

May 28, 2023

Dear Dr. Cheryl Laskowski and the LCFS Team,

These comments are in reference to the materials posted for the workshops held on February 22 and May 23, 2023. I am submitting these comments as a private citizen and am not being paid by or representing any organization. Before providing my comments, I want to heartily applaud the Transportation Fuels Branch (TFB) staff and managers for quickly and comprehensively preparing materials on a wide range of critical issues necessary to consider for this rulemaking and for engaging often with the public to receive feedback. From experience, I know how big a task this is, especially considering the complexity of the LCFS program.

**I highly encourage CARB to focus much more on equity** when developing and discussing proposed changes to the LCFS regulation, and I was pleased to hear a few stakeholders also expressing this caution. As mentioned in my previous [comment letter](#), the costs for any climate program must be borne by someone, and in the case of the LCFS, the costs are borne by consumers of fossil gasoline and diesel through increased prices for these fuels at the pump. The potential increase in pump prices, or pass-through cost, can be readily estimated and is proportional to the percentage reduction in target CI and the credit price. In the early years of the LCFS program, these pass-through costs were low, even with high credit prices, because the percent CI reduction was small. However, as the percent CI reduction increases over time, each gallon of fossil fuel generates more deficits and the potential pass-through cost increases proportionally. In other words, the LCFS program acts as both a carrot (through credit value generated by low carbon fuels) and a stick (through pass-through cost to high carbon fuels). Over time as the CI benchmarks get lower, credit value generated by low carbon fuels decreases while pass-through costs to consumers of high-carbon fuels increase. In other words, the program shifts from being more of a carrot to being more of a stick. **Unless actively addressed by CARB, this LCFS stick will increasingly punish low-income Californians while corporations and high-income Californians dine on the carrot.**

Over the past two workshops, staff analysis has focused on Alternative B. As presented at the February 22 workshop, staff expects that the LCFS credit price would increase to the program price cap within a couple years and remain at or near the price cap beyond the year 2040 ([see slide 51](#)). Based on this information and assuming credit prices at the cap through the year 2040 (which is indexed for inflation), I estimated the LCFS pass-through cost as shown in the table below.

Year	% CI Reduction	LCFS Price Cap (\$)	Pass-through (\$/gal)
2023	11.25*	77*	0.10*
2030	30	300	1.01
2035	45	331	1.67
2040	65	366	2.66

\*Quarter 1 2023 actual percent CI reduction, average credit price, and pass-through cost

As stated previously, this cost will be borne by consumers of gasoline and diesel, which over time are likely to be more and more heavily weighted toward low-income populations (e.g., individuals who cannot readily afford to purchase an EV, who own a single vehicle and are concerned about relying solely on an EV, or who live in an apartment and do not have access to at-home charging). **Unless the State can somehow ensure that low-income populations purchase EVs at a faster rate than higher income populations, the LCFS will become more and more regressive over time.**

The potential for pass-through costs in excess of \$1 per gallon by 2030 is likely to create significant political headwinds for the LCFS in California and severely limit the potential for the regulation to expand to other jurisdictions. **In order to counter this narrative, I believe that CARB needs to pay much more attention to amendments that will limit the gasoline pass-through cost and provide substantially more LCFS value transfer to low-income populations.**

Therefore, I recommend considering the following changes to the program:

- **Require all electricity credits generated by utilities (both holdback credits and credits allocated to the Clean Fuel Reward program) to be used for equity projects for low-income residents and disadvantaged communities.** This change alone will go a long way toward ensuring that all low-income residents can afford suitable electric mobility options and/or benefit from the LCFS in some significant way. Based on quarterly reporting by CARB, over 2.8 million credits were generated by utilities for residential EV charging in 2022 and this number is expected to grow sharply in response to the Advanced Clean Cars II (ACC2) requirements. Currently the value of these credits is in the hundreds of millions of dollars annually and will likely exceed a billion dollars annually in a few years, especially if the credit price increases as expected in response to the amendments. **I also highly encourage CARB to replace the Clean Fuel Reward with a targeted program to get low-income “gasoline superusers” into new ZEVs.** Getting superusers, such as delivery persons and Lyft and Uber drivers, into ZEVs quickly is the surest way to rapidly reduce gasoline consumption in the state and achieve climate goals.
- **Allow pre-2011 fixed guideway systems to generate full credits using the fixed guideway EER multiplier.** Credits for pre-2011 ethanol consumption (i.e., 10% ethanol in gasoline) do not get docked, so why does the LCFS treat pre-2011 electricity consumption in fixed guideways differently? Currently, transit programs generate approximately 250,000 credits annually, much of which is likely for pre-2011 systems. Allowing fixed guideway systems to earn full credits would increase credit generation for these pre-2011 systems by approximately a factor of four. This change will significantly increase LCFS value received by transit authorities and help to provide better service. As many of you know, public transit in California is facing a fiscal cliff due to loss of federal covid relief money and slowly recovering ridership following the pandemic. Increased LCFS funding could help to alleviate revenue shortfall until

ridership is restored and help provide better service after that point. This regulatory change can also be designed to be approximately credit/deficit neutral by incorporating the 2010 electricity consumption for fixed guideway systems in the 2010 Baseline CI for the diesel fuel pool, similar to how the 2010 Baseline CI for the gasoline fuel pool averages in 2010 ethanol consumption.

- **Include conventional jet fuel as a deficit generating fuel under the LCFS, preferably for both inter and intrastate flights.** By increasing the pool of deficits, the stringency of the LCFS program will not have to ramp up as quickly, thereby reducing the potential pass-through cost to low-income consumers of fossil fuels. Moreover, since use of aviation is weighted toward wealthier populations, the pass-through cost to aviation by including conventional jet fuel as a deficit generator will be borne primarily by wealthier individuals.
- **Limit, phase-out, or simply eliminate credit generation that is not necessary to help California transition to zero emission transportation fuels and achieve its transportation-related climate, air quality, and equity goals.** By reducing the eligible pool, the stringency of the program will not have to ramp up as quickly to achieve desired outcomes, thereby reducing the potential pass-through cost to remaining low-income consumers of fossil fuels. Credit generation opportunities that I would include in this category are direct air capture projects, petroleum projects, electric forklifts, book-and-claim accounting for out-of-state RNG, avoided methane emissions for dairy and swine projects, and crediting for crop-based biofuels (which provide very little emission reduction beyond that mandated by the federal Renewable Fuel Standard and have many sustainability problems as outlined in my previous comment letters to [Scoping Plan](#) and [LCFS](#)). Some of these have been topics of discussion at previous workshops and I applaud TFB staff for considering potential amendments and engaging in this discussion. Now is the time to follow through with these proposals.

**I especially encourage CARB to rethink LCFS support of credit generating opportunities that result in value leaving the state, do not help California achieve its AB32 emission reduction goals, and provide little or no benefit to low-income and disadvantaged communities in the state.** A prime example of such a credit generating opportunity is out-of-state direct air capture (DAC) projects. Based on press releases, each of these projects is expected to be massive, resulting in credit generation of approximately one million MT annually. At a credit value of \$200, a single project will result in approximately \$200 million leaving the California economy annually, while providing no jobs for Californians, displacing no fossil fuels in California, resulting in no air pollution benefits to California communities, and not even counting toward California's AB32 emission reduction goals. Therefore, not only will Californians be paying for a large out-of-state project that provides no immediate benefit to the state, but they will also have to pay again for separate emission reductions that do count toward the state's goals. In

effect, these projects act as “LCFS offsets”, allowing oil companies to comply with the LCFS without affecting their fossil fuel sales. Credit generation from these projects should either be eliminated or capped as is done in the Cap-and-Trade program for offsets.

- **Decouple the gasoline and substitutes market from the diesel/aviation fuel and substitutes market and establish different compliance targets and credit trading markets for each.** This will allow focusing the strength of the LCFS on hard-to-decarbonize sectors of long-haul trucking and aviation, while at the same time having much more control over credit prices and pass-through costs on the gasoline side. It could also be a prelude to phasing out the gasoline side market after LDV ZEV sales are completely mandated and ZEVs have displaced most ICE vehicles on the gasoline side.
- **Be extremely careful in choosing the 2025 “step down” and CI reduction targets for the years 2030 and 2035.** Being overly aggressive could result in the LCFS credit price being pegged at the price cap with an associated rapid shift to high pass-through costs to gasoline. For example, an extremely aggressive step down in 2025 could result in the LCFS credit price jumping quickly from the current price of about \$77 to the price cap of about \$270 (estimated for 2025). The credit price increase together with the large increase in target CI reduction could lead to pass-through costs jumping quickly from about \$0.10 per gallon in 2023/24 to \$0.60 per gallon in 2025. And this is on top of a Cap-and-Trade pass-through cost that is currently about \$0.25 per gallon. Such a quick change to the price of gasoline would not only be regressive but would also place an unwanted bullseye on the program.

In conclusion on the above discussion, I cannot more strongly emphasize that CARB needs to make the LCFS regulation work for low-income residents of California and not allow the program to be further captured by big-money interests, including the oil companies, at the expense of low-income populations. I applaud CARB for scheduling two community meetings. **Now is the time to not only listen to these community representatives, but to act on their suggestions, as they will likely be paying an increasingly disproportionate cost of the program.**

Potpourri of additional comments:

Please also consider the following, more random, cautions and suggestions concerning the step-down, auto-acceleration mechanism, and cost containment provision. The workshop materials presented by TFB and the invited speakers were very good and really helped to advance the discussion.

- If CARB decides to implement a ratchet that affects all subsequent years, then I highly recommend requiring staff to start a focused rulemaking following at most two ratchets and complete this rulemaking before another ratchet is allowed. There are many

scenarios that could lead to significantly higher credit generation or lower deficit generation than expected by CARB when setting the CI benchmarks. For example, another pandemic could lead again to temporarily lower deficit generation. If the compliance schedule ratchets one or more times during this period, there could be a see-saw effect if deficit generation returns quickly to normal following the pandemic. This in turn could then trigger the cost-containment mechanism. As another example, if DAC and BECCS crediting is not capped, a proliferation of these projects (that do not appear to be accounted for in the compliance curve modeling to any significant extent) could lead to chronic overcompliance and the triggering of multiple successive ratchets. This fear is not irrational as CARB's recently approved [Scoping Plan](#) calls for 31, 57, and 73 million MT of CO<sub>2</sub> reductions from DAC and BECCS projects in the years 2035, 2040, and 2045 respectively. Moreover, the federal government recently increased the subsidy for DAC projects up to \$180 per MT, so together with the LCFS value, subsidies for these projects could approach \$400 per MT or more. Since deficit generation will likely peak at less than 60 million MT, DAC and BECCS projects, if implemented as required to achieve California's GHG reduction goals, would flood the LCFS market with credits resulting in repeated ratchets. **Multiple ratchets indicate that something is occurring that CARB staff did not expect when setting the targets.** Therefore, if multiple ratchets occur, CARB staff needs to assess the cause(s) of the ratchets, evaluate the economic and environmental impacts, engage in public discussion, and return to the Board for approval of amendments setting new compliance targets and/or addressing the cause of the credit/deficit imbalance.

- If CARB recommends a significant step down, then ratcheting should not be allowed for some period. This delay will allow the impacts of the step down to be realized in the market before further tightening is allowed, thereby preventing the potential for excessive overtightening before market response occurs.
- If CARB chooses to use the Price/Bank trigger, then a trigger threshold of 10 is likely not appropriate. Based on the current status of the rulemaking, the earliest implementation date is likely July 2024. By this time, I would expect another 8 to 12 million credits to be added to the bank, putting the bank at approximately 23 to 27 MMT. A Price/Bank of 10 would result in a trigger price of \$230 to \$270. Essentially, the auto-acceleration mechanism would be setting a price floor at or near the price cap.
- If possible, I recommend authorizing the Executive Officer (EO) to choose the impact period (either "freeze" or "all subsequent years") based on some general established criteria included in the regulation. While the default should likely be "for all subsequent years", the EO could instead opt for a ratchet and freeze if the credit imbalance is expected to be temporary (e.g., a large but temporary reduction in deficit generation or increase in credit generation) and/or if manipulation is suspected. As an example of potential manipulation, credit generators providing some portion of their alternative fuel other jurisdictions, such as other LCFS markets or the European market, could

temporarily switch all alternative fuel delivery to California, initiating a ratchet in the California program, and then revert this fuel supply back to the original jurisdictions. In this way they would accelerate the compliance curve and drive-up long-term credit prices in California. As another example, a ratchet could readily be initiated by a large one-time step-change in credit generation, such as by a large DAC project coming online in a single year. Such a situation could allow a party to manipulate the market in two LCFS programs if both have similar auto-acceleration mechanisms. Because nothing prevents an entity from switching participation from one jurisdiction to another, a very large credit generator could alternately trigger ratchets in each program, thereby driving up long-term credit prices in both programs. In either case, providing the Executive Officer with flexibility to “freeze” targets back to the original compliance trajectory will be important if manipulation is suspected after a ratchet is initiated.

- The cost containment mechanism should also be amended to increase the maximum amount of advanced credits, thereby strengthening the provision. When the provision was originally designed, the earliest that advanced credits would be required to be paid back was 2026 to 2030 (assuming credits were initially advanced in 2020). Staff determined 10 million was a safe number of advanced credits as it was less than half of the number of base electricity credits expected to be issued to utilities over the 2026 to 2030 time period, and therefore the ability of utilities to pay back the advance credits was not an issue. Since advance crediting has not occurred and is not expected over the next two years, the earliest period that payback could now occur would be 2031 to 2035. Based on the rapid increase in EV adoption expected in response to the ACC2 regulation, significantly more base electricity credits will be generated over these years and, therefore, the maximum number of advance credits can be commensurately increased.
- As a minor note, the figure on slide 23 of the May 23 presentation is either incorrectly labeled or incorrectly calculated. The data used to calculate the Credit Bank to Deficits Ratio in this figure appears to be the quarterly deficits and not the annual deficits. So, either the Y-axis label should be corrected to indicate quarterly deficit requirement, or the figure needs to be revised using data for annual deficit requirement.

Thank you for the opportunity to comment. I believe TFB staff are doing a wonderful job discussing important potential amendments to the regulation. I wish you all the courage and fortitude necessary to implement these proposals. And again, I highly encourage you to place equity considerations first and foremost in your deliberations.

Best regards,

Jim Duffy