July 25, 2024

Via Electronic Filing (www.regulations.gov)

William Hohenstein
Director of Office of Energy and Environmental Policy
U.S. Department of Agriculture
1400 Independence Avenue, SW
Washington, DC 20250

ATTN: Docket No. USDA-2024-0003

Re: Procedures for Quantification, Reporting, and Verification of Greenhouse Gas Emissions Associated With the Production of Domestic Agricultural Commodities Used as Biofuel Feedstocks, Request for Information, 89 Fed. Reg. 53,585 (June 27, 2024)

Dear Mr. Hohenstein:

The Sustainable Advanced Biofuel Refiners (SABR) Coalition is a coalition of biodiesel stakeholders that have invested in building out America's first advanced biofuel. It includes stakeholders from every link in the value chain from feedstock growers to biodiesel producers, distributors, retailers, and consumers, as well as infrastructure and products and services suppliers. Biodiesel can be produced from a range of feedstocks, including oil from numerous oilseed crops. The U.S. Department of Agriculture (USDA) seeks information on practices that have the potential to mitigate greenhouse gas (GHG) emissions and/or sequester carbon and quantification, reporting, and verification approaches for the GHG outcomes associated with domestic agricultural commodities used as biofuel feedstocks. SABR Coalition appreciates the opportunity to submit these comments and supports USDA's efforts to quantify GHG emissions reductions associated with climate-smart agricultural practices.

The main goals of climate-smart agriculture is to increase or maintain productivity and yield, enhance resilience to environmental changes, and reduce GHG emissions.[1] These practices build on existing practices, like cover cropping, nutrient management, and conservation tillage.[2] Other practices include, but are not limited to, fertilizer management and on-farm energy efficiency improvements (e.g., improved irrigation efficiency, reduced fuel use, and energy conservation).[3] To ensure incentives supporting crop-based feedstocks remain robust, these are all measures that should be considered to further support biofuel lifecycle GHG emissions analysis.

[1] USDA, *Climate-Smart Agriculture and Forestry*, https://www.farmers.gov/conservation/climate-smart (last visited July 22, 2024).
[2] *Id.*
[3] USDA, *Climate-Smart Agriculture and Forestry Strategy: 90-Day Progress Report*, at 2 (2021), *available at* https://www.usda.gov/sites/default/files/documents/climate-smart-ag-forestry-strategy-90-day-progress-report.pdf.

I. Inclusion of Land Use Changes in Lifecycle GHG Emissions Analysis Must be Reconsidered.

While SABR Coalition is fully supportive of USDA's efforts to quantify GHG emissions reductions for crop-based biofuels, we also urge USDA to reconsider the inclusion of land use changes in any lifecycle GHG emissions analysis. The inclusion of land use changes in GHG emissions profiles for biofuels has resulted in disparate GHG emissions reductions, even though the empirical evidence does not support such findings. While certain statutes do require inclusion of indirect emissions in assessing lifecycle GHG emissions, such as land use changes, they must be "significant," and there has not been any real-world evidence that land use changes as a result of production of oilseed crops in the United States has caused the land use changes that result in significant GHG emissions that are being counted against biofuels. The models used are largely based on assumptions and outdated data. The allegations around land use changes place crop-based biofuels at a significant disadvantage compared to other biofuels.

Just this month, eight scientists told the U.S. Court of Appeals for the District of Columbia Circuit that claims made that the Renewable Fuel Standard (RFS) program has led to the loss of habitat for endangered species and loss of grasslands are untrue.[4] The brief was filed in response to challenges brought by environmental groups to the 2023-2025 renewable fuel standards in *Center for Biological Diversity v. EPA*, Case No. 23-1277 (D.C. Cir. filed July 3, 2024). The scientists said, in the brief, that: "There is no compelling scientific evidence linking the RFS to the conversion of grasslands and loss of biodiversity. Research based on misclassifications of land use and flawed assumptions and methodologies spurred skepticism about the environmental and GHG emission reduction benefits of biofuels but that research has since been disproven."[5] Indeed, the scientists noted that "[a]nalyses based on more complete, updated data, found that the average carbon intensity of biofuels is significantly less than conventional gasoline," with this benefit "growing at an accelerated pace" as technologies and practices evolve.[6]

The International Standards Organization (ISO) also has recognized the uncertainty and lack of evidence of indirect emissions from biofuel production. "The conclusion, based on the expertise of, and literature reviewed by, the work group, is that the 'state of science,' in terms of evidence-based research, is inconclusive or contradictory regarding indirect effects of bioenergy."[7] There also is substantial question as to whether the indirect effects of petroleum-based fuels have been adequately assessed. Equitable treatment of the baseline fuel is also a necessary part of any lifecycle analysis. It should be noted that since 2008, the hydraulic fracturing boom has caused land use changes from fracking wells that can be seen from nearly any domestic commercial airline flight. Yet this land use change from the baseline fuel, which

[4] Todd Neeley, *Scientists: RFS Land Use Claims False*, Progressive Farmer, July 8, 2024, https://www.dtnpf.com/agriculture/web/ag/news/business-inputs/article/2024/07/08/scientists-push-court-reject-land.
[5] *Id.*
[6] *Id.*
[7] ISO/Technical Committee 248 Sustainability Metrics for Bioenergy, Work Group 4 on Indirect Effects, 2015 State of Science Consensus Statement.

can be seen with the naked eye, is often not included in emissions models for the petroleum baseline.

The re-evaluation of indirect emissions modeling for crop-based biofuels becomes especially important when the Clean Transportation Production Credit (Section 45z) goes into effect in 2025. To the extent Section 45z embraces a California-style carbon intensity scoring system, it will likely again apply indirect land use change (ILUC) penalties to crop-based fuels. Now approximately half of the nation's biodiesel and renewable diesel fuels are sold in California or one of the other states that have embraced a California-style low carbon fuel standard. Under the current approach, a gallon of biofuel from soybean oil will have an ILUC penalty of 12 g/MJ of CO_2 for assumed land conversion for which there is no evidence. If that same gallon is consumed in California, the same 12 g/MJ ILUC penalty is applied again to the same gallon, as if the gallon was burned twice and the same land was converted twice. Such a flawed policy is already leading to an alarming spike in questionable used cooking oil imports from China into California. These imports are displacing soybean oil, our most abundant and sustainable agricultural feedstock for biodiesel and renewable diesel. This outcome results in bad carbon policy, as well as bad agricultural, energy, trade and economic policy. All of these factors makes it critical that flawed indirect emissions modeling be re-evaluated using current science and actual scientific evidence, rather than relying on failed theories and flawed assumptions.

II. Responses to Questions for Commenters.

SABR Coalition provides responses to certain of the questions for commenters in the request for information below.

Qualifying Practices

1. Which domestic biofuel feedstocks should USDA consider including in its analysis to quantify the GHG emissions associated with climate-smart farming practices? USDA is considering corn, soybeans, sorghum, and spring canola as these are the dominant biofuel feedstock crops in the United States. USDA is also considering winter oilseed crops (brassica carinata, camelina, pennycress, and winter canola). Are there other potential biofuel feedstocks, including crops, crop residues, and biomaterials, that the USDA should analyze?

USDA has properly identified key oilseed crops for consideration, including soybeans and spring canola. USDA, however, should initially include, at a minimum, all oilseed crops that the U.S. Environmental Protection Agency (EPA) has found eligible as feedstock for biodiesel under the RFS program. These include brassica carinata, camelina, pennycress, and winter canola. Additional oilseed feedstocks that have been approved by EPA include cottonseed and jatropha. USDA should also include a process to add feedstocks, as other crops continue to be reviewed and could be viable feedstocks for biodiesel. These include hemp,[8] sunflower,[9]

[8] M.A. Asokan, et al., *Emission and performance behavior of hemp seed oil biodiesel/diesel blends in DI diesel engine*, Materials Today: Proceedings, Vol. 46, pp. 8127-8132 (2021).

[9] *See* Farm Energy, *Sunflowers for Biofuel Production*, Apr. 3, 2019, https://farm-energy.extension.org/sunflowers-for-biofuel-production/. Residues of the sunflower crops can also be used in the production of biogas. *See* Elham

peanut,[10] and flaxseed.[11] Providing incentives by crediting GHG emissions reductions at the farm level could help support growth of these feedstocks.

SABR Coalition supports USDA's focus on domestic crops, as these incentives are intended to support the U.S. rural economy. Importantly, oversight and verification of practices occurring overseas is substantially more difficult, and, thus, it is important to focus on U.S. crops.

2. Which farming practices should USDA consider including in its analysis to quantify the GHG emissions outcomes for biofuel feedstocks? Practices that can reduce the greenhouse gas emissions associated with specific feedstocks and/or increase soil carbon sequestration may include, but are not limited to: conservation tillage, no-till, planting of cover crops, incorporation of buffer strips, and nitrogen management (e.g., applying fertilizer in the right source, rate, place and time, including using enhanced efficiency fertilizers, biological fertilizers or amendments, or manure). Should practices (and crops) that reduce water consumption be considered, taking into account the energy needed to transport water for irrigation? Should the farming practices under consideration vary by feedstock and/or by location? If so, how and why?

SABR Coalition supports USDA including a broad range of qualifying practices that accounts for differences in growing conditions across the country.[12] USDA should, in particular, consider crop rotation, agroforestry, and intercropping—all of which can also help with water management for oilseed crops.[13] Farmers can also use biodiesel to reduce farm energy use, which should similarly be considered. Additional practices should be included as adoption increases and research demonstrates GHG benefits.

3. For practices identified in question 2, how should these practices be defined? What parameters should USDA specify so that the GHG outcomes (as opposed to other environmental and economic benefits) resulting from the practices can be quantified, reported, and verified?

SABR Coalition supports use of clear definitions that provide general practice criteria, while allowing individual farmers to seek additional reductions based on enhancements they may

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Ebrahimian, et al., *Biomethane and biodiesel production from sunflower crop: A biorefinery perspective*, Renewable Energy, Vol. 200, pp. 1352-1361 (2022).

[10] USDA Agricultural Research Service, *Peanut Biodiesel – From the field to the fuel tank*, https://www.ars.usda.gov/southeast-area/dawson-ga/national-peanut-research-laboratory/docs/peanut-biodiesel/ (last modified Aug. 13, 2016).

[11] M.A. Asokan, et al., *Emission and performance behavior of flax seed oil biodiesel/diesel blends in DI diesel engine*, Materials Today: Proceedings, Vol. 46, pp. 8148-8152 (2021).

[12] *See, e.g.,* USDA Natural Resources Conservation Service (NRCS), *Climate-Smart Agriculture and Forestry (CSAF) Mitigation Activities List for FY2024*, Nov. 2023, *available at* https://www.nrcs.usda.gov/sites/default/files/2023-10/NRCS-CSAF-Mitigation-Activities-List.pdf.

[13] AgriBot, *Water Management in Oilseed Crops*, Aug. 14, 2023, https://agri.bot/docs/water-management-in-oilseed-crops/.

employ that provide additional benefits. "Enhancements allow a producer to address additional levels of conservation beyond what the minimum conservation practice standard requires."[14]

4. For practices identified in question 2, to what extent do variations in practice implementation affect the overall GHG benefits of the practice (e.g., the date at which cover crops are harvested or terminated)? What implementation strategies maximize the GHG benefits of these climate-smart agriculture practices?

Different oilseeds have different characteristics, which make different regions more suitable for their production. For example, oilseed crops have varying degrees of drought tolerance, water-use efficiency, and sensitivity to water stress.[15] These different characteristics also may impact the most effective climate-smart practices without adversely impacting yields in a particular area of the country.

Oilseed crops also may provide benefits in rotation, which may impact the timing of production. Adapting to climate change also may require new methods for understanding cropping system productivity.[16] Annual measures may not be appropriate compared to the productivity over the life of the system.[17]

5. What scientific data, information, and analysis should USDA consider when quantifying the greenhouse gas emissions outcomes of climate-smart agricultural practices and conventional farming practices? What additional analysis should USDA prioritize to improve the accuracy and reliability of the GHG estimates? How should USDA account for uncertainty in scientific data? How should USDA analysis be updated over time?

Explaining the uncertainty in any analysis of GHG emissions reductions is of utmost importance. USDA should update its analysis based on new data and improvements in the science. This should not, however, impact those facilities that have already relied on prior GHG emissions determinations, unless they improve their overall profile.

6. Given the degree of geographic variability associated with each practice, on what geographic scale should USDA quantify the GHG net emissions of each practice (e.g., farm- level, county-level, state, regional, national)? What are the pros and cons of each scale? How should differences in local and regional conditions be addressed?

As noted above, there may be differences regionally across the country, which must be taken into account by the USDA. While farms should be able to identify when they have gone "above and beyond" in their climate-smart practices, the applicable geographic scale should be

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[14] USDA NRCS, *CSP Enhancements and Bundles*, https://www.nrcs.usda.gov/programs-initiatives/csp-conservation-stewardship-program/csp-enhancements-and-bundles (last visited July 22, 2024).
[15] AgriBot, *Water Management in Oilseed Crops*, Aug. 14, 2023, https://agri.bot/docs/water-management-in-oilseed-crops/.
[16] Jacob Jungers, et al., *Adapting perennial grain and oilseed crops for climate resiliency*, Crop Science, Vol. 63, pp. 1701-1721 (2023), https://doi.org/10.1002/csc2.20972.
[17] *Id.*

based on the level of accuracy provided by the method and the costs of obtaining the data needed to implement those measures.

Quantification

8. Where models can be used to quantify changes in greenhouse gas emissions and sinks associated with climate-smart agricultural practices, which model(s) are most appropriate for quantifying the greenhouse gas effects of these practices? What are the tradeoffs of different modeling approaches for accurately representing carbon, methane, and nitrous oxide fluxes under climate smart agricultural practices?

See Response to Question 16.

9. How should net greenhouse gas emissions, including soil carbon sequestration, be attributed among crops produced in a rotation, for example, crops grown in rotation with one or multiple cover crops?

See Response to Question 11.

10. To what extent do interactions between practices either enhance or reduce the GHG emissions outcomes of each practice? Where multiple practices are implemented in combination, should the impacts of these practices be measured individually or collectively?

USDA NRCS has provided for "bundles" of enhancements in considering climate-smart practices under its Conservation Stewardship Program.[18] While bundling can be used when farmers use these practices, consideration of these practices on an individual basis should not be precluded. If bundling of practices were required, this could limit implementation of GHG emissions reductions practices and fail to consider potential hurdles in implementing all the bundled practices in particular regions. In other words, farmers should be allowed to qualify with individual practices while having the option to seek quantification of bundled practices if viable under the applicable circumstances.

11. How should the GHG emissions of nutrient management practices (e.g., applying fertilizer according to the "4Rs" of nutrient management – right place, right source, right time, and right rate; variable rate technology; enhanced efficiency fertilizer application; manure application) be quantified? What empirical data exist to inform the quantification? What factors should USDA consider when quantifying the GHG emissions outcomes of these practices?

[18] USDA NRCS, *CSP Enhancements and Bundles*, https://www.nrcs.usda.gov/programs-initiatives/csp-conservation-stewardship-program/csp-enhancements-and-bundles (last visited July 22, 2024).

Crop rotation with oilseeds has been found to improve yield and yield stability, which may reduce the need for fertilizers.[19] More diverse crop rotations can also improve soil organic carbon than use of fertilizers.[20]

Soil Carbon

13. For practices that can increase soil carbon sequestration or reduce carbon dioxide emissions, how should the duration and any interruptions of practice (e.g., length of time practice is continued, whether the practice is put in place continually or with interruptions) be considered when assessing the effects on soil carbon sequestration?

Because GHG emissions benefits may be based on rotational crops that can occur over multiple years, USDA should consider methods that use a multi-year base periods to better ensure quantification of the benefits of these practices. Rolling base periods may also be a viable alternative for consideration.

Verification and Recordkeeping

15. What records, documentation, and data are necessary to provide sufficient evidence to verify practice adoption and maintenance? What records are typically maintained, why, and by whom? Where possible, please be specific to recommended practices (e.g., refer to practices identified in question two).

SABR Coalition believes that USDA should seek to use existing recordkeeping practices and requirements to reduce the burdens on farmers as much as possible. Imposing substantial regulatory requirements could disincentivize farmers from instituting climate-smart practices. For example, recordkeeping requirements under USDA programs, voluntary certification programs, and clean fuels programs should be considered to support any USDA rulemaking.

16. How can market participants leverage remote sensing and/or other emergent technologies as an option to verify practice adoption and maintenance?

SABR Coalition supports use of new technologies, but notes that premature adoption can work against USDA's efforts. For example, land use changes have been included in certain lifecycle GHG emissions analysis (e.g., under the RFS program), even though real world data disputes the findings that land use change occurs as a result of biofuel production at all. Use of satellite imagery, in particular, has been found to overestimate GHG emissions when compared to USDA datasets.[21] The use of these technologies is highly dependent on the land use classifications and how "change" is defined based on the data (e.g., resolution) and time frames utilized. The resolution of the images are important to ensure a proper level of detail for making

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[19] Susan E. Wagner, et al., *More Diverse Crop Rotations Improve Yield, Yield Stability and Soil Health*, University of Nebraska-Lincoln Institute of Agriculture and Natural Resources Cropwatch, Oct. 25, 2021, https://cropwatch.unl.edu/2021/more-diverse-crop-rotations-improve-yield-yield-stability-and-soil-health.

[20] *Id.*

[21] *See, e.g.,* USDA Technical Mem., regarding Review of Recent PNAS Publication on GHG Impacts of Corn Ethanol (2022), *available at* https://www.usda.gov/sites/default/files/documents/USDA-OCE-Review-of-Lark-2022-For-Submission.pdf; Farzad Taheripour, et al., *Comments on "Environmental Outcomes of the US Renewable Fuel Standard"* (2022), *available at* https://greet.anl.gov/files/comment_environ_outcomes_us_rfs.

these determinations. Instead of land use changes, increased crops in the United States are often a result of improved crop yields and increased intensification.

17. Are there existing reporting structures that can potentially be leveraged?

SABR Coalition believes that USDA should seek to use existing reporting requirements to reduce the burdens on farmers as much as possible. Imposing substantial regulatory requirements could disincentivize farmers from instituting climate-smart practices. For example, reporting requirements under USDA programs, voluntary certification programs, and clean fuels programs should be considered to support any USDA rulemaking.

18. Should on-site audits be used to verify practice adoption and maintenance and if so, to what extent, and on what frequency?

SABR Coalition believes on-site audits could be useful, but, again, notes that USDA should not impose substantial regulatory requirements that could disincentivize farmers from instituting climate-smart practices. Audits are expensive, and thousands of farms could seek to take advantage of these programs, which raises concerns about the availability of a sufficient number of auditors. For practices that are verified on a local or regional scale, SABR Coalition refers USDA to the survey program authorized by EPA to confirm crops meet the definition of renewable biomass under the Renewable Fuel Standard program (40 C.F.R. §80.1454(h)), which provides for on-site audits but allows for cost-sharing and reduces the burdens on individual farmers.

19. If only a sample of farm/fields are audited on-site, what sampling methodology should be used to determine the sample of farms selected for an on-site audit, and how can the sampling methodology ensure that selected farms are representative across geographies, crops, and other factors?

For practices that are verified on a local or regional scale, SABR Coalition refers USDA to the survey program authorized by EPA to confirm crops meet the definition of renewable biomass under the Renewable Fuel Standard program (40 C.F.R. §80.1454(h)), which includes methods for determining appropriate sampling methodologies for conducting surveys of participating farms.

20. What system(s) should be used to trace feedstocks throughout biofuel feedstock supply chains (e.g., mass balance, book and claim, identity preservation, geolocation of fields where practices are adopted)? What data do these tracking systems need to collect? What are the pros and cons of these traceability systems? How should this information be verified?

SABR Coalition supports efforts to ensure the integrity of the system, but notes that there is significant difficulty and expense in requiring identity preservation throughout the agricultural commodity supply chain. For example, soybean crushers may obtain soybeans from numerous farms that may use different practices, and it would be impossible to segregate the soybeans at a farm level. A mass balance approach is often used for commodities where it is difficult (if not impossible) to separate the commodities in the distribution system.

Verifier Qualifications/Accreditation Requirements

21. How could USDA best utilize independent third-parties (i.e., unrelated party certifiers) to bolster verification of practice adoption and maintenance and/or supply chain traceability? What standards or processes should be in place to prevent conflicts of interest between verifiers and the entities they oversee?

USDA should look to its and state programs for appropriate verifiers of farm practices, such as certified crop advisors. Farmers may already have relationships with these parties that may facilitate implementation of verification procedures.

USDA also could consider the verification processes in place under the federal RFS program (e.g., quality assurance program).[22] These include qualification, independence and conflict of interest provisions. There are also sustainability certification programs that could similarly be reviewed. These requirements, however, should be carefully considered so that the number of potential verifiers are not unduly limited to cover the thousands of potential sites that could seek to take advantage of these incentives. Costs must also be considered, including whether the farmer or the biofuel producer receives the economic incentives at issue. This is particularly true when considering oilseeds that must be processed to obtain the oil that is used in biofuel production.

22. What qualifications should independent third-party verifiers of practice adoption and/or supply chain traceability possess?

See Response to Question 21.

23. What independent third-party verification systems currently exist that may be relevant for use in the context of verifying climate-smart agricultural practices (as identified under questions 1 and 2) and/or biofuel supply chains?

See Response to Question 21.

24. How should oversight of verifiers be performed? What procedures should be in place if an independent third-party verifier fails to conform to verification and audit requirements, or otherwise conducts verification inappropriately?

SABR Coalition supports efforts to ensure the integrity of the program, but notes that USDA should consider liability exemptions or defenses for biofuel producers that do not have direct control over agricultural practices or the verifiers, if a problem is subsequently found.

25. What procedures should be in place to prevent potential inaccurate or fraudulent claims regarding feedstock production practices or chain of custody claims, how should monitoring occur to identify such inaccurate claims, and what should the remedy be when such inaccurate claims are discovered?

[22] While California's low carbon fuel standard also contains verification requirements. We believe they may be overly burdensome for crop-based fuels and may disincentivize the use of crop-based feedstocks.

See Response to Question 24.

26. What preemptive measures are appropriate to guard program integrity against both potential intentional fraud and inadvertent reversal or nonaccrual of credited GHG emissions benefits?

See Response to Questions 21 and 24.

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SABR Coalition agrees that biofuel producers should be able to seek additional incentives based on use of climate-smart agricultural practices in the production of crop-based feedstocks. This will allow greater incentives to be provided to farmers to implement these practices, supporting decarbonization in the agricultural sector. SABR Coalition supports ensuring the integrity of such a program, but cautions USDA against such onerous regulatory requirements so as to undermine those incentives.

Thank you for your consideration of these comments.

Sincerely,

Joe Jobe
Chief Executive Officer
SABR Coalition