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Addressing the Climate Challenge
With Bold Solutions



New Mexico Environmental Improvement Board
1190 St. Francis Drive, Suite N4050
Santa Fe, New Mexico 87505

Re: Petition for Regulatory Change to Adopt 20.9.92 NMAC, Clean Transportation Fuel Program

Dear Board Chair Suina and EIB Board Members,

Food & Water Watch and the undersigned organizations provide these comments to raise concerns about how New Mexico's Clean Transportation Fuel Program ("CTFP") could unintentionally incentivize more greenhouse gas emissions as well as local air and water pollution from factory farms. It is critical that the Environmental Improvement Board's ("EIB") decision on the Petition for Regulatory Change to Adopt 20.9.92 NMAC and establish the CTFP ("Proposed Rules") does not allow this to happen.

Thankfully, the fix is straightforward. The root of the problem comes down to a policy from California's Low Carbon Fuel Standard ("LCFS") known as "avoided methane crediting," which dramatically skews how carbon intensity values are calculated for fuels made from greenhouse gas emissions at factory farms, known as factory farm biogas.¹ As explained below, allowing avoided methane crediting in the CTFP would undermine the program's goals and would encourage factory farms in New Mexico to pollute more, including in areas that impact frontline communities. Commenters urge EIB to reject avoided methane crediting and instead ensure the CTFP prioritizes truly clean, renewable transportation fuels that will lead New Mexico toward a fully decarbonized transportation sector and prevent polluting industries from taking advantage of it.

The Perverse Consequences of Avoided Methane Crediting for Factory Farm Biogas

A central feature of the CTFP will be how different fuels are assigned carbon intensity values, essentially each fuel's overall carbon footprint. A fuel's carbon intensity dictates how many deficits or credits it will generate under the CTFP, and for credit generating fuels this translates to how much profit it can yield. In other words, the lower a fuel's carbon intensity rating, the more incentive to produce it.

Avoided methane crediting assigns extremely negative carbon intensity values *only* for factory farm biogas – no other alternative fuel can even come close. This puts a thumb on the scale in favor of factory farm biogas by allowing it to generate many more credits relative to any other alternative fuel, including zero-combustion options like charging electric vehicles with

¹ These comments use the term "factory farm gas" to refer to so-called biogas and biomethane generated in anaerobic digesters using factory farm manure as feedstock, including the combustion or other use of biogas or biomethane to generate electricity or produce hydrogen.

solar power. But factory farm biogas is not a clean fuel by any measure.² It pollutes the air just like other fossil fuels when burned and contains impurities like ammonia, hydrogen sulfide, and smog-forming nitrogen oxides. It is still a dirty combustion fuel, just greenwashed by the myth that producing factory farm biogas is a solution to factory farms' climate pollution.

Avoided methane crediting also undermines climate mitigation because it *rewards* factory farms for generating greenhouse gases. The more methane pollution a factory farm causes, the greater the profits it can reap under the policy. This encourages factory farms to get bigger because more animals in confinement means more manure to collect, and therefore more opportunity to create methane pollution and in turn CTFP credits. This is exactly what has happened in California's most intensive dairy-producing counties where almost all of the states' factory farm biogas projects are located. Herd consolidation and size increases more than tripled when comparing the period before avoided methane crediting was introduced into the LCFS (2012–2017, growth rate of 12.68 percent) and the period after (2017–2022, growth rate of 42.68 percent).³ Several other assessments have similarly linked incentives for factory farm biogas to factory farm expansion in states across the country.⁴ California's bad policy is impacting over a dozen other states where it is incentivizing factory farming, and the Proposed Rules' inclusion of "renewable thermal certificates" and "book-and-claim" accounting for factory farm biogas could enable out-of-state entities to take advantage of the CTFP as well.⁵

Critically, methane pollution from manure is a choice. In fact, methane emissions from animal agriculture have dramatically increased over the past 30 years, a direct result of the growth in factory farming and liquefying manure to cheaply manage it in cesspools before spraying it onto nearby fields.⁶ Avoided methane crediting perversely encourages more of the same. Pasture-based systems produce little to no manure methane emissions.⁷ And stockpiled manure can be managed in ways that do not have this methane problem, like well-managed dry

² Mia DiFelice & Kat Ruane, *We Can't Let This Gas Greenwash Factory Farms*, FOOD & WATER WATCH (Apr. 12, 2023), <https://www.foodandwaterwatch.org/2023/04/12/we-cant-let-this-gas-greenwash-polluting-factory-farms/>.

³ The average dairy herd in California grew from approximately 940 to 1059 dairy cows between 2012 and 2017, while the average dairy herd jumped from approximately 1059 to 1511 between 2017 and 2022. *Compare* USDA, 2017 Census of Agriculture: California State and County Data at 20, tbl. 12, *with* USDA, 2022 Census of Agriculture: California State and County Data at 16, tbl. 12.

⁴ *How California's Low Carbon Fuel Standard Incentivizes Pollution Nationwide*, FOOD & WATER WATCH (June 2025), https://www.foodandwaterwatch.org/wp-content/uploads/2025/06/FSW_2506_LCFS_Incentivizes_Pollution.pdf; Socially Responsible Agriculture Project & Friends of the Earth, *Biogas or Bull***?: The Deceptive Promise of Manure Biogas as a Methane Solution*, https://foe.org/wp-content/uploads/2024/03/Factory-Farm-Gas-Brief_final.pdf; Friends of the Earth, *Making a Bad Situation Worse: Manure Digesters at Mega Dairies in Wisconsin*, <https://foe.org/resources/kewaunee-county-wi-case-study/>.

⁵ See Proposed sections 20.2.92.7(R)(13); 20.2.92.201(C).

⁶ U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2022 (2024) at 5-12, https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf ("In many cases, manure management systems with the most substantial methane emissions are those associated with confined animal management operations where manure is handled in liquid-based systems.").

⁷ *Id.* at 5-11 (explaining that manure from pastured animals tends to produce "little to no [methane]").

manure systems.⁸ Commenters understand that dry handling systems (*i.e.*, dry lot dairies) currently are the norm at large animal confinement operations in New Mexico. Massively incentivizing factory farm biogas production would encourage operators to produce *more* methane pollution by, for example, directing more solid manure into liquid systems so a portion of the resulting emissions can be captured for CTFP credit generation. This would move New Mexico in the wrong direction for both climate mitigation and sustainable farming.

Family-scale dairies and livestock operations do not produce the extreme amounts of manure that factory farms produce and do not have large methane emissions, making avoided methane crediting profitable only for the biggest players in the industry. In other words, avoided methane crediting not only rewards bad decisions, but it also dissuades operators from utilizing less polluting and more sustainable models because they would miss out on potentially millions of dollars in revenue from CTFP credit generation. At a time when we are rapidly losing family-scale farms in New Mexico and across the country, it is more important than ever that we reject policies that embrace the “get big or get out” mantra of recent decades. Numerous experts, including the California official who previously oversaw the LCFS, have pointed out this perverse dynamic and its negative consequences for effective climate mitigation in the agricultural sector because addressing manure methane emissions “only through a transportation program distorts the market against the consideration of less costly and more sustainable methane mitigation options.”⁹

The New Mexico Environment Department’s (“NMED”) Proposed Rules show that state experts understand there is a problem in allowing the unfettered race-to-the-bottom that is occurring in California’s LCFS due to avoided methane crediting, but the Proposed Rules still allow for some negative carbon intensities for factory farm biogas.¹⁰ The Proposed Rules also contain a dangerous loophole that could allow this problem to seep in even if New Mexico itself does not allow for massively negative carbon intensity values. Proposed section 20.2.92.204 would allow the “[u]se of alternative pathways from a similar program in another jurisdiction.” This could allow factory farm biogas producers to sneak into the CTFP with massively negative carbon intensity values, even if New Mexico’s experts recognizing a problem with that scheme.

EIB and NMED must understand that promoting factory farm biogas production with avoided methane crediting in the CTFP will bring this problem to New Mexico in force. It will encourage factory farms to get bigger and to use the most climate-intensive manure management systems because that is the cheapest and most effective way to profit from a CTFP that includes

⁸ Cal. Dept. of Food and Agric., Recommendations for Short-Lived Climate Pollutants (June 2015), at 12–13, https://www.cdffa.ca.gov/oefi/climate/docs/SLCP_Reommendations.pdf (“[M]ethane emissions can be dramatically reduced – perhaps by more than 90 percent – when dry systems are used.”).

⁹ Comments of Jim Duffy to the California Air Resources Board (Feb. 19, 2024) at 2, <https://www.arb.ca.gov/lists/com-attach/6792-lcfs2024-AWUGdOdgVmMHeAZZ.pdf>; Kevin Fingerman et al., *Risks of Crediting Carbon Offsets in Low Carbon Fuel Standard: Lessons Learned from Dairy Biomethane*, 206 ENERGY POLICY 114738 (print version coming Nov. 2025), <https://www.sciencedirect.com/science/article/pii/S0301421525002459>; Jeremy Martin, *Something Stinks: California Must End Manure Biomethane Accounting Gimmicks in Its Low Carbon Fuel Standard*, UNION OF CONCERNED SCIENTISTS (Feb. 15, 2024), <https://blog.ucs.org/jeremy-martin/something-stinks-california-must-end-manure-biomethane-accounting-gimmicks-in-its-low-carbon-fuel-standard/>.

¹⁰ Petition at Exhibit B, Table 5 (allowing for “counterfactual avoided emissions”).

avoided methane crediting. Simply put, it makes the problem worse as factory farms seek to profiteer off the program. EIB and NMED have the discretion under House Bill 41, codified at NMSA § 74-1-18, to reject avoided methane crediting entirely, both within the CTFP and coming from other states' programs. Commenters urge you to reject avoided methane crediting in pathways issued by NMED and ensure other states' programs cannot infect the CTFP by prohibiting avoided methane crediting for factory farm biogas under any part of the Program.

Rewarding Factory Farm Methane Encourages Local Air and Water Pollution

In addition to encouraging climate pollution, incentivizing factory farm biogas production incentivizes co-pollutants from the underlying factory farm operations. The waste left over after gas production, called “digestate,” must still be managed and disposed of. But digestate poses unique and elevated pollution risks compared with undigested manure, exacerbating water and air pollution from digestate storage and disposal. Recent studies confirm that digestate behaves differently on the landscape than undigested manure due to its altered chemistry, causing increased short-term nitrogen loss and the potential to accumulate heavy metals and antibiotic-resistant pathogens.¹¹ Digestion also does not remove nitrogen or phosphorus, major pollutants of concern from factory farms. Instead, it concentrates them in the resulting digestate and makes them more soluble, and thus more likely to pollute local surface and ground waters.¹² This poses a particularly unacceptable risk to New Mexicans already exposed to pollution from factory farm operations.¹³ Digestate also has higher potential to emit ammonia and nitrous oxide than undigested manure.¹⁴ In sum, rewarding the production of factory farm biogas necessarily encourages other pollution problems, potentially worsening local communities' air and water quality.

Avoided Methane Crediting for Factory Farm Biogas Also Benefits Fossil Fuel Interests

¹¹ Roger Nkoa, *Agricultural Benefits and Environmental Risks of Soil Fertilization with Anaerobic Digestates: A Review*, 34 AGRONOMY FOR SUSTAINABLE DEVELOPMENT 473, 482–84 (2014); Chengjun Pu, et al., *Impact of Direct Application of Biogas Slurry and Residue in Fields: In Situ Analysis of Antibiotic Resistance Genes from Pig Manure to Fields*, 344 J. HAZARDOUS MATERIALS 441, 443, 446–47 (2018).

¹² USDA, Nat. Res. Conservation Service, CPS 366: Anaerobic Digester (Aug. 2023), at 8–9, https://www.nrcs.usda.gov/sites/default/files/2023-08/366_NHCP_CPS_Anaerobic_Digester_2023.pdf (“[L]and application of digester effluent, compared with fresh manure, may have a higher risk for both ground and surface water quality problems. Compounds such as nitrogen, phosphorus, and other elements become more soluble due to anaerobic digestion and therefore have higher potential to move with water.”).

¹³ See Food & Water Watch, *Drying Up: How Factory Farms Worsen New Mexico's Water Crisis*, https://www.foodandwaterwatch.org/wp-content/uploads/2022/02/FS_2201_NMWater-WEB.pdf.

¹⁴ Michael A. Holly et al., *Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application*, 239 AGRIC. ECOSYSTEMS & ENV'T 410, 418 (Feb. 15, 2017), <https://doi.org/10.1016/j.agee.2017.02.007>; Thomas Kupper et al., *Ammonia and Greenhouse Gas Emissions from Slurry Storage – A Review*, 300 AGRIC., ECOSYS., & ENV'T at 1 (May 2020), <https://doi.org/10.1016/j.agee.2020.106963> (“Anaerobically digested slurry shows higher emissions during storage for NH₃ while losses tend to be lower for CH₄ and little changes occur for N₂O and CO₂ compared to untreated slurry.”); Henrik Møller et al., *Agricultural Biogas Production—Climate and Environmental Impacts*, 14 SUSTAINABILITY at 20 (2022), <https://doi.org/10.3390/su14031849> (“The ammonia emission potential of digestate applied in the field was higher than that from untreated cattle and pig slurry because of digestates' higher pH, resulting in an increase in ammonia emission.”); Lowry A. Harper et al., *Dinitrogen and Methane Gas Production During the Anaerobic/Anoxic Decomposition of Animal Manure*, 100 NUTRIENT CYCLING IN AGROECOSYS. 53, 63 (2014), <https://link.springer.com/article/10.1007/s10705-014-9626-9> (“we find in these studies that a reduction of C causes an increase in NH₃ [ammonia] emissions”).

Finally, avoided methane crediting for factory farm biogas benefits fossil fuel interests. Unlike all other alternative fuels that may have low but still positive carbon intensities, giving factory farm biogas massively negative carbon intensity values operates like a powerful offset mechanism for fossil fuel producers to take advantage of. It floods the credit market with credits but delivers very little actual transportation fuel to displace dirty gasoline and diesel. Because of this, “[m]anure biogas currently accounts for 21% of credit generation in the LCFS program (Q3 2024), while providing about 1% of energy used for transportation.”¹⁵ This means that avoided methane crediting for factory farm biogas uniquely allows for fossil fuel business as usual because companies can simply buy factory farm offsets rather than altering what fuels they sell, undermining New Mexico’s transition away from fossil fuels and adoption of truly clean transportation options.

Conclusion

New Mexico has the opportunity to learn from the mistakes of California’s LCFS that has been overtaken by industry interests and reject any incentive for factory farms to expand and further pollute New Mexico’s communities. New Mexico can and should be a leader in prioritizing truly clean fuels and reject the faulty accounting that prioritizes a combustion fuel like factory farm biogas. We, the undersigned, urge you to prohibit avoided methane crediting for factory farm biogas in the CTFP to ensure the program works as intended.

Respectfully,

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¹⁵ Fingerman et al., *supra* note 9.