

October 6, 2017

Comments: Preliminary Draft of Potential Regulatory Amendments – Low Carbon Fuel Standard

My point of view and thoughts are formed by blending 20 years of crude oil related experience with 16 years in the ethanol industry and sensing opportunities and pit falls in your effort. With the declining carbon intensity curve requirement imbedded in the LCFS program, I think in terms of the domestic ethanol industry thus far helping to produce close to 50% of the program benefits to date including the corn oil from these plants going to renewable and biodiesel use. My sense is we are at a turning point where the domestic ethanol industry will either be of additional benefit the next 10 years to the program goals or, conversely, opportunities for more progress ruptured permanently.

When reviewing comments in the weeks ahead, please remember that we are grateful for major markets such as California, producers and buyers of renewable starch based ethanol, but progress often comes from smaller industry players who can be crushed by unattainable rules. I remember it was the VanderGriend brothers in ethanol providing dry mill scalability at a reasonable price and technology banks would back and one George P. Mitchell making the effort to open up shales (unconventional) which led to low fuel prices keeping the US out of a recession the past few years making cheap energy available, while lowering the nations carbon footprint at the same time. Technology was responsible and perhaps lack restrictive rule making, so think incenting, not restricting.

The bullet points below are just snap shots for consideration that could be made into opportunities or adversely impactful to some of these smaller, but highly engaged and intelligent businesses which may want to remain small, nimble though be averse to taking on 50 years of liability risk. “Life is too short” as one put it to me recently, so I would encourage you to ask with each new rule...is my approach attracting these innovators or shutting the door?

- Joint Applications (JA): The buffer account is to be part of the JA. The buffer account risk allocation would be determined by and agreed to beforehand by the applicant expressing how they would share the risk of loss. This risk sharing could be determined by physical obligations and party credit worthiness with an agreed upon cap on exposure to the credits don't continue to build and are only applied concerns with an individual joint application (The Project). Like driving in winter in Wyoming where rural citizens drive on the top half their fuel tank to limit risk. The JA buffer account gets filled to a point, but is not being filled indefinitely. If the buffer tank cap is not agreed to up front, the project is not granted ARB carbon credits into the system, but don't make any two JA prospects have to be responsible for others losses or mistakes, nor accumulate buffer carbon units continuously for the life of the project. Capping these in the JA agreement will assist attracting both equity and project debt. Projects can then be bought and sold with a known carbon buffer value in place (banked) as part of the transaction.
- ARB typically is in front of the EPA. Acknowledge that RVP drops as gasoline use exceeds a 10% ethanol blend (as recent studies indicate) and move to higher blends which the autos support today. This creates a greater cushion (time) for new technologies to emerge and alleviates the oncoming shortfall of carb on credits fast approaching.
- Since we are awaiting Quantitative Methodology (QM) rulemaking for comments soon, if an ethanol plant gains access to a CO2 pipeline for EOR/CCS how is corn oil to be taken into account if this goes into bio/renewable diesel headed for California? I would assume, like

ethanol the biodiesel credit would improve, but how can we quantify or account for this benefit at the plant? Will the plant need a separate JA and a separate buffering account between those on this side of the transaction negotiated? I have some thoughts, but curious how this plays out in your mind.

- I will be curious as to the penalty for EOR sequestration versus CCS mentioned on the phone 3 weeks ago and encouraging you to recognize increase seismic risk with I the CCS vision (as seen the past 3 years in Oklahoma) versus the replacing of displaced molecules and no or little seismic risk with EOR projects. I would like to think this risk reward over a 30 year look canceling any disparity being considered in carbon credits on a gallon of ethanol. Additionally, for simplicity I would encourage a Tier I look up addendum for a plant with a CO2 pipeline connection. They have a pathway established (assume sales into the LCFS mechanism) so keep it simple with this addendum and let the focus stay on developing an agreeable JA between the parties and ARB, reducing a step and saving time and cost for everyone.
- If an ethanol plant has CO2 connected to pipeline for CCS/EOR, but then stops selling the ethanol to California for various market reasons, create a 30-60 day OPGEE 2.0 option for the crude oil producer utilizing the CO2 as a supplement to the JA where during this time period should they deliver their crude to California they can gain the carbon reduction benefit as opposed to the ethanol plant. This could also be reversed again later with similar notice, but have this transition ability built into the JA.
- Follow the rules above but within the JA (Joint Application) if a oil producer cannot justify committing to sub-part RR and instead follows sub-part UU in his field operations, negotiate a higher cap on the buffer account (though not open ended) within the JA before granting approval for carbon credits and reduce the CI benefit inuring to the plant by an additional 10%. If these are fixed or framed, projects can be assessed in weeks and negotiated in months rather than years or never.
- It would appear that the marketer of the fuel will also be a party to any JA approval process so reducing variables through rule making pathways will be necessary for deal stimulation.
- Reducing moving parts is the only way this program will get a healthy start and stay out of the courts as market realities in the next 5-10 years play out. Few of the assumptions we have today will prove precise. This dynamic is what makes "a marketplace" (the arena of competitive or commercial dealings, the world of trade). Successful companies constantly adjust, so reducing movement and checks and balances in your system as discussed is critical for long term success and applicants.
- On page 177, references "carbon capture must take place on site at the crude production facility" seems to be in conflict with the idea of capturing CO2 from ethanol or other industrial facilities and moving into oilfields in a different state for EOR and associated CCS. Perhaps I am misreading this?

I will reread the document as I have time in the days ahead and share what more comes to mind (though late), but I fear practicality in the approach shown. Your task is immense so kudos to your team for the undertaking, but ask yourself if my family or my best friend said "here is \$50 million dollars of our money we want you to invest for us within this program and be responsible for over the next 25 years for us", do you think you can comfortably assess and live with the uncertainties put for forth?

I hope we can meet some day. Thank you for taking time to listen!

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