January 17, 2025
To: New Mexico Environment Department (NMED)

Re: Discussion Draft of the Clean Transportation Fuel Program Rule
Submitted via NMED's online public comment portal

Clean Air Task Force (CATF) is pleased to submit comments on the New Mexico Environment Department's Discussion Draft of the Clean Transportation Fuel Program Rule.

CATF is a global advocacy organization working to safeguard against the worst impacts of climate change by catalyzing the rapid development and deployment of low-carbon energy and other climate-protecting technologies. We greatly appreciate the work and transparency that NMED has invested in implementing the Clean Transportation Fuel Program (CTFP), which is an important step in decarbonizing the transportation sector. CATF believes that a clean fuel standard can be a powerful tool for eliminating transportation sector emissions if implemented wisely. Our recommendations stem from a decade and a half of experience with clean fuel standards, including extensive engagement on this policy in California. We draw from other states' experiences and learnings towards ensuring the deployment of the most health- and climate- beneficial technologies.

CATF applauds NMED for presenting a draft rule that thoughtfully considers many aspects of a clean fuel standard (CFS). We appreciate components of the draft such as the careful treatment of book-and-claim accounting, the inclusion of the fuel supply equipment credit, and the robust monitoring, reporting, and verification requirements. The preliminary feedback below is focused on issues where CATF sees clear opportunities to strengthen the CTFP.

I. The importance of a robust lifecycle analysis

A CFS should utilize the best available models and other tools for assessing the full lifecycle greenhouse gas emissions associated with transportation fuels, including significant indirect emissions from indirect land use change. CFSs hinge on point estimates of fuels' carbon intensity (CI). A comparison between a fuel's CI score and the annual CI requirement established by a CFS dictates whether—and to what extent—that fuel generates deficits or credits. Comparisons between the CI of different fuel options will shape compliance strategies, which in turn will drive investment decisions in multiple sectors (agriculture, refining, vehicle manufacturing, energy retailing, etc.). Accordingly, regulators must ensure that CI determinations are made using tools that incorporate the best data, the most defensible assumptions, and the strongest, most up-to-date, and most comprehensive tools for measuring the attributional and consequential effects of policy-induced fuel production and consumption. We look forward to reviewing the

forthcoming NM-GREET lifecycle analysis model to ensure it meets these characteristics and working with NMED on its implementation.

Strong lifecycle analyses assess and include emissions from indirect land use change (ILUC). Notwithstanding the uncertainty surrounding ILUC emissions, ILUC emissions associated with most conventional biofuels are greater than zero. So, a CFS that ignores or severely discounts those emissions essentially puts its finger on the scale in favor of land intensive biofuels and does so at the expense of other alternative fuels. We appreciate NMED's transparency and consideration of ILUC in Table 8 of the draft rule and recognize that these values are mostly aligned with the California Low Carbon Fuel Standard (LCFS). However, the CI values in table 4 for soybean-based renewable diesel (NMRD001, 33.20 g CO_2e/MJ) and biodiesel (NMBD001, 30.93 g CO_2e/MJ) appear to exclude the ILUC component value for soybean biodiesel or renewable diesel (29.1 g CO_2e/MJ) and are thus inconsistent with the California CI values for soybean renewable diesel, for example, which are on average, 62.48 g CO_2e/MJ. Additionally, the ILUC values for sorghum ethanol and canola biodiesel are inverted in the draft rule compared to the LCFS. We recommend updating these values accordingly.

II. Negative emissions

Incorporating negative emissions rates into the New Mexico Statewide Carbon Intensity Lookup Table could unduly preference fuel pathways that can cause significant environmental harm. We encourage NMED to proceed with caution and consider establishing a minimum CI value for fuel pathways of 0 g CO2e/MJ.

Assigning negative emissions to fuels such as natural gas derived from agricultural operations and to hydrogen produced from steam methane reforming (SMR) of biomethane could lead to undesirable market distortions. This includes the possibility of highly disparate prices between biogas or biomethane from operations that begin capture in response to the CFS compared to those with existing biogas capture or biomethane production. It could also create incentives to increase methane production from digesters, such as by addition of non-waste material to the digester. Therefore, NMED should not include negative emissions values in the Lookup Table.

We are looking forward to diving deeper into the forthcoming technical documentation from NMED, once released, to better understand where the negative emissions values are derived from, especially as it relates to hydrogen produced from SMR of biomethane. Currently, over 95% of hydrogen produced is made using SMR without carbon capture, which is an extremely carbon-intensive method of hydrogen production. Assigning a negative emission rate to hydrogen produced from SMR of biomethane without specifying whether carbon capture is required could allow SMR developers to produce hydrogen without installing carbon capture, therefore rewarding a carbon intensive practice. To ensure alignment with the goal of the CFS to lower transportation sector emissions, we

expect pathways involving SMR of biomethane that are assessed to have a very low CI will achieve those reductions in part using carbon capture and sequestration.

The California LCFS provides a useful example of the ramifications of negative emissions. The LCFS is currently suffering from a surplus of credits, especially from biomethane,[1] which accounts for an outsized amount of LCFS credit generation compared to the amount of biomethane-fueled vehicles in California. This is in large part due to the negative emissions values assigned to biomethane, which results in a poorly designed offset program that floods the market with inexpensive credits. The justification for negative emissions is that the LCFS is rewarding "avoided methane pollution," but this is not the same as removing CO_2 from the atmosphere, which a negative emissions value implies. Further, the notion of "avoided methane pollution" must be approached cautiously given that incentives from a CFS can *increase* methane production, such that methane pollution is not actually "avoided."

Crediting negative CI scores in an LCFS can undermine the goals of phasing down the use of fossil fuels and increasing the use of alternative, low- and zero-carbon energy carriers. California's main motivation for maintaining this offset scheme was to incentivize dairy farmers to install digesters to reduce methane pollution, but the energy production capacity and climate benefit of the fuel derived from these digesters are frequently exaggerated.[2,3]

In a blog published last year, Union of Concerned Scientists illustrated how negative emissions values do not result in emissions reductions.[4] Imagine a fleet of 7 diesel trucks that convert 2 to run on CNG using book-and-claim to offset emissions with a manure digester. Under the California LCFS, those 2 biomethane-fueled trucks have negative emissions that more than offset the emissions of the remaining 5 diesel trucks, making the fleet artificially (and incorrectly) carbon neutral. All 7 trucks still use internal combustion engines and create tailpipe emissions that are "offset" by the avoided methane emissions, without evidence that the methane emissions are actually avoided.

Negative emissions-based strategies often run counter to the overarching objectives of clean fuel standards because they do not promote system transitions that will drive the widescale development and deployment of both clean fuels/electricity and zero-emission vehicles. Strategies that address a small fraction of the motor vehicle fleet and are not massively scalable do not promote investments in the system-level transitions that New Mexico will need to reach its transportation sector decarbonization goals. Moreover, since biomethane producers can use book-and-claim under the California LCFS, California

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[1] https://ww2.arb.ca.gov/resources/documents/low-carbon-fuel-standard-reporting-tool-quarterly-summaries

[2] https://agdatanews.substack.com/p/cow-poop-is-now-a-big-part-of-california

[3] https://agdatanews.substack.com/p/the-value-of-methane-from-cow-manure

[4] https://blog.ucsusa.org/jeremy-martin/something-stinks-california-must-end-manure-biomethane-accounting-gimmicks-in-its-low-carbon-fuel-standard/

drivers bear the cost of subsidizing dairy farmers around the country for no material reduction in emissions in California.[5]

III. Safeguards are needed to limit land intensive biofuel feedstocks

Safeguards are needed in a state CFS program to prevent regulated entities from expanding the use of feedstocks that pose significant risks to food markets and global emissions. Robust and reliable lifecycle analyses are essential to a functional clean fuel standard, but LCAs alone are not sufficient. Even the best LCAs struggle to capture market-mediated impacts of increased demand for crop seed-based biofuels, especially emissions from indirect land use changes that occur as global agricultural markets reestablish supply and demand equilibrium following new policy-induced demand for bioenergy crops. For example, crop seed oils,[6] such as soy and canola oil, are globally traded food commodities that, when used to make biofuels, are most often backfilled by expanded land use and crop production. These market substitution and land use impacts are significant, difficult to fully quantify, and are not fully captured in an LCA.

Regulators therefore must limit the extent to which regulated entities can base compliance on the sale of fuels that have CI scores with a relatively high degree of uncertainty. The limits set by the regulator can be adjusted upward if, for example, the fuel producer demonstrates that additional volumes of the fuel can be produced in ways that do not require additional land use.

A. The growth in crop-seed oil-based fuels is already impacting food markets

According to the U.S. Department of Agriculture and market analysts, crop-seed oil-based diesel has impacted the soy oil market so significantly that for the first time in history, the U.S. imported more soy oil than it exported.[7] Soy oil demand for biofuels has grown to half the total soy oil use in the United States.

Pursuant to the statutory duties of the NMED, including "food protection",[8] we strongly encourage NMED to finalize the rulemaking with effective limits on the amount of crop-seed oil-based biofuels that can be used for compliance. The current and projected growth in demand for crop-seed oil feedstocks pose significant risks because of substitution effects in global markets. Crop-seed oil markets are global and highly correlated. Significant use of crop-seed oil feedstocks to make transportation fuels will likely lead to

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[5] CATF looks forward to working with NMED to explore the extent to which guardrails the agency is considering around book-and-claim might be used to mitigate some of this concern.

[6] "Crop-seed oils" include oils pressed from soy, canola, and other crops that are otherwise grown for food markets.

[7] US shifts to net soybean oil importer on biofuel boom, S&P Global, October 12, 2023.

[8] New Mexico HB0041, Sec. 2.A.(1)

expanded land clearing, deforestation, and/or increased palm oil production and associated emissions and ecosystem impacts.[9]

We recommend identifying the share of renewable diesel in the New Mexico diesel market and set an initial eligibility limit on soy, canola and sunflower oil-derived fuels at or below that share. Feedstock volumes should be tracked relative to national volumes, and the limit can be adjusted accordingly to ensure that the CTFP does not drive excess demand for high-risk feedstocks.

B. Lessons learned from the California LCFS

According to the California Air Resource Board's (CARB) reporting, renewable diesel from bio-oils[10] (mostly used cooking oil, tallow, and crop-seed oils) are by far the largest and fastest growing source of credits in California's LCFS.[11]

According to the most recently available data, bio-oil based diesel accounted for 68% of the California diesel fuel market as of the fourth quarter of 2023.[12] Since CARB has tracked feedstock data beginning in 2021, quarterly use of crop-seed oil-based fuels has grown rapidly to account for 21% of the state's diesel market in 2023.[13]

Beyond in-state production of bio-oil fuel production, a recent study from UC Davis projects that 100% of the state's 3.5 billion gallons of diesel demand could be met by bio-based diesel by 2030—most of which would be derived from crop-seed oils, due to the relatively limited potential of waste-oil supplies to scale up much further than current levels.[14] Such a massive influx of crop-seed oil-based diesel fuel not only poses the risk of very large indirect land use impacts and a *potential net increase* in GHG emissions, it also undermines CARB's efforts to bolster carbon credit prices. To address these issues, CARB instituted limits on the availability of credits for crop-seed oil-based fuels in California's LCFS.[15]

In New Mexico, there is an even greater likelihood that fuel providers will rely on high-risk crop-seed oil-based fuels, given the recent strengthening of California's carbon intensity targets and new limits on crop-seed oil feedstocks. New Mexico will have difficulty attracting low-carbon fuels made from waste and used cooking oils, which will command higher prices in California. As many studies have concluded, most of these feedstocks are

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[9] *See* Stephanie Searle, *How rapeseed and soy biodiesel drive oil palm expansion*, ICCT (July 2017) https://theicct.org/sites/default/files/publications/Oil-palm-expansion_ICCT-Briefing_27072017_vF.pdf at 1.

[10] We use the broader term "bio-oils" to include crop-seed oils as well as waste oils, used cooking oil, and corn oil.

[11] Low Carbon Fuel Standard Reporting Tool Quarterly Summaries-Graphs, CARB, October 31, 2023

[12] Calculated from Low Carbon Fuel Standard Reporting Tool Quarterly Summaries, CARB, October 31, 2023

[13] Calculated from Low Carbon Fuel Standard Reporting Tool Quarterly Summaries, CARB, October 31, 2023

[14] Forecasting Credit Supply Demand Balance for the Low-Carbon Fuel Standard Program, Bushnell et al, UC Davis, August 2023.

[15] CARB updates the Low-Carbon Fuel Standard to increase access to cleaner fuels and zero-emission transportation options: Updated guardrails (November 8, 2024), https://ww2.arb.ca.gov/news/carb-updates-low-carbon-fuel-standard-increase-access-cleaner-fuels-and-zero-emission

already accounted for, leading to rapid growth of crop-seed oil-based fuels.[16] As California and other states adopt LCFS rules, it is likely that the use of high-risk biofuels (as opposed to those made from waste and used cooking oils) for compliance will increase substantially. To properly manage the risks associated with compliance with this rule using high-risk crop-seed oil-based biofuels, NMED can finalize rules with strong LCA requirements and compliance limits for these fuels.

C. Recommendations based on our experience in California

The rapid growth in the use of soy, canola, and other globally traded crop-seed oils as biofuel feedstocks poses immediate and significant direct and indirect food and land-use impacts. Therefore, CATF recommends that NMED design an overall limit on all bio-oil-based fuels in the CFS or take an otherwise comprehensive approach to addressing the risks via the following steps:

- Limit the eligibility of fuels made from high-risk feedstocks, as California did with soy, canola, and sunflower oil-based fuels.

- Carefully screen and reject new bio-oil-based fuel pathway applications that have high ILUC risks.

- Monitor U.S. bio-oil and fuel markets to ensure that New Mexico is not incentivizing the use of high-risk feedstocks. This includes monitoring waste and used-cooking oil markets, which may also be backfilled by food oil feedstocks and risk the accompanying ILUC impacts.

- Assess and report on an annual basis the market and environmental impacts of the CTFP.

California adopted percentage limits in its most recent update to the LCFS regulations, which is a step in the right direction towards limiting the use of high-risk fuels. CATF plans to request that CARB reopen rulemaking to adopt even stricter volume caps as next step. New Mexico has the opportunity to lead on this kind of regulation by considering caps on bio-oil-based fuels early in the rulemaking process.

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With great appreciation for the tremendous effort NMED staff have invested in developing and proposing important regulations for New Mexico's Clean Transportation Fuel Program, we thank you for your consideration of our recommendations throughout this rulemaking process and would be glad to elaborate or discuss these issues further.

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[16] Forecasting Credit Supply Demand Balance for the Low-Carbon Fuel Standard Program, Bushnell et al, UC Davis, August 2023.

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