April 23, 2018

Clerk of the Board
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

RE: LCFS18. Proposed rulemaking and amendments to the Low Carbon Fuel Standard Regulation.

Submitted via
https://www.arb.ca.gov/lispub/comm/bcsubform.php?listname=lcfs18&comm_period=A

Dear California Air Resources Board Members and Staff:

On behalf of the members of the American Coalition for Ethanol (ACE), thank you for the opportunity to submit comments on the rulemaking and amendments to the Low Carbon Fuel Standard (LCFS) regulation posted March 6, 2018 and proposed for implementation in 2019.

ACE is a grassroots not-for-profit advocacy organization, powered by people from all walks of life who have built an innovative industry that sustainably delivers clean biofuel and valuable food for a growing world. Our members include U.S. ethanol biorefineries, investors in biofuel facilities, farmers and commodity organizations, and companies that supply goods and services to the U.S. ethanol industry. More information about ACE and its members can be found at www.ethanol.org.

The stated purpose of the LCFS is to "reduce the carbon intensity (CI) of transportation fuels used in California, thereby reducing greenhouse gas (GHG) emissions and to diversify the fuel pool to enable long-term dramatic decarbonization of the transportation sector." Under the LCFS, fuel suppliers must demonstrate the mix of fuels used in California meets annual CI benchmarks. Fuels with a lower CI than the annual benchmark generate credits, while fuels with a higher CI than the annual benchmark generate deficits. Credits and deficits are measured based on metric tons of GHG emissions through lifecycle analysis.

We congratulate CARB on the fact that as of the third quarter of 2017, the LCFS has exceeded expectations in achieving a reduction of 3.7 percent in the average CI of motor fuels compared to the 2010 baseline. Thanks to the LCFS, several ACE-member biofuel companies hold pathways to produce low carbon fuel for the California market. As such, we strongly support the LCFS and want to help CARB continue accomplishing the goal of decarbonizing fuels used in the state. Indeed, our members are proud ethanol stands out as contributing more toward LCFS success so far than any other low carbon fuel.

LCFS compliance data through 2016 show ethanol ranks first in terms of annual growth in fuel volume and credit generation. Since the first year of LCFS compliance (2011) through 2016, ethanol volume has exceeded 1 billion gallons of annual use in California. Furthermore, ethanol has been the largest single source of credits since inception of the LCFS, including virtually all the credits generated in 2011 and 2012 and representing a majority of the credits generated since 2013.

Compliance, Program Targets and Credit Generation

Under these topic areas ACE submits comments regarding the proposal to establish a Buffer Account to mitigate risk of credit invalidation.

- Buffer Account

We oppose the creation of a new buffer pool or account of credits and believe one of the most punitive features of the proposed regulation is the requirement to populate the buffer pool in part with real GHG emission reductions representing the difference between the reported CI and the verified operational CI from annual Fuel Pathway Reports for each fuel pathway code. This would penalize our members for investing in technologies and taking steps to reduce CI. In all cases fuel producers should be credited first for operational CI improvement and be allowed to pledge excess credits to the buffer pool only if they so choose. In this approach, unclaimed credits could be deposited into the buffer account on a predefined schedule after allowing producers sufficient claim time. This would allow for the population of the buffer account, as deemed necessary by CARB, while also retaining the incentive for the credit generator to outperform their CI score whenever possible.

The buffer account is essentially an insurance risk pool to provide for the integrity of the LCFS if credits are deemed invalid. As with any insurance policy, cost is a make-or-break factor. In this instance, the cost is the mechanism of seizing differential CI's resulting from actual efficiency gains generated by biofuel facilities and their inherent real market value. Under the proposal, the cost is borne by pathway holders and innovation is stifled because CARB would take the operational credits and disallow any retroactive credit recognition. Innovation is further dulled by the proposed substantiality provisions which we will discuss later in our comments.

If credits are deemed to be of sufficient validity to be used as a backstop for the LCFS program, then they should be considered of sufficient value to be awarded to the producer that earned them. The goal of the buffer account is to create a fund of credits to be used in an invalidation event that the market cannot backfill. This leaves the cost of invalidation risk in the market and simultaneously pulls any additional credits that may be generated out of the market. This is a double standard representing significant costs to fuel producers.

Fuel Pathway Applications and Carbon Intensity Determination

Under these topic areas ACE submits comments on the need to maintain fuel neutrality and a level playing field, concerns with the new mandatory third-party verification and accreditation program for verifiers (with particular emphasis on cost, mandatory rotation of firms, and conflict of interest), substantiality requirements, simplified calculator default values (with particular emphasis on corn transport distance), corn fiber ethanol pathways, and general comments on lifecycle analysis determination of CI (with specific comments on the need to account for the impact biofuel crops have on soil organic carbon and soil nitrous oxide modeling).

- CARB Needs to Maintain a Level-Playing Field Instead of Picking Favorites

One of the primary reasons California adopted the Global Warming Solutions Act of 2006 (AB 32) and CARB implemented the resulting LCFS regulation was the fact the production and use of traditional fossil fuels contributed to the lion's share of the state's GHG emissions. It was understood petroleum refiners would not take steps on their own to reduce the GHG emissions of motor fuel. Therefore, the LCFS was designed as a performance-based and fuel neutral mechanism to decrease the CI of California's transportation fuel and provide "an increasing range of low carbon renewable alternatives to conventional petroleum-derived fuels."

We encourage CARB to adhere to the letter and spirit of the LCFS by maintaining a level-playing field for a range of low carbon fuel alternatives instead of using the regulation to pick favorites. We are

concerned the proposal violates the performance-based and fuel neutrality pillars of the LCFS by giving preferential treatment to "promote zero emission vehicle infrastructure and renewable electricity to ZEVs." The proposal to encourage the expansion of ZEV infrastructure also appears to be a departure from precedent. To our knowledge, LCFS regulations have never encouraged the expansion of biofuel infrastructure such as blender pumps which can dispense a wide range of ethanol-gasoline blends. Why would CARB use the LCFS to promote just one form of low carbon fuel infrastructure?

ACE supports the increased consumption of electricity in ZEVs and recognizes low carbon and renewable power generation can and should play an increasing role in helping accomplish the goals of the LCFS. We understand there is no silver bullet to reduce GHG emissions from the transportation sector, whether in California or across the world. Rather, low carbon sources of liquid transportation fuel such as ethanol and biodiesel and electric applications will together play a role in helping the LCFS and other clean fuel programs succeed. However, we oppose special treatment for any select fuel, including electricity and hydrogen pathways under the proposed LCFS regulation.

We strongly endorse the comments from ACE-member RPMG Inc, a biofuel marketing company, with respect to the unfair preferential treatment provided by §95488.8(i)(1) Book and Claim Accounting, which specifically allows for "indirect accounting mechanisms for renewable electricity to reduce the CI of electricity supplied as transportation fuel or for hydrogen production through electrolysis." This preferential treatment is further disallowed in §95488.8(h) Renewable or Low CI Process Energy, prohibiting indirect accounting mechanisms for renewable or low-CI process energy to reduce CI for all other low carbon fuel types.

CARB indicates this assistance is necessary for electricity because there has been very little interest in ZEV pathways under the current rule. But by tipping the scale, the proposed regulation is not "allowing the market to determine how the carbon intensity of California's transportation fuels will be reduced."

Under the proposal, a reporting entity may generate credits for renewable electricity supplied to the grid in the previous quarter, despite having no physical traceability. While the LCFS proposal extends this benefit to electricity and hydrogen pathways, it requires burdensome traceability and verification requirements for other fuel pathway holders or the use of conservative default values which puts the economic viability of many pathways into question. ACE joins RPMG in urging CARB to revise and extend these forms of indirect accounting mechanisms to all pathway types for process energy.

Preferential treatment for one isolated source of low carbon fuel undermines the effectiveness of the LCFS and violates the fuel neutrality and performance-based principles which have served the program to-date so well.

- <u>New Mandatory Third-Party Verification and Accreditation Program for Verifiers</u>

A primary objective of the proposed LCFS amendments is to require a new independent third-party verification program. While it is reasonable for CARB to want assurances regarding the accuracy of data reported under the LCFS and to streamline the use of staff resources, we are concerned the costs and burdens associated with the new verification program (likely underestimated by CARB's expectation of $4 million by 2030) outweigh perceived benefits. We encourage CARB to give special consideration to comments from Christianson PLLP, a firm with extensive experience in auditing and verification services. As an alternative to mandatory third-party verification, we suggest making the program voluntary for a trial basis and capitalizing on the experiential learning to develop a more reasonable common sense approach.

We are concerned the proposed mandatory verification system creates significant additional costs, market barriers, and regulatory risk to fuel providers while it removes incentives to innovate or benefit from process efficiency gains. We urge CARB to consider ways to minimize or contain verification costs. Just as LCFS cost containment solutions have been enacted to protect consumers and market participants, so too should cost containment solutions be provided for verification costs. Our pathway-holding members will examine these costs very closely when determining whether or not to participate in the LCFS in the future. CARB should take additional time to weigh the benefits and costs of the proposal and take into consideration unintended consequences of discouraging program participation. Additionally, our members have serious concerns about whether a sufficient number of verification firms are available to fulfill the requirements as proposed by CARB and the forced rotation of these firms, factors which undermine competitive lowest-cost engagement pricing.

ACE members are strongly opposed to mandated firm rotation. CARB insists the purpose of the firm rotation requirement is to ensure impartiality. We believe impartiality can be achieved by instead requiring rotation at the partner or lead verifier level within the firm. Accounting firms currently registered to complete Securities and Exchange Commission audits are required to rotate audit partners and this is a reasonable approach for CARB to implement for the LCFS. We also believe the detailed accreditation requirement and CARB approval of verification plans and sampling strategies are sufficient to ensure impartiality. Mandated firm rotation seems in direct contradiction to CARB's desire to leverage efficiencies amongst existing stakeholder verification programs. Forcing new firm engagement also increases the time and opportunity cost for pathway holders such as ethanol plants to inform and prepare the new auditors and firms about processes and practices. This will result in a loss of engagement efficiency and overall dissatisfaction of the verification experience.

Mandatory firm rotation is not only problematic for regulated parties but also for auditors and verifiers who will already be required to become accredited and incur the associated cost of undergoing the necessary training and travel. Once accredited, the verifier will experience a forced reduction in revenue in "off" years due to loss of clients and resulting in the likelihood of higher base fees. This higher cost structure will ultimately make its way to California fuel consumers, undermining program cost containment efforts. Again, ACE members urge CARB to incorporate either a voluntary third-party verification system on a trial basis or partner rotation in lieu of a firm rotation requirement for LCFS verifiers.

While we appreciate CARB's experience with mandatory verification through the Cap and Trade Mandatory Reporting Rule (MRR), our members maintain there are significant differences between Cap and Trade and the LCFS. For example, each LCFS pathway will have already undergone an initial validation. LCFS verification, unlike MRR, further requires pre-submission of verification plans and sampling strategies. This requirement will inherently offer CARB the ability to gauge the adequacy of applied verifier program knowledge, verification design, scope, and strategy to identify potential errors up front.

ACE members are also concerned with the practical ramifications of the proposed conflict of interest and lookback provisions of mandatory third-party verification. We recommend CARB revisit this issue, narrow its scope, and refer to the independence standards established by the American Institute of Certified Public Accountants which are widely recognized as trustworthy and impartial.

We do not support the five-year lookback period for conflict of interest because it adds insult to the firm rotation injury requirement discussed above. ACE members are concerned a five-year lookback from 2022 retroactively penalizes the regulated parties that have implemented third-party-assurance programs prior to this rulemaking. Section 95503(b) provides that any number of activities performed by a potential verifier will result in their disqualification subject to firm rotation

requirements. The list of potential conflict activities that require mitigation is broad and would unfortunately reduce the pool of the most competent verifiers. Our members are also concerned about a number of provisions which would disqualify potential firms if they participated in any sort of design consulting related to a facility such as information technology, engineering analysis, construction consulting, internal audit procedures, and health and safety assistance. As proposed by CARB, there is no time limit for these activities so if anyone on the verification team ever did any of the activities at any time in the past, then they are deemed to have a conflict. This is unreasonable.

- Substantiality

ACE members are strongly opposed to the proposed substantiality requirement outlined in §95488.9(a) to limit applicants from submitting pathways with differences in CI. Limiting pathway applications in this way violates the spirit of the LCFS and would discourage innovation and process improvements. We believe it should be removed from the final regulation.

CARB suggests it wants to limit applicants from submitting multiple pathways with minimal differences in pathway CIs and to limit fuels that could be certified under the Tier 1 framework from requesting consideration under the Tier 2 framework. The provision requires a minimum CI reduction as a prerequisite to apply for a new pathway. We are very concerned this will prevent incremental reductions from being recognized and monetized to foster additional modifications or improvements. While a 1 gram reduction in CI may not seem consequential at face value, under CARB's proposal, a plant producing 50 million gallons of low carbon ethanol which reduces their CI from 70 grams to 69 grams would be prohibited from submitting the reduction for pathway approval. With credit prices fetching approximately $140 per metric ton of CO_2, a 1 gram reduction is worth more than 1 cent per gallon of ethanol. In the example of the 50 million gallon per year ethanol plant which reduced its CI from 70 grams to 69 grams, the 1 gram reduction could generate a return of up to $565,000. There is real value in continuing to encourage and reward even 1 gram reductions in CI. Incremental process improvements built on top of one another generate additional profits and enable reinvestment to achieve further CI reductions. CARB should strike the substantiality requirement from the final regulation to promote and support the continuation of these incremental reductions.

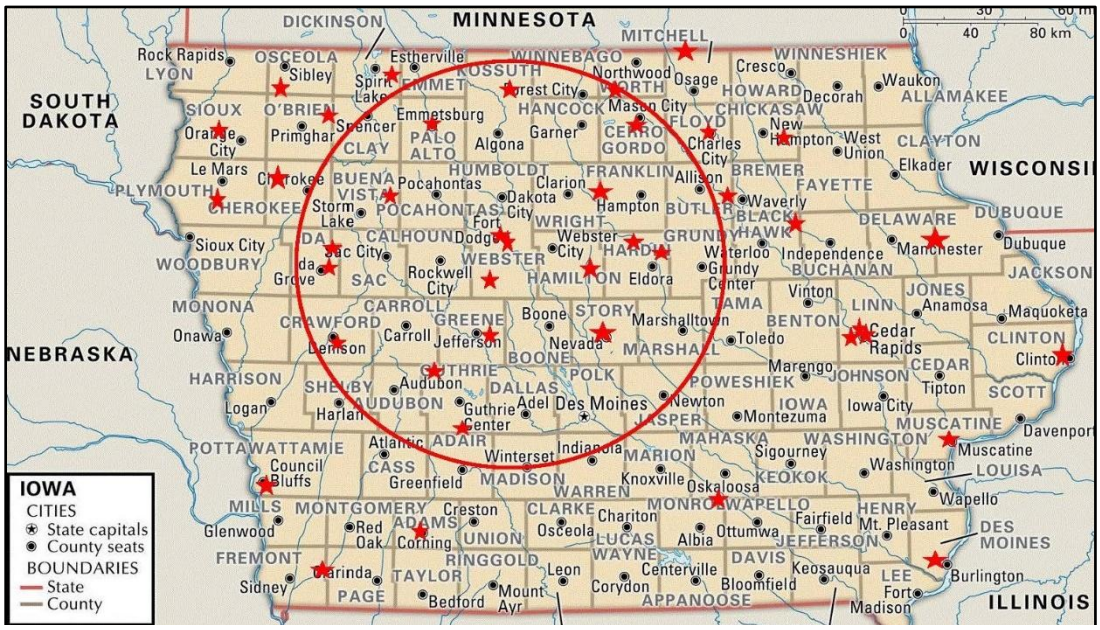
- Simplified Calculator Default Values

We are also concerned the proposed Simplified Calculator does not recognize or reward individual biofuel producer innovations. Under the proposal, Tier 1 Simplified CI Calculator pathways do not account for biogas use, site specific chemical use, or no-till farming. These areas of ethanol industry innovation have demonstrated substantial carbon emission reductions in approved pathways, academic research and documented recommendations submitted to CARB. Further, according to our members, if a producer wishes to benefit from a CI reduction through biogas process energy or site-specific chemical use, they must do so under a Tier 2 pathway which involves a more expensive and time-consuming process. The proposed substantiality requirement for new pathway applications further deters the industry from pursuing innovative technologies and efficiencies. To encourage and reward innovation, the Simplified Calculator should be revised to include optional columns to recognize and quantify these efforts.

- Corn Transport Distance

Of particular concern to ACE members is the overly conservative and unrealistic default value for corn transportation distance from farms or corn storage facilities to ethanol plants. The CA-GREET 2013 default average one-way transportation distance is 40 miles. This implies that ethanol plants draw corn uniformly from a circular area with an 80 mile radius. A circle with an 80 mile radius contains 20,106 square miles. The State of Iowa has 56,273 square miles of surface area, less than three 80-mile radius circles. There are more than 40 ethanol production facilities in Iowa. If all of these 40 ethanol production facilities drew uniformly from an 80-mile radius circle, they would draw

corn from 804,250 square miles, an area more than 14 times the size of Iowa! We believe this 40 mile average one-way distance is overestimated by <u>at least</u> a factor of three in Iowa and two in many other states. Below is a graphical illustration of Iowa ethanol production facilities (noted by red stars) and an 80-mile radius circle:



In addition to these facts, the United States Department of Agriculture Office of Energy Policy and New Uses analyzed the concentration of ethanol production facilities and the density of corn supplies and estimated the average one-way corn transportation distance from farms or corn storage facilities to ethanol plants for the 9 major corn and ethanol producing states ranged from 14 miles in Iowa to 23 miles in Ohio (page 5 in report).[1] We urge you to evaluate and properly adjust this corn transportation distance default in CA-GREET 2013.

- <u>Corn Ethanol Fiber Pathways</u>

We support CARB's proposal to include corn fiber ethanol using the Edeniq process under the Tier 1 classification and evaluate its CI using the Simplified Calculator. Several ACE members are working with Edeniq and other technology providers to produce low carbon corn kernel fiber ethanol. We encourage CARB to consider similar corn kernel fiber technologies for Tier 1 classification as well.

- <u>General Comments on Lifecycle Analysis Determination of Carbon Intensity</u>

It is our understanding general commentary regarding the lifecycle analysis modeling used by CARB to determine the GHG emission impacts of various fuels is outside the scope of this rulemaking. Nevertheless, we are compelled to make brief comments about this topic and ask CARB to engage ACE on how to make improvements in this area because it is a priority issue for our members.

Since biofuel lifecycle GHG modeling was first developed by scientists at the U.S. Department of Energy's Argonne National Laboratory more than 30 years ago, corn and ethanol production have experienced significant improvements and efficiencies. As you know, Argonne's GREET model is used to calculate energy use and GHG emissions that occur during the full lifecycle production and

[1] "2015 Energy Balance for the Corn-Ethanol Industry"
https://www.usda.gov/oce/reports/energy/2015EnergyBalanceCornEthanol.pdf

combustion of all current and potential transportation fuels. The assumptions used by Argonne scientists in the GREET model are under constant review and updates to the model occur frequently. Current data from the GREET model indicate that corn ethanol's CI is almost 50 percent better than gasoline.

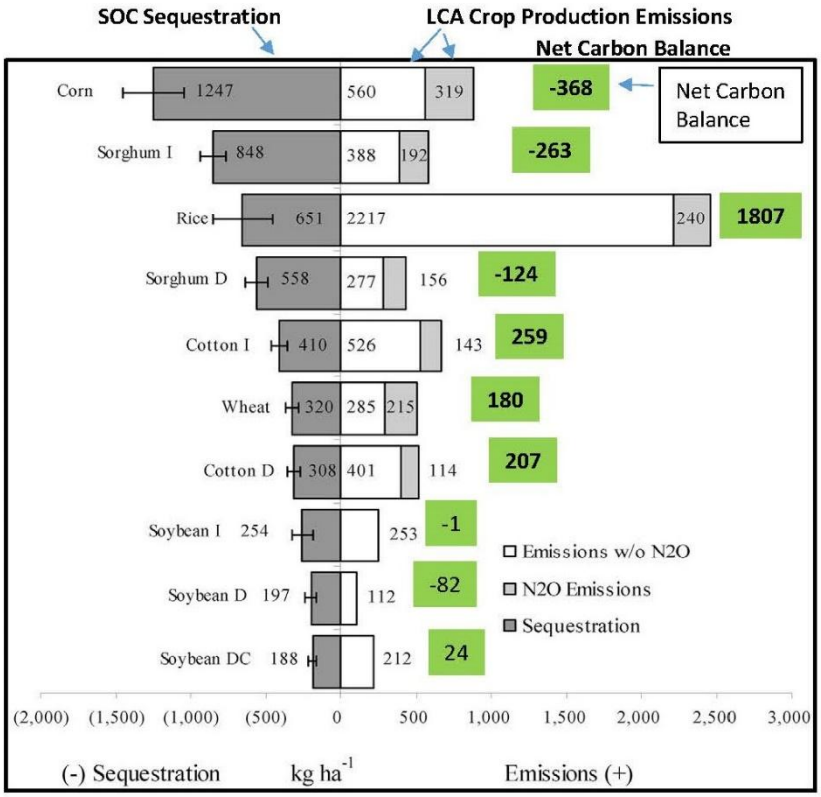
During the past 12 months, ACE members have been analyzing existing data considered in lifecycle GHG modeling in hopes of building consensus for recognizing the significant climate benefits from further expansion of sustainable corn ethanol production and use in the U.S. We have developed a White Paper and are currently in the process of engaging diverse stakeholders on a variety of topics such as modeling the direct effect each biofuel feedstock has on soil carbon stocks, assumptions used to calculate nitrous oxide emissions and lime application of soils, the crediting of ethanol production coproducts, and land use changes.

We support GREET as the gold standard but our examination of existing research has exposed a shortcoming because the model currently fails to account for the direct effect of biofuel feedstock crops on soil organic matter/soil organic carbon stocks.

For example, in 2011 Popp et al. estimated the "net" carbon emissions of commonly grown crops in Arkansas.[2] These soil and crop scientists defined "net" carbon emissions as the all-inclusive lifecycle GHG emissions during crop production plus the effect each crop has on soil carbon stocks. Their peer-reviewed data show that C4 crops such as corn and sorghum sequester more than enough atmospheric carbon in soil to offset their LCA GHG emissions and are "net" carbon sinks. Below is a graphical illustration from Popp et al. of the "net" carbon emissions from several crops:

[2] "Estimating Net Carbon Emissions and Agricultural Response to Potential Carbon Offset Policies". http://agris.fao.org/agris-search/search.do?recordID=US201500052566

Figure 1, page 1134
Carbon equivalent emissions and sequestration by crop including variation in C sequestration due to yield, soil, and tillage effects; I = irrigated, D = unirrigated or dryland, DC = double cropped. Error bars on the sequestration side include variation due to yield, soil type, and tillage effects but exclude expected variation in harvest index and root/shoot ratio. Also note that soybean production entailed no N fertilizer application and hence no N_2O emissions. Additional uncertainty, especially pertaining to N_2O emissions, exists and is not shown here. **Net Carbon footprint in**



As shown above there is a significant difference in the total GHG emissions for major crops. Corn is the most GHG-intense crop (other than rice) due to the fertilizer nutrient requirements to produce corn grain and the large mass of root and above-ground residue. The peer-reviewed Popp et al. research indicates this large mass of root and above-ground corn residue builds soil organic carbon enabling corn (and sorghum) production to result as net GHG sinks. Crops with C4 atmospheric carbon fixation pathways such as corn and sorghum produce far more calories and protein per unit of land, water and fertilizer nutrients than C3 crops so it is not a surprise corn and sorghum stand out in terms of "net" LCA carbon emissions.

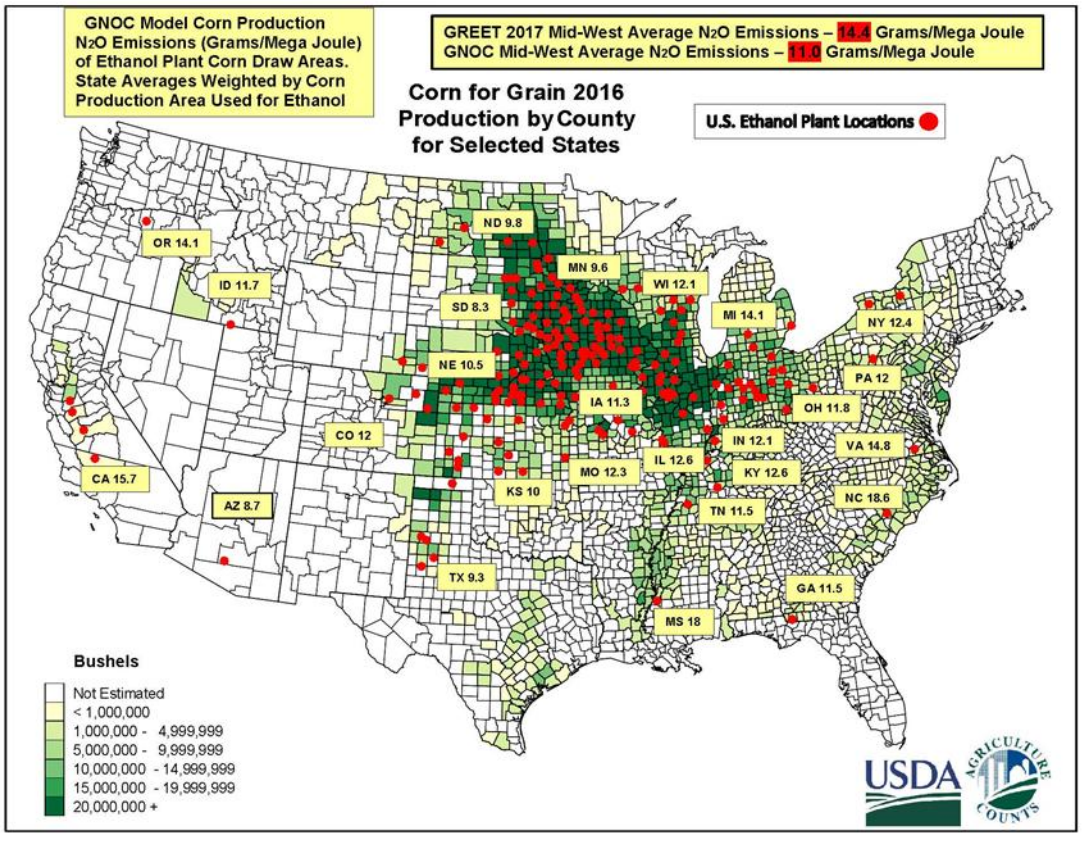
In addition to the Popp et al. study, Kansas State University researchers collaborated to publish a peer-reviewed paper in 2006 titled *"Economic Feasibility of No-Tillage and Manure for Soil Carbon Sequestration in Corn in Northeastern Kansas."*[3] This paper also calculated the "net" carbon emissions of corn production and conclusively verified soil carbon sequestration over 9 years with beginning and ending soil carbon analysis. In all cases, including conventional till versus no-tillage and manure nitrogen versus synthetic nitrogen under two different rates, continuous corn production

[3] https://dl.sciencesocieties.org/publications/jeq/abstracts/35/4/1364

was a large "net" GHG sink. This research proves a link between crop production and soil organic carbon which has large impacts on the lifecycle carbon intensity of biofuels. If CARB expects the LCFS to achieve its desired result the lifecycle modeling must reflect the latest-available science, including data on soil carbon, and recognize ethanol and corn production is constantly improving.

Many environmental, soil and crop scientists also consider the soil nitrous oxide (N_2O) modeling and accounting in the GREET model as archaic. N_2O emission factors used in current GREET models are based on 1980s conditions. We urge you to consider the use of a modern, sophisticated yet simple-to-use, site-specific nitrous oxide emissions model such as the Global Nitrous Oxide Emissions Calculator (GNOC) to determine N_2O emissions during biofuel feedstock production.[4]

The GNOC was designed to estimate site-specific nitrous oxide emissions for worldwide crop production and is frequently updated to represent the best and latest science. The model interacts with an extensive database of site-specific soil and environmental climate conditions and follows Intergovernmental Panel on Climate Change (IPCC) guidance on key N_2O emission factors. Using the GNOC model with guidance from University scientists, ACE estimated the average N_2O emissions from U.S. corn land used produce corn ethanol and compared that with GREET 2017 Midwest average N_2O emissions. Below is a graphical illustration of this comparison.



U.S. Department of Agriculture, National Agricultural Statistics Service

As indicated above, this significantly more sophisticated and robust GNOC model estimation of Midwest corn for ethanol production N_2O emissions indicates a 3.4 gram per mega joule reduction

[4] http://gnoc.jrc.ec.europa.eu/

(11 grams/MJ under GNOC versus 14.4 grams/MJ with GREET 2017) in corn ethanol LCA carbon intensity. We urge you to consider this new science.

ACE's White Paper sifts through the above-mentioned lifecycle science and current state-of-play regarding the production of corn ethanol and highlights where updates in lifecycle modeling assumptions should be made to ensure entities such as CARB are relying on the latest science to maximize and incentivize every opportunity to sequester CO_2 as quickly as possible. Once we have achieved consensus with various NGOs and stakeholders on the latest lifecycle data and need for updates in modeling, our intention is to approach CARB and discuss the need to support this new research in your future policy decisions.

- Advantages of and Market Access for High Ethanol, High Octane Fuel

Finally, while we recognize restrictions on higher ethanol blends are also outside the scope of this rulemaking, ACE members believe CARB needs to consider unlocking additional GHG benefits and accelerating compliance with the LCFS by allowing market access to blends of ethanol beyond E10 in the state.

As stated above, ethanol delivers better lifecycle GHG emission benefits than CARB assumes from its current modeling approach. But ethanol's benefits are not limited to GHG reductions. Ethanol is also a superior low carbon source of high octane fuel which can help automakers meet tailpipe emission and fuel economy standards. We urge CARB to consider the far-reaching low carbon high octane advantages higher ethanol blends could provide in helping the state fulfill LCFS implementation and broader goals to reduce petroleum use and reduce emissions.

In fact, Argonne scientists recently found the use of E25 and E40 reduce well-to-wheel GHG emissions by 4 and 8 percent, respectively, relative to E10 gasoline (which is the highest ethanol-gasoline blend currently allowed in California beyond E85). When Argonne added the full lifecycle GHG benefits of the higher ethanol levels with the well-to-wheel reductions, the use of E25 and E40 reduced total emissions by 8 and 17 percent, respectively. Argonne concluded, "The analysis shows that ethanol can be a major enabler in producing high octane fuel and E25 and E40 can result in additional reductions in well-to-wheel GHG emissions compared to regular E10 gasoline."[5]

In partnership with their colleagues at the Oak Ridge National Laboratory and National Renewable Energy Laboratory, Argonne scientists also released the Summary of High Octane, Mid-level Ethanol Blends Study in July of 2016.[6] This comprehensive paper examined the GHG emission benefits of high octane mid-level ethanol blends, knock-resistance and ethanol blends, the economics of ethanol, and marketplace issues such as retail and terminal infrastructure. "The experimental and analytical results of this study considered together show that high octane fuel, specifically mid-level ethanol blends (E25-E40), could offer significant benefits for the United States. These benefits include an improvement in vehicle fuel efficiency in vehicles designed and dedicated to use the increased octane. The improved efficiency of 5-10 percent could offset the lower energy density of the increased ethanol content, resulting in volumetric fuel economy parity of E25-E40 blends with E10. Furthermore, dedicated high octane fuel vehicles would provide lower well-to-wheel GHG emissions from a combination of improved vehicle efficiency and increased use of ethanol.

[5] Well to Wheel Greenhouse Gas Emission Analysis of High Octane Fuels with Ethanol Blending. Argonne National Laboratory. Jeongwoo Han, Michael Wang, and Amgad Elgowainy. August 2016

[6] Summary of High-Octane, Mid-level Ethanol Blends Study. July 2016. ORNL, NREL, ANL. U.S. Department of Energy. http://info.ornl.gov/sites/publications/files/Pub61169.pdf

If ethanol were produced using cellulosic sources, GHG emissions would be expected to be 17 to 30 percent lower than those from E10 using conventional ethanol and gasoline. Analysis of the high octane fuel market and the primary stakeholders reveals that the automotive OEMs, consumers, fuel retailers, and ethanol producers all stand to benefit to varying degrees as high octane fuel increases its market share. The results depend on the underlying assumptions; but high octane fuel offers an opportunity for improved fuel economy, and these dedicated vehicles are likely to be appealing to consumers."

As California and EPA continue a dialogue about future vehicle emission and fuel economy standards, we encourage consideration for the role high ethanol blends can play in helping automakers meet those standards.

Thank you for your time and consideration. ACE members would greatly appreciate it if we could engage in a meaningful dialogue with CARB on the important topics addressed in these comments. Please contact me at bjennings@ethanol.org to schedule a follow up meeting.

Sincerely,

Brian Jennings, CEO
American Coalition for Ethanol