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Q&A with Graham Noyes of the Low Carbon Fuels Coalition

In January, several members of Stillwater's Carbon Crew chatted with Graham Noyes, Executive Director of the Low Carbon Fuels Coalition (LCFC) concerning his team's outlook and perspective concerning the California Low Carbon Fuel Standard (LCFS) and other similar programs in play or under development around the country and into Canada. We thought our readers might find this conversation enlightening, so we're publishing it here. We've edited Graham's answers for clarity and brevity.

Stillwater: Given current low LCFS credit prices, what viable options does LCFC propose for the California LCFS to ensure LCFS credit prices stay high enough to support investments into the future?

Graham Noyes, LCFC: CARB can move its amendment rulemaking forward, setting ambitious targets fueled by low-carbon fuel availability which has accelerated in the last five years. The focus of the ongoing rulemaking is to update the carbon intensity (CI) reduction targets. The time lag associated with the mandated regulatory process helps CARB live and learn from program experience, but also makes the program less responsive to market realities in real-time. COVID didn't help with that responsiveness as it disrupted the way CARB does their work - public engagement, internal operations, were challenged or stalled due to in-person challenges. In addition, low-carbon fuel supply expanded at the same time demand for gasoline stalled. The solution here is to get the rulemaking done as soon as possible.

As part of the rulemaking, CARB might also consider a self-ratcheting CI-reduction mechanism, which is a concept initially proposed by AJW to adjust the CI-reduction schedule in real-time based on pre-determined market indicator triggers. AJW has previously been instrumental in the establishment of the credit clearance market (CCM) in the LCFS program, essentially setting a price cap on credits, and are respected as thought leaders in this space.

Let's talk a little more about that self-ratcheting mechanism. How would this work and how soon does LCFC think this can be implemented if approved by all parties?

The challenge is that California's extensive regulatory law requires agencies to consider externalities like environmental impacts, etc. and develop an extensive rulemaking record prior to implementing any regulatory changes. The LCFS is really a market mechanism, and it matters to the market what the program is doing, but regulatory course corrections cannot be made quickly due to compliance requirements under California's Administrative Procedures Act. LCFC thinks of the ratcheting mechanism as a structure meant to accelerate CI reductions to the extent that there's an oversupply of credits based on objective criteria. This would not be instantaneous; CARB would need to review objective criteria based on the LCFS Reporting Tool and Credit Bank & Transfer System (LRT-CBTS) data. Discussions are ongoing regarding the optimal structure and what the ideal credit bank looks like. Some level of over-supply of credits or credits extending into future compliance needs would indicate that it's time to accelerate the CI reduction schedule. We see this as a floating floor to complement the ceiling (CCM). Previously, CARB had indicated they weren't sure how a floor would work, but now these conversations around a self-ratcheting

mechanism are attempting to answer that question. LCFC is hoping this can be brought into the current amendment process and will become effective with the rulemaking at some point in 2024 with the mechanism not likely to trigger immediately – a one or two quarter minimum delay might be expected.

With slow pathway approvals and other actions that require CARB's review and approval, it appears CARB staff is overloaded. Do you suggest some ways that CARB can simplify and reduce the workload? What suggestions do you have for jurisdictions outside of California that do not or will not be able to support a large staff to manage their LCFS program?

CARB Staff is diligent and hard-working. They've experienced significant loss of personnel to the private sphere. There's competition for the best lifecycle analysis (LCA) modelers, but CARB is working to bring on more staff which will help with the workload. Scoping Plan work has recently also taken quite a bit of time from the same team members.

One area of opportunity: Be more willing to trust the verification system. The standing up of this system in the last rulemaking has been successful. As a whole, CARB is extremely rigorous and has a hard time relying on and trusting third-party verifiers. Hopefully this smooths out and CARB can gain confidence in the viability of that program structure. This shifts the burden to industry and reduces CARB's administrative time.

Other jurisdictions, like Oregon, have proven that you can implement a much less labor-intensive program when you have an agency like CARB doing the heavy lifting from another jurisdiction. Other states might also rely more on Argonne National Lab's (ANL) original GREET model rather than state-specific versions like California's. LCA, indirect land use change (ILUC), novel Tier 2 pathways, etc. are difficult challenges, and they will likely persist.

How is LCFC working to increase low carbon fuel supply in active LCFS jurisdictions outside of CA? OR, WA, BC, the rest of Canada?

LCFC has a close relationship with Advanced Biofuels Canada, so we rely on their expertise there. Some LCFC members are active in Canada, but the organization is not. Members of LCFC are really expanding low-carbon fuel supply in these jurisdictions via electrification, sustainable aviation fuel (SAF), ethanol, renewable diesel (RD), etc. The passage of the Inflation Reduction Act and the Infrastructure Bill are major enablers and catalysts which will support the expansion of clean fuel supply.

What other states or jurisdictions do you expect to adopt LCFS-style programs over the next couple of years?

We expect continued expansion of Clean Fuel Standard (CFS) programs over the next decade at the state level, along with the establishment of a federal Clean Fuel Standard that does not pre-empt state CFS programs. Unfortunately, we just came up short in New Mexico due to competing priorities even though we had the solid support of both houses and the Governor, so that will not happen in 2023 absent a special session. Both New York and Minnesota appear promising for 2023 passage. We also have momentum in multiple states in the Midwest including the Illinois bill, and in the east with the bill in Vermont, as well as active discussions in a half dozen other states. *(Note: This response was edited to reflect the legislative landscape as of March 17, 2023, shortly before this interview was published.)*

Where do liquid renewable fuels fit in an increasingly electrified transport sector? What actions can LCFS programs take to support liquid renewable fuels development?

Liquid renewable fuels will play a crucial role in the decarbonization of the transportation sector as the Institute from Transportation Studies projected in their analysis for the California legislature. LCFS programs inherently support practical and cost-effective decarbonization solutions, and liquid renewable fuels can compete with fossil fuels on price, price stability, domestic content, criteria emissions performance and fuel performance, and have the advantage of America's vast internal combustion fleet.

LCFS programs outside CA have different reduction schedules, and often a different CI score for the same fuel. As such, the price and value landscape for suppliers and buyers is complex. Does LCFC see any benefit for CA, OR, and WA to combine their already active LCFS programs into one simplified West Coast LCFS program? Is this viable and beneficial to the overall goal of reducing the CI of fuels utilized?
From a regulatory perspective, states have state-level authority. Attempts to establish regulatory programs across regions are typically infeasible for this reason.

How can the various LCFS and RFS (w/IRA) programs support SAF development while ensuring the feedstocks to produce SAF are not competing with RD production? What is LCFC's view on this issue?
The aviation industry and CAAFI have done a fabulous job in establishing specifications for SAF produced from a wide range of feedstocks. We are just at the very beginning of the commercialization of SAF, and we expect tremendous diversification over the next decade.

What other changes would LCFC like to see in the CA LCFS?
We support CARB's work in this rulemaking to speed the rate of CI reductions and extend the schedules of CI reductions beyond 2035. We also support the establishment of an acceleration mechanism to enable CI reductions in between rulemakings when objective conditions support greater reductions.
