final rule with the phase-out of book and claim included.

Intrastate Jet Fuel

The SRIA eliminates the exemption for intrastate fossil jet fuel from the LCFS, meaning that jet fuel used for intrastate aviation would incur a credit deficit. CARB reasons that lower carbon alternatives to jet fuels, like sustainable aviation fuel, are now widely available and supported by federal incentives, making jet fuel's participation in the LCFS economically viable.

Environmental Justice Advisory Committee

The Environmental Justice Advisory Committee (EJAC) advises CARB in developing the [AB 32 Climate Change Scoping Plan Scoping Plan](), the state's multi-year program to reduce greenhouse gas emissions. The EJAC is required to be comprised of representatives from communities in California with the most significant exposure to air pollution, which can include minority or low-income communities. CARB held a joint non-voting board meeting with the Assembly Bill 32 Environmental Justice Advisory Committee (EJAC) on September 14, 2023, at which environmental justice stakeholders advocated for changes to the LCFS.

Though the EJAC comments touch on issues likely to be addressed in the final LCFS rulemaking, in many cases they sought immediate changes that we believe are unlikely to be supported by CARB. The two most significant changes sought by environmental justice groups are the immediate elimination of avoided methane crediting for RNG projects and a cap on the participation of lipid biofuels at 2020 levels until an updated risk assessment can be conducted to determine the phase-out timelines for crop-based feedstocks. Based on our conversations, we do not believe CARB will adopt either of these recommendations as the abrupt phase in of changes impacting a significant portion of LCFS credit generation is likely to be seen as a non-starter by staff.

Other changes proposed by EJAC would have a smaller impact on the LCFS but also face an uphill battle. These include prohibiting enhanced oil recovery as an eligible sequestration method under the LCFS and not issuing LCFS credits for Direct Air Capture projects. Notably, EJAC supported CARB's proposal to make intrastate aviation incur a LCFS credit deficit.

Next Steps

CARB staff outlined a tentative timeline for the LCFS rulemaking during the EJAC meeting. CARB expects the rulemaking package to be released in Q4 2023, followed by a 45-day public comment period and a Board meeting in Q1 2024 to vote on the proposal. CARB is vague on the implementation timeline of the rulemaking but maintains that changes will be implemented in

2024. Stakeholders Capstone has spoken with have speculated that implementing new changes mid-year in 2024 is possible.

Opportunities to Connect

Let us know if you would like to schedule a time to meet during one of our upcoming non-deal roadshows. Contact sales@capstonedc.com to schedule. Dates are subject to change.

New York and Connecticut: September 20-21

In Case You Missed It: A Roundup of Capstone's recent notes on the Low Carbon Fuel Standard:

California LCFS: CARB Staff Confirms Rulemaking Delay Amid Implementation Hurdles; Supportive Credit Pricing Changes Still Likely. August 15, 2023

Energy & Industrials Weekly: LCFS Step-Down Will Increase Credit Prices, but Erode Credit Generation for Key Fuels Such as Ethanol. June 3, 2023

LCFS Quick Take: CARB Workshop Suggests Strong Support for Auto Adjustment Mechanism, But Raises Questions of Rulemaking Delay. May 23, 2023

LCFS Quick Take: CARB Workshop Points to the Addition of Automatic Acceleration Mechanism to the Program, a Positive for Clean Fuels. February 23, 2023

California Low Carbon Fuel Standard Rulemaking to Raise Credit Prices in 2023, Prevent Future Price Drops; Tailwinds for Clean Fuels Producers. February 21, 2023

In Case You Missed It: A roundup of Capstone's recent notes on Energy & Industrials:

Quick Take: Army Corps Likely To Grant Dakota Access Pipeline Easement With Conditions, Seek Middle Ground on Environmental Impact Statement, September 11, 2023

Energy & Industrials Weekly: Global Plastic Treaty Draft Calls for Lowering Production; Michigan Looks to 2035 100% Clean Energy Standard, September 9, 2023

EU Energy & Industrials Weekly: EU Green Hydrogen Pilot Auction Terms an Industry Positive; Member State Support to Help Bridge the Gap, September 8, 2023

Canada's Upcoming Federal Oil & Gas Emissions Cap an Underappreciated Tailwind for Canadian E&P Equities: Canadian Natural, Suncor, Cenovus, September 7, 2023

EU PFAS Liabilities Estimated at Just €2.9M for Arkema and €8.9M for Solvay, But Expected EU-Wide PFAS Ban Poses Significant Revenue Risk, September 6, 2023

Biweekly Pipeline Update 9/6/23: New EPA Rule Positive for Pipelines; Mountain Valley; Saguaro Pipeline; NFE's Two Fast LNG Projects in Altamira Progresses, September 6, 2023

ERCOT: Thermal Generators to Benefit as Public Utility Commission Clarifies New Incentives, Performance Credit Mechanism Unlikely Until '27, September 5, 2023

Energy & Industrials Weekly: GHG Protocol Book-and-Claim for RNG; Cleveland-Cliffs/US Steel Antitrust Probe Likely; EV Tax Credit Guidance, September 2, 2023

EPA CO2 Power Plant Final Rule Likely to Incorporate Flexibility for Power Plants in Response to Pushback from Commenters Over Grid Reliability, August 30, 2023

Hawaiian Electric: Revised Model Shows $4.9B in Potential Liabilities from Settlement; Maui County Increasingly Likely to Share Burden, August 30, 2023

What We're Reading:

U.S., Saudi Arabia in Talks to Secure Metals for EVs, WSJ

USDA to adjust GHG model to help ethanol get aviation fuel subsidy, Reuters

Germany's Lindner blasts EU over 'enormously dangerous' green plans, Politico

US hydrogen rules could decide fate of EU's electrolyser industry, Euractiv

Biden plan would overhaul 151-year-old mining law, make companies pay royalties for copper and gold, AP News