November 5, 2020

Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Low Carbon Fuel Standard October Workshops

Dear Ms. Sahota,

The Coalition for Renewable Natural Gas (RNG Coalition) is a California-based nonprofit organization representing and providing public policy advocacy and education for the Renewable Natural Gas (RNG) industry.[1] We advocate for the sustainable development, deployment and utilization of RNG, so that present and future generations have access to domestic, renewable, clean fuel and energy in California and across North America.

RNG Coalition respectfully submits these comments to the California Air Resources Board (CARB) in response to the workshop Low Carbon Fuel Standard (LCFS) workshops held on October 14 and 15, 2020. We'd like to thank CARB staff for initiating the pre-rulemaking activity for the potential amendments. The LCFS program is a key driver of growth in the Renewable Natural Gas (RNG) industry and we appreciate CARB's commitment to continuous improvement of the underlying regulatory framework—both overall and with respect to the program's RNG-specific features.

CARB Should Set Strong Post-2030 Targets in Line with the State's Carbon Neutrality Goal

RNG provides a cost-effective opportunity to help decarbonize existing natural gas infrastructure[2] and simultaneously reduce greenhouse gas (GHG) emissions from organic waste streams. Therefore, RNG will continue to be a key strategy that will help achieve the State's near-term and long-term greenhouse gas reduction goals—including the most recently-established goal of carbon neutrality by 2045.[3]

Harmonizing the California policy discussion around the benefits of RNG and focusing on how to develop successful drivers to stimulate stable market growth, regardless of end use, has long been a goal of the RNG Coalition. These are complex issues that require strong coordination between CARB, its sister agencies that regulate energy and waste, and all other stakeholders to achieve the best possible policy outcome.

However, one thing is clear; as we move toward carbon neutrality, the LCFS will continue to be an important driver of RNG use and, therefore, we recommend that CARB set post-2030 LCFS targets in this rulemaking at a level that is necessary to achieve the economy-wide carbon neutrality goal. To establish

[1] For more information see: http://www.rngcoalition.com/

[2] Or displace conventional diesel fuel when used in new natural gas vehicles (NGVs).

[3] Per Executive Order B-55-18.

post-2030 targets correctly a feedback loop is likely necessary between the work done to support the development of the LCFS amendments and information gathered from the forthcoming Scoping Plan process.

One Rulemaking Should Be Conducted, Targeting an Effective Date of 2024

At the October workshops CARB staff requested stakeholder feedback about the timing of future rulemaking, with two options discussed—either a set of two rulemakings, effective in 2023 and 2025, or one omnibus rulemaking, expected to be effective in 2024. As an initial reaction, we would support focusing on one extended rulemaking to cover all topics—with a focus on setting more aggressive post-2030 targets—and making those changes effective in 2024.

We believe that this timing will give the maximum flexibility to integrate the rulemaking with the input from the Scoping Plan and for CARB staff to deliberatively and rigorously develop appropriate new crediting opportunities for RNG. Further, with Governor Newsom's recent Executive Order N-79-20,[4] which sets an aggressive schedule for zero emission vehicles (ZEV), it becomes even more critical to tighten LCFS targets in an appropriate way to account for such a shift towards ZEVs and maintain the incentive for sustainable biofuel development, including RNG, in parallel to ZEV deployment.

If handled correctly, there should not be any conflict between sustainable biofuel use and electrification of appropriate transportation end uses.[5] The sustainable biofuel resources should be shifted to the uses that need them over time based on the success (or lack thereof) of electrification in various end-use applications. Coordination of these GHG abatement strategies is critical and may take some significant staff work across programs to properly align. This should be a key focus of CARB staff during this rulemaking.

The LCFS is Working for RNG and the Industry Stands Ready to Contribute Further GHG Reductions

Over the past twelve months the North American RNG industry has developed more RNG production facilities than it did during the first three decades of our existence between 1982 and 2011. This recent RNG growth is being driven primarily by the combination of LCFS and Renewable Fuel Standard (RFS) incentives. There are now 130 operational RNG production facilities in North America and over 100 more in construction or that have undergone substantial development.[6]

According to the most recent LCFS data,[7] the second quarter of 2020 set a new record RNG blend rate in California, with 90 percent of the fuel used in natural gas vehicles (NGVs) being RNG, with a carbon-negative weighted average for the Bio-CNG category being achieved for the first time. The same data implies that RNG is on track to deliver more than a million metric tons of LCFS credits in 2020—the first year that annual credit generation from RNG will surpass that mark.

[4] https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-text.pdf

[5] The same logic applies in other sectors as well, such as building heating.

[6] https://www.rngcoalition.com/

[7] https://ww3.arb.ca.gov/fuels/lcfs/dashboard/quarterlysummary/quarterlysummary_103020.xlsx

While these are significant near-term milestones, we have only just begun to develop RNG's full potential to deliver GHG reductions. Through the RNG Coalition's Sustainable Methane Abatement & Recycling Timeline (SMART) Initiative, we believe it is possible to sustainably capture and repurpose methane that would otherwise be wasted via flare or escape fugitively into the atmosphere from more than 43,000 sites in North America by 2050.[8] Continued support from the LCFS is a key factor in achieving this vision.

We Support Further Adjusting Existing Tier 1 Calculators and Adding New Calculators Where Appropriate

We commend CARB for beginning to consider opportunities to refine the Tier 1 calculators right away in the October workshops. The goals of simplicity and transparency of carbon intensity (CI) calculation embodied by the calculators continue to be important, and those goals has not been fully achieved for RNG projects in the current Tier 1 calculators.[9] Some simple changes to the calculators would allow more RNG projects to utilize the Tier 1 process. Preliminary concepts that deserve attention as possible additions or adjustments in this rulemaking include:

Across all RNG Tier 1 calculators:

- The ability to report project-specific fugitive methane levels, even if lower (or higher) than the current defaults.
- The ability to report process fuels other than natural gas or electricity (e.g., propane, liquified natural gas, etc.)
- RNG trucking as an option to accommodate "virtual pipeline" projects.

For the *Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion (AD) of Organic Waste*:

- The calculation related to avoided methane from landfills should be revisited.

For the *Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure*:

- More accurate default Maximum Methane Potential values by livestock category should be established.
- Simplified sector-wide default assumptions related to lagoon cleanouts used in determining baseline methane emissions should be adopted.

More generally, we also feel that CARB may want to explore adjusting Tier 1 calculators for non-RNG fuels to facilitate the use of RNG as a source of process energy (as discussed in more detail below).

[8] We estimate that there are more than 4,400 landfills, 19,000 large farms and 20,000 wastewater treatment and lagoon facilities, food waste and agricultural sites in the US and Canada, where methane emissions naturally occur as organic materials decompose. http://www.rngcoalition.com/renewable-natural-gas-industry-announces-smart-initiative

[9] For example, most dairy RNG projects use Tier 2 applications because the Tier 1 calculator is not able to correctly model common operational realities.

Continue to Approve Innovative RNG Concepts as Tier 2 Pathways

Even as the Tier 1 calculators are improved through the rulemaking process, additional near-term RNG opportunities can be created through approval of innovative Tier 2 applications. There remain many prospects to achieve millions of metric tons of emission reductions through RNG activities that are not well incented by the current rule. For example, through Tier 2 applications RNG Coalition Members are currently requesting:

- Better recognition of the benefits of AD projects for organic wastes diverted from landfills to help achieve CalRecycle's organic waste diversion goals,[10] through better quantification of the methane benefits of avoided landfilling.
- Recognition of projects that improve methane capture efficiency at landfills beyond regulatory requirements.
- Approval of methane reductions from industrial wastewater RNG projects (including industrial agriculture projects).
- The ability to use directly-measured project-specific Maximum Methane Potential values for livestock waste.
- Recognition of the nitrogen cycle benefits and N_2O reductions associated with controlled-release organic fertilizer derived from digestate. This would help promote all AD projects that process their digestate into fertilizer. Exploring this change is especially important if CARB wishes to incent RNG projects from California's poultry waste.

LCFS Will Likely Help Shift RNG Feedstocks Toward Hydrogen with CCS in the Long-term

California is just beginning to pursue important near-term methane reduction strategies facilitated by RNG, and the 40% reduction in methane emissions targeted by the Short Lived Climate Pollutant Reduction Strategy for 2030 should be thought of as a beginning not an endpoint.[11] As these strategies prove successful by 2030, they can easily be continued (or accelerated) to reduce emissions from these sectors further by 2045.

Therefore, the LCFS should aim to continue to productively use these feedstocks to be sure the sectors producing organic wastes decline toward carbon neutrality, in line with emissions reductions from other sectors. The renewable gas produced from these feedstocks will likely shift over time from biomethane toward, eventually, hydrogen (as the infrastructure to move hydrogen is developed). Just as there is no conflict between the use of renewable gases and electrification, there is no conflict between biomethane and hydrogen.

Both technologies are fairly well promoted by the LCFS, but because they are so critical to reaching carbon neutrality, CARB should devote additional attention to the intersection between these renewable gases. For example, we agree with CARB's proposal in the October workshops that hydrogen now deserves its own Tier 1 calculator. This calculator should include the functionality to be able to account for the CI of the biomethane or biogas used as an input to H_2 creation. As feedstocks used to

[10] https://www.calrecycle.ca.gov/laws/rulemaking/slcp

[11] https://ww2.arb.ca.gov/our-work/programs/slcp

produce RNG today are shifted toward renewable hydrogen in the long run this can be a carbon-negative process when paired with carbon capture and sequestration (CCS).[12]

We Support the Proposed Credit True-up for Temporary Pathway CIs and/or a Broader Shift Toward Crediting Based on Demonstrated CIs Using Full Ex-Post True-ups

With the implementation of third-party verification of actual CI performance, CARB may now want to consider shifting all crediting to be based on verified carbon intensity. We would support CARB gracefully making a full transition to crediting based on verified CI performance, while still retaining the current credit issuance cycle (i.e., truing up to CI actuals ex-post rather than delaying crediting until CI actuals are known).

In the October workshops CARB discussed a preliminary step toward something like this—allowing Tier 1/Tier 2 fuel pathway holders to request a true-up of credits using the certified CIs for fuel transactions reported using temporary fuel pathway CIs. This will help projects reflect the actual GHG performance during the start-up and registration period. We support this proposal, but also encourage CARB to begin thinking about going further to a full true-up for all pathways.

True ups would be especially helpful for dairy RNG projects. Dairy RNG projects have variability in their CI because their operations are impacted by external factors such as temperature and herd count. As the LCFS program moves to annual verification, there will be instances where a project may unexpectedly over or under generate credits, based on these external factors. Allowing dairy RNG projects to true up their credit generation after completing their annual verification—rather than penalizing them if they exceed their certified CIs—will improve the accuracy of credit generation in the program and ensure these projects are obtaining the full value of their true GHG reductions.

None of this should impact the ability of a project to quickly receive a CI from CARB and begin to generate credits when it is actively producing RNG. Temporary pathways should be easy to obtain, as an onerous process will be an impediment to RNG project growth. A full true up approach could also eliminate the somewhat confusing "provisional" status for pathways.

The Rule Should Encourage the Use of a RNG Registry

As described above, the RNG industry is evolving quickly and new frameworks are emerging that can likely be used to help simplify RNG tracking in the LCFS. Development of a national registry for tracking RNG production and end use could be an extra layer of protection to help CARB ensure no double counting of RNG volumes nationwide. Such a system might become especially important once the number of RNG projects reaches into the thousands, which could be as soon as 2035 under our SMART initiative.

The leading registry system tracking RNG and other forms of renewable thermal energy is the Midwest Renewable Energy Tracking System (M-RETS).[13] The use of M-RETS to supplement LCFS reporting would

[12] LLNL, *Getting to Neutral: Options for Negative Carbon Emissions in California*, Baker et al., January, 2020, Lawrence Livermore National Laboratory (LLNL) https://www-gs.llnl.gov/content/assets/docs/energy/Getting_to_Neutral.pdf

[13] https://www.mrets.org/m-rets-renewable-thermal-tracking-system/

reduce administrative burden on CARB staff and offer California a chance to harmonize the design of such systems with other jurisdictions who are now undertaking similar RNG-supportive policies.[14]

This Rulemaking Should Encourage RNG Use Across All Sectors

The RNG Coalition supports the sustainable development, deployment and utilization of renewable gases from all available feedstocks, indiscriminate of the competing, sustainable technologies used, and for all sustainable end-use applications. Our members see the LCFS as a clear and stable incentive framework that allows them to build RNG production facilities and, as described above, this pipeline-interconnected supply can be shifted to whichever end use needs it most in the long-term.

In prior GHG Scoping Plan cycles, direct use of RNG as a fuel for NGVs was viewed by CARB as a very attractive end use for RNG and the relationship between promoting RNG use in natural gas vehicles and achievement of the State's SLCP reduction and air quality goals was well articulated.[15] We still feel that RNG use in vehicles offers attractive air quality benefits, but if CARB's strategy is shifting in any way in this Scoping Plan cycle (and in this LCFS rulemaking), CARB should provide coordination and leadership on this shift so that other agencies (CEC, CPUC, CalRecycle, etc.) remain harmonized on how sustainable RNG growth can best be incentivized across all sectors and moved to the highest and best use over time.

LCFS changes that broaden the opportunity to use RNG would be helpful in this regard. For example, CARB could adjust the rules to expand the use of book-and-claim accounting to allow RNG use in biofuel production facilities serving California to use this method.[16] Such a change would align with the goal to also promote RNG use in industry, as some environmental stakeholders have expressed a desire to see.[17] Essentially, RNG could also be deployed as an input into making other fuels, as is already allowed—but in a limited way—through the Renewable Hydrogen Refinery Credit Program and other similar existing provisions of the LCFS.

CARB should recognize that, when RNG is used in non-vehicular applications, the volume will not receive federal RFS credit (RINs), so any new LCFS options that targets RNG use outside of NGVs might not immediately be financially feasible for all RNG development. However, as discussed above, RNG use has almost saturated the existing NGV demand in California and growth in NGVs is not occurring as fast as growth in total supply of RNG. Due to these dynamics, RNG producers will either begin exploring use in NGVs outside of California or respond to new opportunities in the LCFS, which would allow this RNG to continue to benefit California's GHG reduction goals.

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[14] For example, Oregon has approved the use of M-RETS for tracking RNG purchases by gas utilities. See: https://apps.puc.state.or.us/orders/2020ords/20-227.pdf

[15] For example, page 125 of the *Short-Lived Climate Pollutant Reduction Strategy* states that, "Using renewable natural gas as a transportation fuel can result in significant potential revenue streams and reduce criteria pollutant emissions from the transportation sector. Prioritizing the use of biomethane as a transportation fuel may increase costs relative to scenarios that focus solely on methane mitigation. However, important environmental, health, and economic benefits may be most realized in disadvantaged communities by prioritizing pipeline injection of renewable natural gas." https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf

[16] As discussed above, we recommend building this option into the Tier 1 calculators.

[17] https://www.nrdc.org/resources/pipe-dream-or-climate-solution

Conclusion

RNG Coalition appreciates the opportunity to participate and provide comment in this process. The LCFS is one of the strongest drivers of RNG development in North America and the success of this program is being observed and emulated by decisionmakers throughout North America. We look forward to continued collaboration with CARB to ensure that the sustainable production and utilization of RNG keeps creating benefits for California and our climate.

Sincerely,

/s/

Sam Wade
Director of State Regulatory Affairs
Coalition for Renewable Natural Gas
1017 L Street #513
Sacramento, CA 95814
530.219.3887
sam@rngcoalition.com